Race to the Top
Application for Initial Funding
CFDA Number: 84.395A

Ohio

Fifth to First:
Ohio's Race to the Top Strategy

Appendix

submitted by:

Ted Strickland
Governor of Ohio

Deborah S. Delisle
Superintendent of Public Instruction

Deborah Cain
President, State Board of Education

submission date: Jan 19, 2010

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GLOSSARY OF TERMS

RATIONALE: DEFINITIONS OF KEY TERMS USED THROUGHOUT THE APPLICATION.

REFERENCED IN: CROSS-CUTTING

GLOSSARY OF ACRONYMS AND TERMS		
Term	**Description**	**Definition**
ACA	America COMPETES Act	A federal law that seeks to create opportunities to meaningfully promote excellence in technology, education and science, by aligning secondary school graduations requirements with the demands of 21st-century postsecondary endeavors and by support for P-16 education
AEL	Alternative Educator License	A license gained through an alternate pathway that enables qualified
APL	Alternative Principal License	A license gained through an alternate pathway that enables qualified baccalaureate degree-holders to transition to careers as building principals.
ARRA	American Recovery and Reinvestment Act of 2009	A federal law that provides approximately $100 billion for education, creating a historic opportunity to save hundreds of thousands of jobs, support states and school districts, and advance reforms and improvements that will create long-lasting results for U.S. students and the U.S. including early learning, K-12, and post-secondary education.
BASA	Buckeye Association of School Administrators	An organization of Ohio school administrators whose mission is to inspire and support its members, develop exemplary school system leaders and advocate for public education.
BFK	Battelle for Kids	A national not-for-profit organization that provides strategic counsel and innovative solutions for today's complex educational-improvement challenges through partnerships with state departments of education and school districts to deliver personalized solutions to improve teaching and learning and to maximize opportunities for all students to thrive in college, careers and life.
CCIP	Comprehensive Continuous Improvement Plan	Ohio's unified grants application and verification system that consists of a planning tool, which contains the goals, strategies, action steps and district goal amounts for all grants in the CCIP, and a funding application, which contains the budget, budget details, nonpublic services and other related pages.
CCRPI	College & Career-Ready Policy Institute	A partnership of Achieve, the Data Quality Campaign, the EducationCounsel, Jobs for the Future and the National Governors Association Center for Best Practices and a few other American Diploma Project Network states, supported by the Bill & Melinda Gates Foundation, that is working to develop cutting edge college- and career-ready assessment and accountability policies.

GLOSSARY OF ACRONYMS AND TERMS		
Term	**Description**	**Definition**
CELT	Center for Educational Leadership and Technology	A nonprofit educational service agency that helps K-12 leaders develop and implement IT strategies and systems that truly align technology with the core mission of today's schools-achievement, accountability and staff development.
CRB	Credential Review Board	Ohio board responsible for assessing individuals pursuing alternative routes to educator licensure and out-of-state educators seeking licensure in Ohio.
CSLS	Comprehensive System of Learning Supports	Resources, strategies and practices as well as environmental and cultural factors extending beyond the classroom that provide the physical, cognitive, social and emotional support that every student needs to succeed in school and in life, with focus on: • assessing children's individual characteristics as well as the risk and protective factors at school and in students' family, school and community settings; • selecting appropriate intervention strategies (ranging from prevention to early or intensive intervention); • providing experiences that encourage young people to make positives choices and become responsible, caring adults; • looking beyond the school to establish a system of care that offers resources, programs and services for children and their families; and • incorporating fiscal, human resources, accountability and instructional considerations into the process of providing resources and strategies best tailored for children's needs.
CTAG	Closing the Achievement Gap	Ohio initiative that aims to increase the graduation rate for all ninth-grade male students with a special focus on African-American students who have the highest percentage of dropout rates.
D3A2	Data Driven Decisions for Academic Achievement	Designed to help teachers identify and address specific learning needs of students, Ohio's system that provides teacher access to valuable performance data, aligned educational content, and professional development materials that help teachers become familiar with using data as part of instructional decision making.

GLOSSARY OF ACRONYMS AND TERMS		
Term	**Description**	**Definition**
DQC	Data Quality Campaign	A national, collaborative effort to encourage and support state policymakers to improve the availability and use of high-quality education data to improve student achievement through a campaign that will: • provide tools and resources to help states implement and use longitudinal data systems; • provide a national forum for reducing duplication of effort; and • promote greater coordination and consensus among the organizations focused on improving data quality, access and use.
EBM	Evidence-Based Model	Created under Ohio's new education reform plan (Am. Sub. HB 1), a funding formula for schools that uses a per pupil level of funding to follow a student to the school that best meets the student's individual learning needs
ECF	Education Challenge Factor	Per ORC 3306.051, an index that accounts for differences that exist in each school district in terms of college attainment, wealth and concentration of poverty, which provides an adjustment to help provide equitable funding to school districts with challenges of wealth and poverty (e.g., school district with low college attainment, low wealth and high concentration of poverty would have applicable EBM funding components adjusted upward by a higher ECF).
ECHS	Early College High Schools	High Schools that combine high school and the first several years of college, where students in grades 9 and 10 take college-prep classes and students in grades 11 and12 take college-level classes, earning both college and high school credit (tuition at most Early College High Schools is free, which can lower the overall cost of a student's college education).
	Eligible Teachers	All teachers, statewide, of grades four to eight mathematics and reading.
ESB	Educator Standards Board	Board established by the Ohio General Assembly to bring standards-based reform to the educator level by defining standards for teachers and principals at all stages of their careers.

GLOSSARY OF ACRONYMS AND TERMS		
Term	**Description**	**Definition**
ESC	Educational Service Centers	Centers dedicated to providing school districts with professional development, technology, support, planning and administrative services that help improve student learning, enhance the quality of instruction, expand equitable access to resources and maximize operating and fiscal efficiencies.
ESCCO	Educational Service Center of Central Ohio	Center that serves 25 Ohio school districts with more than 200,000 school children in Delaware, Franklin and Union counties through direct instruction and quality professional development, partnerships with districts to improve education for all students (particularly those with special needs) and educational consultancy through a growing list of programs including instructional coaching, administrative counseling, professional employment services and business services.
eTech	eTech Ohio	State of Ohio agency dedicated to enhancing learning through technology by addressing critical educational technology issues by developing programs and using best practices to serve learning organizations in acquiring, integrating and sustaining educational technology.
FCFC	Family and Children First Councils	Count councils that work (in conjunction with the Ohio family and children first cabinet council) to streamline and coordinate existing government services for families seeking services for their children. See Ohio Revised Code 121.37.
FERPA	Family Educational Rights and Privacy Act	A federal law that protects the privacy of student education records for all schools that receive funds under an applicable program of the U.S. Department of Education.
	Gates Foundation, aka the Bill & Melinda Gates Foundation	A foundation that supports a number of education initiatives through its United States Program, with focuses on increasing high school graduation and college-readiness rates and increasing attainment of postsecondary credentials.
HB1	House Bill 1	Education reform legislation passed in Ohio in 2009.

GLOSSARY OF ACRONYMS AND TERMS		
Term	**Description**	**Definition**
HB 290	Amended House Bill 290	A bill passed into law by the Ohio legislature that, among other provisions, permits the Ohio Department of Education and the Chancellor of the Board of Regents to establish a longitudinal student data system that connects K-12 student data to higher education.
HCMS	Human Capital Management System	The Human Capital Management System is a framework that provides a comprehensive and systemic view of educator development.
	High Support	Under Ohio's differentiated accountability system, districts and schools in improvement status fail that fail to meet more than 29 percent of AYP measures are labeled as high support and receive improvement support from State Support Teams.
IHE	Institute of Higher Education	A college, university or other education entity providing educational opportunities at the postsecondary level.
IIS	Instructional Improvement System	Technology-based tools and other strategies that provide teachers, principals, and administrators with meaningful support and actionable data to systemically manage continuous instructional improvement, including such activities as: • instructional planning; • gathering information through formative assessments (as defined in this notice), interim assessments (as defined in this notice), summative assessments, and looking at student work and other student data; • analyzing information with the support of rapid-time (as defined in this notice) reporting; • using information to inform decisions on appropriate next instructional steps; • evaluating the effectiveness of the actions taken by promoting collaborative problem-solving and action planning; and • integrating instructional data with student-level data such as attendance, discipline, grades, credit accumulation and student survey results to provide early warning indicators of a student's risk of educational failure.
iLRC	Interactive Local Report Card	An interactive tool developed for parents, educators, lawmakers, community members and researchers to provide current and historical Local Report Card data on Ohio's school buildings and districts.

GLOSSARY OF ACRONYMS AND TERMS		
Term	**Description**	**Definition**
IMS	Instructional Management System	Ohio's Web-based source for model lesson and unit plans, assessments, research and resources, standards-based education information and programmatic improvement recommendations to help teachers creatively teach Ohio's Academic Content Standards to improve student achievement in Ohio.
ITC	Information Technology Center	Centers that provide technology support services to the school districts they represent, providing a core set of services to districts including payroll services, attendance reporting, email, data processing and professional development for employees of the districts.
KRA-L	Kindergarten Readiness Assessment-Literacy	Ohio Department of Education assessment tool that helps teachers identify early reading skills, required of all children entering kindergarten in public schools for the first time (but not required for children being retained in kindergarten) that measures skill areas important to becoming a successful reader and helps teachers plan for experiences and lessons that encourage reading.
LEAs	Local Education Agencies	A public board of education or other public authority legally constituted within a state to either provide administrative control, direction or service functions for public schools.
OAC	Ohio Administrative Code	Rules promulgated by administrative agencies of the State of Ohio.
OAT	Ohio Achievement Tests	A standard-aligned test meeting NCLB requirements of grades 3-8 students in reading, mathematics, science, social studies and writing.
OBR	Ohio Board of Regents	A nine-member advisory board to the Chancellor with two ex-officio representatives from the State Legislature responsible for overseeing higher education in Ohio.
ODE	Ohio Department of Education	State of Ohio government entity that operates under the direction of the state board of education, accrediting schools, certifying teachers and appropriating state school funds for K-12.

GLOSSARY OF ACRONYMS AND TERMS		
Term	**Description**	**Definition**
OEE	Office of Educator Equity	Office within ODE's Center for the Teaching Profession that: • monitors the implementation and continued progress of the 68 strategies contained in Ohio's Teacher Equity Plan; • designs methodologies to successfully complete new strategies; • ensures that all 68 strategies are successful, ongoing and effective programs, initiatives and incentives that positively impact student achievement; and • leverages support through effective communication and collaboration with stakeholders for successful completion of the plan.
OGT	Ohio Graduation Tests	Five-part high school graduation examination given to sophomores in Ohio, fulfilling the state achievement test requirement under the federal No Child Left Behind Act which requires annual testing in reading and mathematics.
OHSTI	Ohio High School Transformation Initiative	Program designed to respond to a lack of engagement, low achievement and low graduation rates in Ohio's urban high schools, supported through the Knowledge Works Foundation, the Bill & Melinda Gates Foundation, the Ford Foundation, the Ohio Department of Education, the U.S. Department of Education, and local community-based foundations.
OIP	Ohio Improvement Process	Ohio's strategy for ensuring a systematic and coherent approach for building the capacity of all districts and schools in meaningful and real ways that allow districts to improve instructional practice on a district-wide basis, and make and sustain significant improvement in student performance against grade-level benchmarks aligned with academic content standards for all students across the district.
OLAC	Ohio Leadership Advisory Council	An advisory and study group comprised of representatives of key professional associations, business and school board representatives, practitioners in leadership roles, higher education representatives and state department of education personnel.
	Operating Plans	Detailed implementation plans developed by Participating LEAs that are approved by ODE and used as the basis for subsequent performance monitoring.

GLOSSARY OF ACRONYMS AND TERMS		
Term	**Description**	**Definition**
ORC	Ohio Revised Code	A compilation of all acts passed by the Ohio General Assembly and signed by the governor.
OSLN	Ohio STEM Learning Network	An unprecedented collaborative aimed at building and connecting Science, Technology, Engineering and Mathematics (STEM) teaching and learning capacity in regions across the State of Ohio, focused on student and teacher success, built from a slate of committed partners from Pre-K-12 education, higher education and business and industry.
OTIF	Ohio Teacher Incentive Fund	Ohio's statewide system of rewarding teachers and school leaders for high levels of performance and solid achievement with competitive compensation and career opportunities which is funded by a grant from the U.S. Department of Education and provides opportunities for teacher development, differentiated leadership roles and incentive pay, designed to secure the best-qualified teachers for schools with the greatest need and lowest academic performance.
P-20	Preschool to grade 20	Encompasses early learning through eight years of postsecondary education.
PAR	Peer Assistance and Review	Programs where experienced, accomplished veteran teachers provide sustained, intensive assistance to teachers who need it.
	Participating LEAs	LEAs that choose to work with the State to implement all or significant portions of the State's Race to the Top plan, as specified in each LEA's agreement with the State.
PBA	Poverty-Based Assistance	Funding for high-poverty districts.
REL	Regional Education Laboratory	A network of 10 laboratories that serve the educational needs of a designated region by providing access to high-quality scientifically valid education research through applied research and development projects, studies and related technical assistance activities.
RFP	Request for Proposal	An invitation for suppliers, often through a bidding process, to submit a proposal on a specific commodity or service, used as one of the best methods for leveraging a company's negotiating ability and purchasing power with suppliers.

GLOSSARY OF ACRONYMS AND TERMS		
Term	**Description**	**Definition**
RttT	Race to the Top	A federal fund created to provide competitive grants to encourage and reward states that are creating the conditions for education innovation and reform, including Ohio.
SIF	Schools Interoperability Framework	A data-sharing open-specification industry initiative for grade K-12 academic institutions that enables diverse applications to interact and share data.
SLDS	Statewide Longitudinal Data Systems	Data systems that manage, analyze, disaggregate and enable use of individual student data over time to improve educational outcomes.
SRN	Stanford University School Redesign Network	Organization that engages in research and development to support equitable districts and schools that enable all students to master the knowledge and skills needed for success in college, careers and citizenship.
SSID	Statewide Student Identification	Unique student identification number assigned to all K-12 public school children in the state.
SST	State Support Teams	16 regional teams that work with districts using a tiered model of service delivery, with the lowest performing districts receiving the greatest intensity of services to increase student achievement.
TSI	Teacher Shortage Index	Supply and demand data used to recruit and track educators, and ascertain areas where teachers are needed.
UDL	Universal Design for Learning	An educational framework based on research in the learning sciences, including cognitive neuroscience, that guides the development of flexible learning environments that can accommodate individual learning differences.
	Value-added	The fourth component of Ohio's accountability system that measures growth or improvement over a period of time to determine the "value" gained by a student during that time period.

APPENDIX A.1.1

HOUSE BILL 1 SUMMARY

RATIONALE: SUMMARY OF OHIO'S MAJOR EDUCATION REFORM LEGISLATION WITH HIGHLIGHTS OF KEY ELEMENTS THAT SUPPORT OHIO'S RACE TO THE TOP APPLICATION.

REFERENCED IN: CROSS-CUTTING

Summary of Selected Education Provisions in House Bill 1 Supporting Ohio's Race to the Top Plan

- Ohio Evidence-Based Model
  - House Bill 1 implemented a new Ohio Evidence-Based Model (OEBM) to fund public education in Ohio.
  - The OEBM:
    - Determines an adequate funding amount based upon the unique needs of students;
    - Assures that instructional quality and the components needed to drive this goal drive the resources;
    - Provides flexibility responsive to Ohio's unique circumstances and priorities;
    - Uses research to inform what is needed for student success;
    - Maximizes transparency;
    - Is easy to understand;
    - Addresses disparities across all Ohio school districts in a systematic way; and
    - Recognizes the different needs of a 21st century education.
  - House Bill 1 Applies the OEBM to city, exempted village, and local school districts. Specifically does not apply the OEBM to community schools, STEM schools, open enrollment students, and PSEO students, but codifies a per-pupil funding method for those students based on current law. Adjustments to EBM for payments to community schools and STEM schools as well as other payments/transfers are as follows:
    1. Sets the formula amount for community schools and STEM schools at $5,718 in FY 10 and $5,703 in FY11, except for computing deductions and payments for special education and vocational education.
    2. For special education and vocational education, specifies that deductions and payments be computed by multiplying the respective fiscal year 2009 weight times $5,732.
    3. Sets the formula amount at $5,732 for both fiscal years for open enrollment and PSEO students.
    4. Authorizes the State Superintendent and the Chancellor of the Board of Regents jointly to adopt rules allowing school districts, community schools, STEM schools, and nonpublic schools to enter into alternative funding agreements to use an alternate funding formula to calculate or alternate method to transmit payments to colleges and universities for high school students taking college courses through PSEO programs, including Seniors to Sophomores.
  - Ohio School Funding Advisory Council
    - House Bill 1 Creates a permanent Ohio School Funding Advisory Council to provide recommendations to the State Board, the General Assembly and the public every two years on the adequacy of the evidence-based school funding model (OEBM).
    - Establishes a subcommittee of the Ohio School Funding Advisory Council to make recommendations for fostering collaboration between school districts and community schools and permits the Council to establish other subcommittees.

- Spending and Reporting Requirements

- Specifies that the State Superintendent's rules for spending and reporting of components in the core academic strategy category must provide flexibility in determining how to spend funds depending on the district's current academic performance rating, instead of merely requiring flexibility for "effective" and "excellent" districts.
- Specifies that districts rated as "excellent" or "excellent with distinction" are not subject to spending rules, but are subject to reporting rules.
- Modifies the current requirement for the State Board to develop a standard for reporting financial information to the public by (1) requiring districts and Educational Service Centers to report revenues and expenditures by school building and (2) eliminating a requirement that the reporting format include year-to-year comparisons of budgets over a five-year period. (The amendment does not apply the requirement to community schools and STEM schools.)
- Requires school districts to spend portions of their federal stimulus funds on services to students in nonpublic schools as prescribed by federal law.

- Standards and Curriculum Models
  - Requires the State Board, by June 30, 2010, and at least once every five years thereafter, to adopt new statewide academic standards for all grades in English language arts, mathematics, science, and social studies and adopt model curricula reflecting the revised standards by March 31, 2011.
  - Requires the State Board, after completing the standards listed above, to revise the academic standards and model curricula for grades K-12 in fine arts and foreign language, revise the standards and curricula in computer literacy and expand them to cover grades K-12, and adopt standards and curricula for grades K-12 in the new area of financial literacy and entrepreneurship.
  - Requires that all academic standards specify (1) skills related to creativity and innovation, critical thinking, problem solving, communication and collaboration, (2) skills that promote information, media, and technological literacy, (3) skills that promote productivity, accountability, leadership and responsibility, and (4) interdisciplinary, project-based real world learning opportunities.
  - Requires the State Board to convene a committee of national and state experts and local practitioners to provide guidance in the design of the updated standards and model curricula.
  - Requires the Educator Standards Board's standards for teachers to reflect the revised academic standards
  - Requires the State Superintendent to present the revised standards and model curricula in the core academic areas to the House and Senate education committees at least 45 days prior to the deadline for their adoption.

- Assessments
  - Requires that the State Board, State Superintendent, and Chancellor of the Board of Regents develop a new high school assessment system to replace the Ohio Graduation Tests (OGT) that consists of (1) a nationally standardized assessment in science, mathematics, and English/language arts, (2) a series of end-of-course examinations in science, mathematics, English language arts, and social studies, and (3) a senior capstone project.
  - Requires the State Board to adopt rules for implementing the new high school assessment system.
  - Requires the State Superintendent to present the new high school assessment system to the House and Senate education committees at least 45 days before the State Board adopts a resolution directing the ODE to file the rules implementing the system in final form.

- Combines the separate grade-level reading and writing achievement assessments and diagnostic assessment into the single subject of English language arts.

- Local Curriculum Requirements
  - Clarifies that a high school that permits students below the ninth grade to take advanced work for high school credit must award high school credit for successful completion of that work.
  - Revises the current law permitting school districts to include community service education within their educational programs by: (1) adding permissive authority for community and STEM schools, (2) requiring the State Superintendent to develop guidelines for a scoring rubric for school officials to use to evaluate community service projects, (3) requiring the State Superintendent to adopt rules for granting a student special certification, recognition, or notification upon successful completion of an approved community service project.

- Minimum Operating Standards
  - Requires that the State Board adopt minimum operating standards for school districts, which districts must comply with unless they receive a waiver from the State Superintendent. Specifies that the operating standards override any conflicting provisions of a collective bargaining agreement. The operating standards must include (1) standards for the effective and efficient organization, administration, and supervision of districts, (2) standards for the establishment of business advisory councils and family and civic engagement teams, (3) standards for incorporating the classifications of the components of the adequacy amount into core academic strategy components and academic improvement components, and (4) standards for school district organizational units.
  - Requires that the Educator Standards Board's standards for teachers, principals, superintendents, and treasurers be aligned with the minimum operating standards.
  - Requires that the State Board's existing minimum standards for all public schools require instructional materials and equipment, including library materials, to be aligned with the academic content standards.

- Educator Programs
  - Makes regular classroom teachers who become licensed for the first time on or after January 1, 2011, eligible for a continuing contract (tenure) after seven years of holding an educator license.
  - Permits the creation of the Ohio Teaching Program to provide undergraduate scholarships for qualified students going into the teaching profession who commit to teaching at a hard-to-staff or academic watch or emergency public school for at least four years if there is sufficient funding for the program. Failure to fulfill the four-year teaching commitment will result in a conversion of the scholarship into a loan that accrues interest at 10% annually.
  - Transfers responsibility for approving teacher preparation programs from the State Board to the Chancellor of the Board of Regents and expands the requirement to include approval of preparation programs for other school personnel. Directs the Chancellor, jointly with the State Superintendent, to: (1) establish metrics and educator preparation programs for the preparation of educators and other school personnel, and (2) provide for inspection of the institutions.
  - Requires the Chancellor to issue an annual report on the quality of approved teacher preparation institutions.
  - Educator Standards Board (ESB)

- Requires the ESB to develop a method of measuring the academic improvement of individual students over a one-year period and to make recommendations for incorporating the measurement, as one of multiple evaluation criteria, into eligibility for teacher or principal licenses, the Ohio Teacher Residency Program and the Board's model teacher and principal evaluation instruments.
- Allows the State Board to extend the duration of a resident educator license and the alternative resident educator license, on a case-by-case basis, to enable the license holder to complete the Ohio Teacher Residency Program.
- Directs the ESB to adopt criteria that certain applicants for a lead professional educator license must meet to be considered a lead teacher. Specifies that meeting either the definition of a master teacher or the criteria developed for a lead teacher suffice as qualification for a lead professional educator license.
- Requires ODE, in consultation with the ESB and by December 31, 2010, to develop a model peer assistance and review program and to make recommendations to expand the use of peer assistance and review programs in school districts. Specifies that the model program must include the following elements: (1) releasing experienced teachers from instructional duties for up to three years to mentor and evaluate new and underperforming teachers, (2) targeted professional development, and (3) a committee containing representatives of teachers and the employer to review evaluations and make recommendations regarding teachers' continued employment.
- Directs the ESB to develop and recommend to the State Board of Education standards for school district superintendents and treasurers and standards for school district treasurers and business managers.

- Community Schools
  - Eliminates the two-year wait before ODE begins issuing annual report cards for a community school.
  - Exempts from consideration the ratings on the report cards for the first two years a community school has been in existence from automatic closure or any other matter based on report card ratings.
  - Clarifies that ODE's authority to oversee and monitor community school sponsors applies to all sponsors, regardless of whether or not they must initially be approved by ODE for sponsorship.
  - Requires ODE's annual report on community schools to include the performance of community school sponsors.
  - Revises the exception to the cap on new start-up community schools by prohibiting contracts with operators that manage other schools in Ohio, unless at least one of those schools has a report card rating higher than academic watch.
  - Permits the conversion of a building operated by a Joint Vocational School District board of education into a community school, in the same manner as a building operated by a city, local, or exempted village school district board of education or an Educational Service Center governing board may be converted under current law.
  - Permits a community school, beginning in the 2009-2010 school year, to operate from its current facility, rather than relocating to another school district, if the school meets the following criteria: (1) it has been located in its current facility for at least three years, (2) it is sponsored by a school district adjacent to the district in which the school is located, (3) it emphasizes serving gifted students, and (4) it has been rated continuous improvement or higher for the previous three years.

- Specifies that if a community school closes, the chief administrative officer must transmit all educational records to the student's resident district within seven business days.
- Adds computers and software to the instructional items for which Internet or computer-based-community schools (e-schools) may use the per pupil amount of state funds calculated for base classroom teachers. (Current law allows those funds to be used only for teachers, curriculum, academic materials other than computers, and other instructional purposes designated by the State Superintendent.)
- Revises the current performance criteria that trigger automatic closure of a community school effective July 1, 2009, as follows: (1) For schools that do not offer a grade higher than 3, requires closure if the school has been in academic emergency for three of the four most recent years, instead of four consecutive years; (2) For schools that offer any of grades 4 to 8 but no grade higher than 9, requires closure if the school has been in academic emergency for two of the three most recent years, instead of three consecutive years, and has shown less than one year of academic growth in reading or mathematics for at least two of the three most recent years; (3) For a school that offers any of grades 10 to 12, requires closure if the school has been in academic emergency for three of the four most recent years, instead of three consecutive years with two years not showing two years of academic growth in reading or mathematics.
- Exempts from automatic closure any community school in which a majority of the enrolled students are children with disabilities receiving special education and related services.
- Continues to prohibit a community school that was not open for operation as of May 1, 2005, from operating from certain residential facilities that receive and care for children.
- Continues to permit an early college high school that is currently run by a Big Eight school district in partnership with a private university to operate as a start-up community school if certain conditions are met.

- Early Childhood
  - Early Childhood Advisory Council
    - Creates the Early Childhood Advisory Council to serve as the federally mandated state advisory council for early childhood education and care, and advise the state regarding the creation and duties of the Center for Early Childhood Development in ODE.
    - Directs the Early Childhood Advisory Council to establish an Early Childhood Financing Workgroup, to be chaired by the chairperson of the Early Childhood Advisory council, to develop recommendations for a single financing system for early care and education programs. Requires the Council to submit its recommendation to the Governor by December 31, 2009.
  - Continues the GRF-funded early childhood education program at school districts, Joint Vocational School Districts, or Educational Service Centers for children at least three years old as of the district entry date for kindergarten (except that children with an IEP where the early childhood education program is the least restrictive environment may be enrolled on their third birthday), not eligible for kindergarten, and whose families earn not more than 200% of the federal poverty guidelines.
  - Center for Early Childhood Development
    - Directs the State Superintendent and the Governor to create the Center for Early Childhood Development, comprised of staff from ODE, ODJFS and Health, and any other state agency as determined necessary, to research and make recommendations regarding the transfer of authority and responsibility to implement and coordinate early childhood programs and services

for children, beginning with prenatal care until entry into kindergarten from various state agencies to ODE.

- Directs the State Superintendent and the Governor to hire a Director for the Center for Early Childhood Development, and requires the Director to report to the State Superintendent and the Governor.

- Creates a committee to study publicly funded child care services. Requires that the committee provide a report of its findings by June 30, 2010. Requires that ODE provide the committee with meeting space and clerical assistance.

- State Education Technology Plan
  - Transfers the responsibility for developing a state education technology plan from the State Board to the eTech Ohio Commission. Requires the Commission to consult with the State Board in the development and modification of the plan.
  - Changes the purpose of the state education technology plan from "promoting the use of technological advancements in educational settings" to "creating an aligned educational technology system that spans preschool to postsecondary education and complies with federal mandates."
  - Requires the eTech Ohio Commission to "implement" the plan (but does not specify any powers or duties with which to do so and retains budget language requiring ODE to maintain a system of information technology throughout the state).

- Other
  - Allows the State Superintendent to create the Center for Creativity and Innovation within ODE.
  - Provides up to $500,000 to support the administration and activities of the Governor's Closing the Achievement Gap Initiative in GRF 200100, Personal Services.
  - Requires ODE to share aggregate student value-added data and calculations, analyses, and reports using aggregate student value-added data with the Chancellor of the Board of Regents.
  - Requires school districts to appoint a family and civic engagement team and permits districts to appoint one committee to function as both that team and a business advisory council, which city and exempted village districts must appoint under current law. Permits community schools and STEM schools to appoint a family and civic engagement team.
  - Requires the State Board, by January 29, 2010, to develop a list of best practices for improving parental involvement in schools for optional use by public and nonpublic schools. Requires the list be made available on the ODE web site.
  - Abolishes the Partnership for Continued Learning and transfers duties of the Partnership to ODE as applicable. Replaces and transfers the responsibilities of the STEM subcommittee of the Partnership to an independent STEM committee.
  - Requires the eTech Ohio Commission, with assistance from ODE and in consultation with the Board of Regents, to develop and implement a pilot project to provide at least two Advanced Placement courses and one foreign language interactive distance learning course through grants to eligible schools. Earmarks the lesser of one-half of the amount allocated to the state for federal EETT grants or $4.5 million each fiscal year from FED appropriation item 200641, Education Technology, for the pilot project and requires ODE and the Commission to enter into a memorandum of understanding. Qualifies entities eligible under federal EETT Act for the grants and permits schools not awarded a grant to participate in the pilot project at their own expense.

APPENDIX A.1.2

OHIO IMPROVEMENT PROCESS DESCRIPTION AND GRAPHIC

RATIONALE: DESCRIPTION OF OHIO IMPROVEMENT PROCESS, A FOUR-STAGE PROCESS THAT SUPPORTS DISTRICT IN MAKING DATA-DRIVEN DECISIONS TO IMPROVE PERFORMANCE.

REFERENCED IN:

(A)(3)
(E)(1)
(E)(2)

Ohio Improvement Process: ***Overview of the Process and Tools Used Within the Process***

The *Ohio Improvement Process* ***(OIP)*** is Ohio's strategy for ensuring a systematic and coherent approach for building the capacity of all districts and schools to improve instructional practice on a district-wide basis, and sustain significant improvement in student performance against grade-level benchmarks aligned with academic content standards for all students across the district.

In 2008-09, 290 districts encompassing 925 schools, and 22 community school sponsors encompassing 72 community schools (i.e., charter schools) were in improvement status under Ohio's Differentiated Accountability model and were required to implement the Ohio Improvement Process (OIP) as a required intervention.

Inherent in the OIP is the belief that (1) improvement is everyone's responsibility – at all levels of the district and in all districts; (2) state-developed products and tools, including professional development, need to be designed for universal accessibility and applicability to/for every district in the state; (3) a unified statewide system of support requires the intentional use of a consistent set of tools and protocols by all state-supported regional providers, rather than allowing multiple approaches across the state; and (4) improvement efforts should be focused on improving instructional practice and performance at all levels in the system.

Stages of the Ohio Improvement Process (OIP). The Ohio Improvement Process (OIP) involves four-stages across which processes, structures, tools, and people are connected by (1) using data to identify areas of greatest need; (2) developing a plan to address those areas of need that is built around a limited number of focused goals and strategies to significantly improve instructional practice and student performance; (3) implementing and monitoring the degree of implementation of the plan with integrity; and (4) evaluating the effectiveness of the improvement process in changing instructional practice and impacting student performance.

Stage 1 of the OIP begins with an assessment using *Ohio's Decision Framework (DF)* tool. The DF is designed to assist districts in making informed decisions – based on what their data tell them – about where to spend their time, energy, and resources to make significant and substantial improvements in student performance. A state-developed data warehouse provides relevant data needed to complete the DF process to districts and buildings, and community schools. Data are organized to allow district leadership teams (DLTs) and building leadership teams (BLTs), and community school leadership teams (CSLTs), to answer essential questions and make decisions about their greatest need related to improving student performance.

The DF is used to help DLTs and BLTs, and CSLTs: sort through and categorize data in meaningful ways; prioritize areas of need and make decisions based on an analysis of data; identify root causes of prioritized needs; and develop a more focused plan leading to improved student achievement.

The DF is organized around the four levels outlined below:

I: Student Proficiency In Level I, leadership teams review student proficiency data across four years by grade level, building level/grade span, and disaggregated student groups to identify up to two content areas of greatest concern. Further analyses using subscale performance data are completed by the team *only* for those content area(s) identified as areas of greatest concern. The remainder of the DF – Levels II, III, and IV – provide essential questions for helping districts conduct a root cause analysis of those factors contributing to the district's current situation. Level II, which has a direct impact on student performance, is completed for *each* area of concern identified under Level I of the DF. Levels III and IV, which have a more global impact, are completed once.

Level II: Instructional Management ***(Curriculum, Assessment, & Instructional Practice; Educator Quality; Professional Development)*** In Level II, leadership teams answer essential questions in relation to ***each*** of the content area(s) of greatest concern identified under Level I. Essential questions under Level II focus on curriculum, assessment, instructional practices; educator qualifications, teacher and principal turnover; and the degree to which district professional development (PD) is aligned to problem areas, is designed to promote shared work across the district/buildings, and is effective in helping teachers acquire and apply needed knowledge and skills related to the improvement of instructional practice and student performance. Following the completion of the Level II analyses, teams make decisions about the most probable causes contributing to the major problem areas identified under Level I.

Level III: Expectations & Conditions ***(Leadership; School Climate; Parent/Family, Student, Community Involvement)*** In Level III, leadership teams answer essential questions related to leadership; school climate (including student discipline occurrences, student attendance and mobility, students with multiple risk factors, and teacher and student perception); and parent/family, student, and community involvement and support to identify additional probable causes contributing the areas of greatest need identified in Level I.

Level IV: Resource Management In Level IV, leadership teams answer essential questions related to resource management – defined as the intentional use of time, personnel, data, programmatic, and fiscal resources – to identify additional causes contributing the area(s) of greatest need identified in Level I.

The DF assists DLTs, BLTs, and CSLTs in selecting the right work (i.e., work that has a high probability of improving student achievement), based on data-based decision making and focused planning, as well as developing the collective know-how to do the right work across the system.

Districts with the greatest degree of need (i.e., selected *high support* districts), as well as other districts in improvement status, may also receive an on-site review from the State Diagnostic Team (SDT). The SDT conducts a *District/School Improvement Diagnostic Review*, a process designed to help districts and schools improve student performance by analyzing their current practices against diagnostic indicators – effective research-based practices critical to improving academic achievement for all students. Using the diagnostic indicators, review team members determine the degree to which a school or district demonstrates effective instructional practices.

The focus of this intensive review process is on identifying critical needs *(Stage 1 of the OIP)* of the educational system. Unlike traditional self-assessments, the district/school improvement diagnostic review process relies upon a team of skilled reviewers from outside of the district or school, who is trained on the diagnostic indicators and standardized protocols for data collection and analysis. Regardless of their role, all members of the SDT receive formal training on using the diagnostic indicators, interviewing, observing classrooms, analyzing data, and writing reports. Findings from the review (e.g., data from classroom observation, interviews, and review of documents, diagnostic profiles completed following the review) become additional sources used by districts as they complete the decision framework process and identify critical needs to be addressed.

At ***Stage 2*** of the OIP, leadership teams affirm the priority areas identified through use of the DF in developing a district improvement plan that has a limited number of focused goals and strategies. In Ohio, the Consolidated Comprehensive Improvement Plan (CCIP) is the automated state tool for creating district and building improvement plans. All districts in Ohio are required to submit a CCIP, which includes the district goals, strategies, and action steps for improving student performance. The CCIP is a unified grants application that requires district personnel to work together in the development of one coherent plan that aligns and focuses the work across the district. All school-level plans must adhere to the district plan and school-level strategies and action steps must respond directly to district goals. Schools receiving Title I School Improvement funds must also create their improvement plans in the CCIP.

The CCIP provides the structure, format and means for almost all district/building-level plans submitted to the Ohio Department of Education (ODE), and is used by each district to create one coherent improvement plan describing how it intends to:

- Achieve the district vision and mission over the next five years;
- Address requirements and consequences prescribed by state and federal statute [corrective action, restructuring, Highly Qualified Teacher (HQT)];
- Take advantage of flexibility provisions of Title I Schoolwide to combine resources – fiscal, personnel, and time; and
- Draw on funding from multiple state, federal, and local sources to achieve district goals.

At ***Stage 3*** of the OIP, the focus is on implementation, and monitoring the degree of implementation, of the focused plan across the district. Recent research on the effects of full implementation (Leadership and Learning Center, 2007) and its impact on student achievement note that *partial* implementation of evidence-based strategies is not much better than *no* implementation. For example, in one school when fewer than 50% of the teachers aligned curriculum, assessment, and instruction to state-content standards in science, the percent of students proficient in

that content area on state assessment was 25%. In stark contrast, when over 90% of the teachers in the same school aligned curriculum, assessments, and instruction to the state science standards, student proficiency increased to 85% (Reeves, 2006). These findings – based on a synthesis of multiple research sources on teaching, leadership, and organizational effectiveness – highlight the critical importance of full implementation of the district plan based on focused goals that remain stable over time (Reeves, 2008).

The need for implementation of the focused plan *across the district as a system* adds support to the critical role that highly effective district and building leadership teams play in continuously improving system planning and implementation of focused improvement strategies, structures, and processes at the district and school level. When school board members, superintendents, central office staff, principals, and teachers "stay the course" on the right work, as defined by focused goals for instruction and achievement, student learning increases.

McREL (2006), in its study of factors that contribute to effective district-level leadership, suggest a positive correlation between leadership stability and increases in student performance, and a negative correlation between building autonomy (i.e., site-based management in the absence of district leadership) and increases in student achievement. Both findings support the need for effective leadership team structures to perform critical functions and sustain a focus on higher levels of learning for all children across the district. For example, at the district level, DLTs perform such functions as:

- Setting performance targets aligned with district goals;
- Monitoring performance against the targets;
- Building a foundation for data-driven decision making on a system-wide basis;
- Facilitating the development and use of collaborative structures;
- Brokering or facilitating high quality PD consistent with district goals; and
- Allocating system resources toward instructional improvement.

Similarly, at the school level, BLTs perform such functions as:

- Fostering shared efficacy;
- Building a school culture that expects effective data-driven decision making;
- Establishing priorities for instruction and achievement aligned with district goals;
- Providing opportunities for teachers to learn from each other;
- Monitoring and providing effective feedback on student progress; and
- Making recommendations for the management of resources, including time, and personnel to meet district goals.

At ***Stage 4*** of the OIP, the focus is on evaluating the effects of the improvement process at multiple levels (classroom, BLT, DLT, regional, state) and its impact on student achievement. Key indicators are customized for each level, while maintaining the focus on essential practices in the areas mentioned above (e.g., data and the decision-making process, focused goal setting process, instruction and the learning process, etc.). At the district level, continuous monitoring is necessary to gauge the effectiveness of improvement efforts on changes in adult practice and student achievement and to ensure a sustained focus on district goals for instruction and achievement, and is the key function of the DLT. At the regional and state level, monitoring the use of the OIP as Ohio's primary vehicle for supporting statewide sustainable improvement is the major function of regional managers assigned to oversee the work of state support teams who work with DLTs to review data, develop focused plans, and ensure fidelity of plan implementation and its effect on instruction and achievement.

Technical Assistance. The technical assistance provided to districts in improvement status included structured and focused facilitation by personnel assigned from Ohio's state support teams (SSTs) or educational service centers (ESCs). Such personnel were trained in facilitating the OIP and worked with districts to implement the process, which includes the following:

- ***Stage 0***: Preparing district personnel to implement the OIP by supporting district, building, and/or community school staff members to (1) establish/re-establish a district leadership team (DLT) and building leadership teams (BLTs) in each school within the district, or a community school leadership team (CSLT) when

working with a community school, in accordance with *Ohio's Leadership Development Framework*; (2) develop a common understanding of the role of the DLT and BLTs, or CSLT, in implementing the OIP; and (3) measure their team's level of practice against the Ohio Leadership Advisory Council's (OLAC) standards of effective practice as outlined in *Ohio's Leadership Development Framework* using the OLAC electronic performance assessment.

- ***Stage 1***: Working with leadership teams in using *Ohio's Decision Framework* tool (i.e., the major tool at stage 1 of the OIP) to complete a comprehensive needs assessment that identifies the most critical needs and probable causes based on data by supporting team members to (1) effectively summarize and analyze data sets; (2) understand and apply the decision framework; (3) interpret key findings/information from the needs assessment; and (4) prioritize a list of data-based critical problems from the decision framework in the creation of their focused needs assessment.

- ***Stage 2:*** Working with leadership teams to develop a limited number of focused district (or community school) goals, strategies, and action steps based on data; and a limited number of focused building actions aligned with district goals and strategies by supporting team members to (1) develop focused SMART goals; (2) determine prioritized cause-and-effect relationships; (3) compose strategies for each goal; and (4) create actions that have the greatest likelihood of increasing student performance and improving instructional practices. These focused, data-driven goals, strategies and actions form the basis of the district/school/community school plan, which is formalized as part of each district's comprehensive continuous improvement plan (CCIP). The CCIP is the major tool used at this stage of the OIP.

- ***Stage 3:*** Working with leadership teams to implement, and monitor the degree of implementation, of the focused plan by supporting team members to (1) establish and implement collaborative structures, processes, and practices that support a culture of inquiry and distributive leadership; (2) implement the plan systemically and systematically; and (3) monitor, using the *Implementation Monitoring/Management (IMM)* tool the degree of implementation of the focused strategies and actions to gauge whether implementation is having the desired effect on changes in adult practice and student achievement, and make and report necessary course corrections to the plan. The IMM is a component that was added in 2008-09 to the CCIP system and is used by teams to establish expected levels of performance for both adults and students (adult implementation indicators and student performance indicators), assign persons responsible and required time frame for each implementation strategy/action, and monitor and communicate progress. The IMM is major tool used at this stage of the OIP.

- ***Stage 4***: Working with leadership teams to evaluate the improvement process and make necessary changes to continually improve instructional practice and student performance by supporting team members to (1) evaluate plan implementation, impact, and changes needed; (2) report summative plan progress; and (3) modify instructional practice and revise plan.

Ohio employs a tiered model to support the continuous development of regional providers to ensure consistency and quality in the services provided to districts needing a high level of support, as well as to those needing a moderate or low level of support. A State-level Design Team comprised of representatives from each of Ohio's 16 state support team (SST) regions assists the State in developing and deploying training to other regional providers to increase consistency and focus around the OIP. In addition, four members of the State-level Design Team – referred to as "quad" leads (i.e., four SSTs per each quadrant) – have the additional responsibility of coordinating training and deployment of OIP training on a quadrant basis and serve as an added layer of support for other regional providers across the state.

APPENDIX A.1.3

OHIO STEM LEARNING NETWORK OVERVIEW

RATIONALE: DESCRIPTION OF THE OHIO STEM LEARNING NETWORK, A PRIVATELY-SUPPORTED, NON-PROFIT INITIATIVE THAT SHARES INNOVATION AND BEST PRACTICES IN STEM TEACHING AND LEARNING.

REFERENCED IN:

(A)(1)
(B)(3)

Making STEM Education Work for Ohio

A Network Infrastructure Accelerating the Pace of Education Reform

The Ohio STEM Learning Network (OSLN) is a privately-supported, non-profit initiative that shares innovations and best practices in STEM teaching and learning. Centered around 5 regional hubs (Centers of regional Science, Technology, Engineering and Math activity), the OSLN works in collaboration with Ohio's 10 STEM schools, 26 Programs of Excellence, and regional partners from K-12, higher education, community, and business. In just two years, Ohio's STEM Schools and Programs have garnered initial support from:

- 47 private and public (main and regional campuses) higher education institutions
- 81 public school districts
- More than 300 unique partnering business and community partners

...And these numbers continue to grow

Our Core Beliefs

- Learning (Who) – Ohio's educational systems must be centered around the learner
- Innovation (How) – Ohio should adopt borderless education principles to amplify and accelerate innovative approaches to solving problems not seen before
- Network (What) – Ohio, through the OSLN, can intentionally engineer a value-added network to share innovations and best practices in STEM education
- Knowledge (Why) – Ohio's future is at stake, and we must connect to the knowledge economy

Our Overarching Goals

- Develop and connect STEM schools and programs throughout the state
- Build an R&D network that fuels, captures, and spreads STEM education innovations within and across schools, regions and systems
- Advance the scalability and sustainability of STEM education
- Coherence in STEM education is achieved by connecting and developing local creativity and innovation

Our Regional Hubs

OSLN Regional Hubs

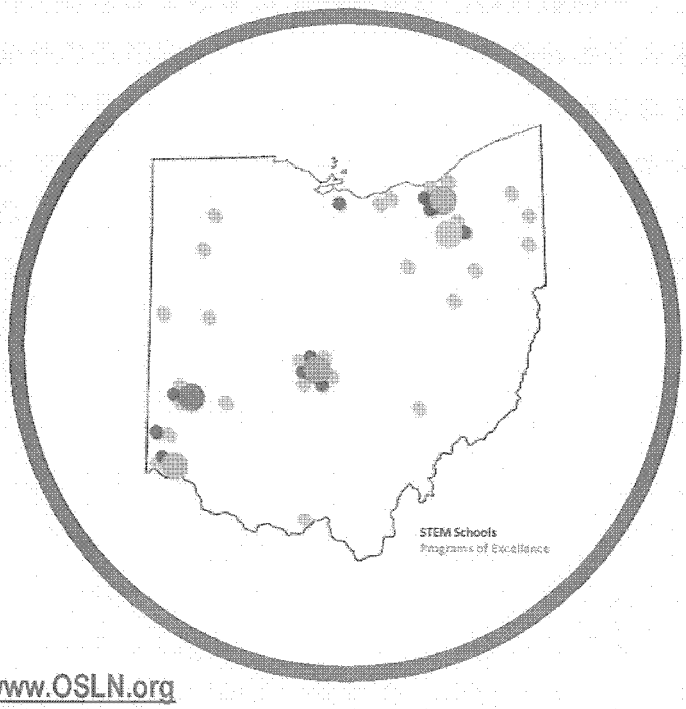
Akron Regional Hub
Contact: Maryann Wolowiec
330-761-3032
mwolowie@akron.k12.oh.us

Cincinnati Regional Hub
Contact: Dr. Cara Johnson
513-555-7158
johnsc2@ucmail.uc.edu

Cleveland Regional Hub
Contact: Sonya Pryor-Jones
216.368.7568
sonya@mc2stemhub.org

Columbus Regional Hub
Contact: Keisha Slaughter
614-462-0839
slaughter@edcouncil.org

Dayton Regional Hub
Contact: Laurie McClain
937-[illegible]
laurie.mcclain@daytonstemschool.org



Learn more at www.OSLN.org
OSLN@Battelle.org
or call 1-800-201-2011

Battelle
The Business of Innovation

Ohio STEM Learning Network

APPENDIX A.1.4

TABLES AND GRAPHS ILLUSTRATING GOALS STATED IN (A)(1)(iii)

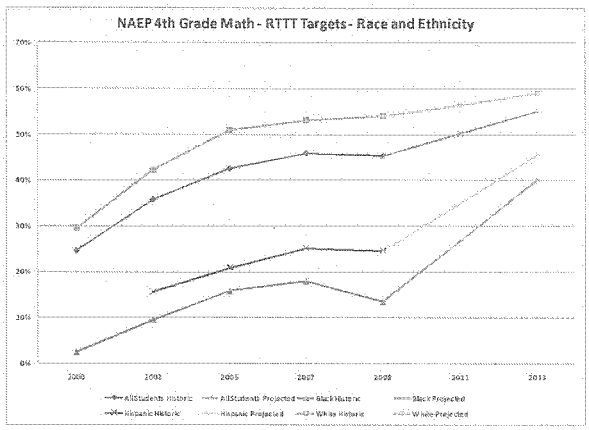
RATIONALE: REQUIRED EVIDENCE FOR (A)(1)(iii).

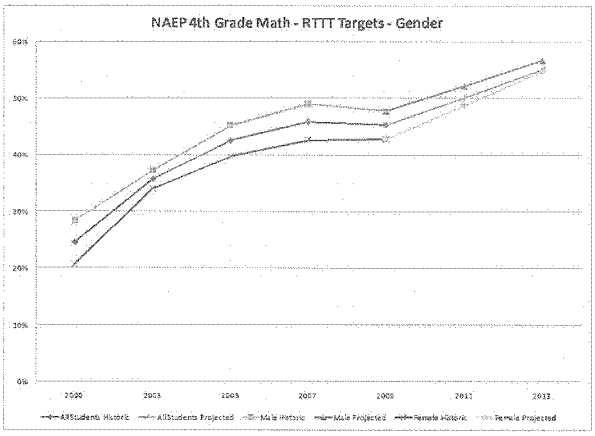
REFERENCED IN:
(A)(1)

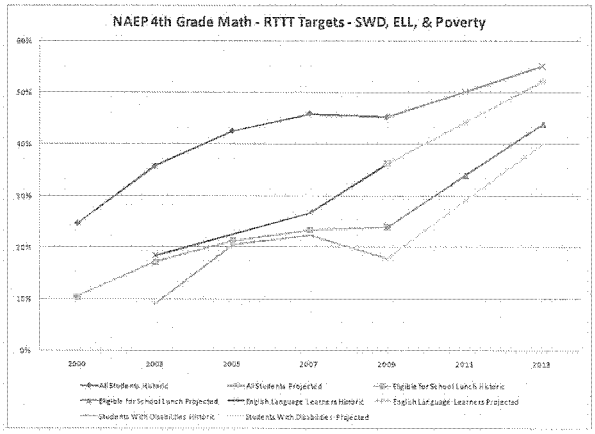
EVIDENCE FOR (A)(1)(III)

4TH GRADE NAEP MATHEMATICS

RttT Targets for the 4th Grade NAEP Mathematics Assessment							
Percent of Students by Subgroup At Least Proficient, 2002-2013							
Student Subgroup	2002	2003	2005	2007	2009 Target	2011 Target	2013 Target
All Students	24.6%	35.8%	42.5%	45.9%	45.3%	50.2%	55.1%
White	29.5%	42.2%	50.9%	53.0%	54.0%	56.5%	59.0%
Black	2.5%	9.5%	15.8%	17.9%	13.5%	26.8%	40.1%
Hispanic		15.5%	20.8%	25.1%	24.5%	35.0%	45.5%
Eligible for School Lunch	10.5%	17.2%	21.2%	23.3%	23.9%	33.9%	43.9%
English Language Learners		18.4%		26.7%	36.2%	44.2%	52.2%
Students With Disabilities		9.0%	20.4%	22.3%	17.9%	29.0%	40.1%
Male	28.4%	37.3%	45.2%	49.0%	47.7%	52.2%	56.7%
Female	20.7%	34.1%	39.7%	42.6%	42.8%	48.8%	54.8%



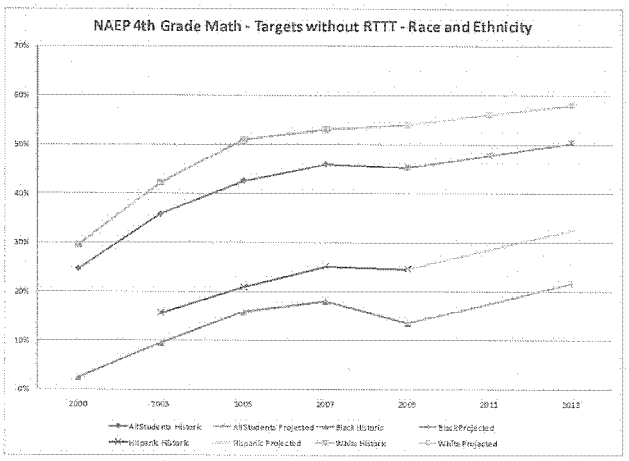


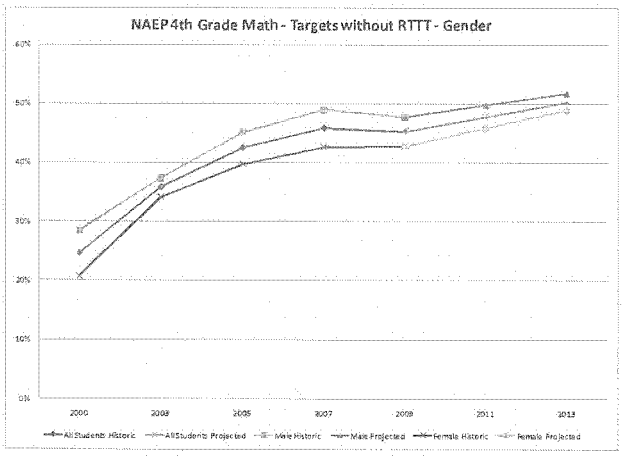


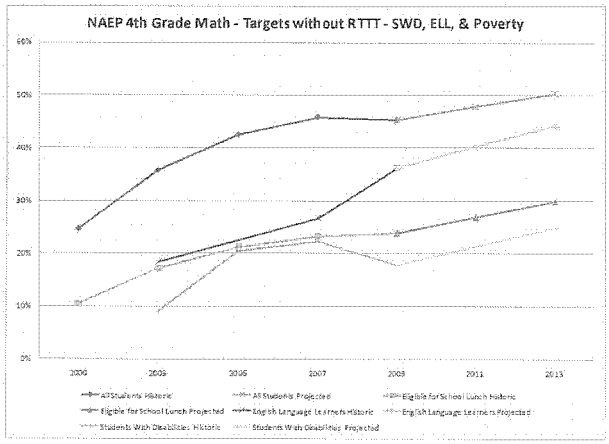
Targets Without RttT for the 4th Grade NAEP Mathematics Assessment

Percent of Students by Subgroup At Least Proficient, 2002-2013

Student Subgroup	2002	2003	2005	2007	2009 Target	2011 Target	2013 Target
All Students	24.6%	35.8%	42.5%	45.9%	45.3%	47.8%	50.3%
White	29.5%	42.2%	50.9%	53.0%	54.0%	56.0%	58.0%
Black	2.5%	9.5%	15.8%	17.9%	13.5%	17.5%	21.5%
Hispanic		15.5%	20.8%	25.1%	24.5%	28.5%	32.5%
Eligible for School Lunch	10.5%	17.2%	21.2%	23.3%	23.9%	26.9%	29.9%
English Language Learners		18.4%		26.7%	36.2%	40.2%	44.2%
Students With Disabilities		9.0%	20.4%	22.3%	17.9%	21.4%	24.9%
Male	28.4%	37.3%	45.2%	49.0%	47.7%	49.7%	51.7%
Female	20.7%	34.1%	39.7%	42.6%	42.8%	45.8%	48.8%



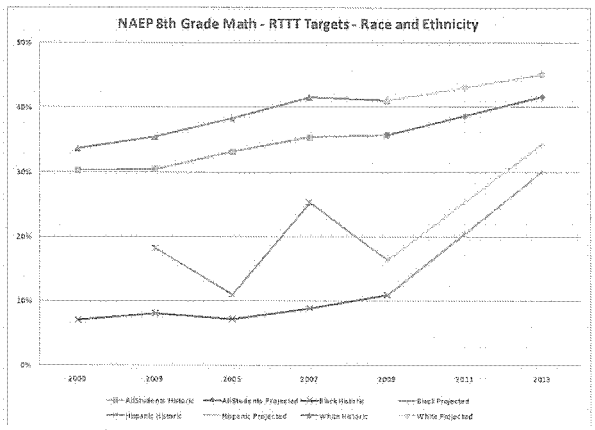


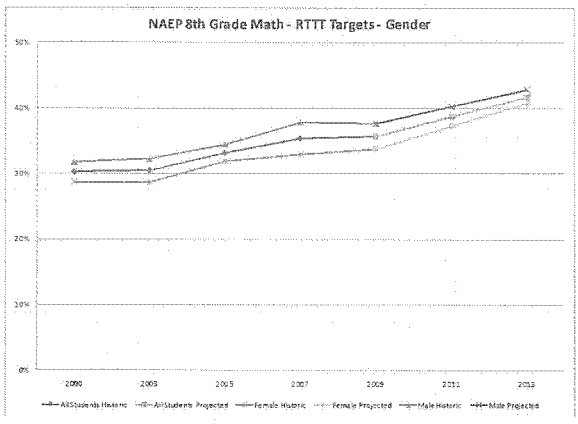


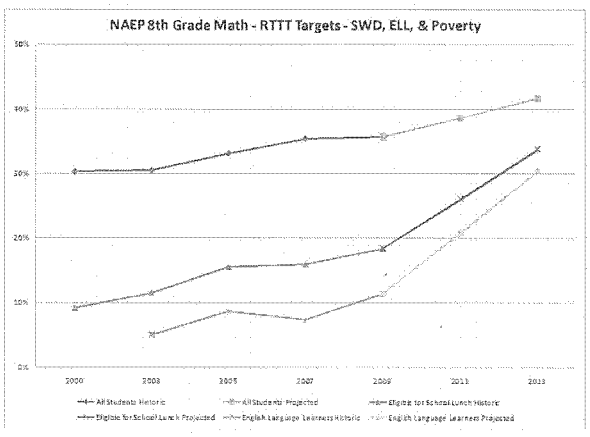
8TH GRADE NAEP MATHEMATICS

RttT Targets for the 8th Grade NAEP Mathematics Assessment
Percent of Students by Subgroup At Least Proficient, 2002-2013

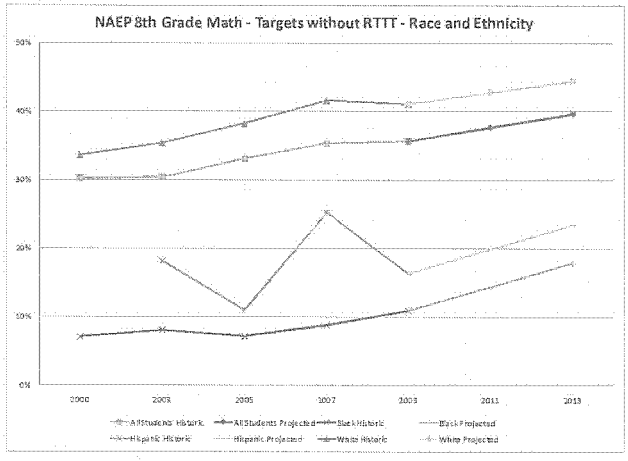
Student Subgroup	2002	2003	2005	2007	2009 Target	2011 Target	2013 Target
All Students	30.3%	30.4%	33.1%	35.4%	35.7%	38.7%	41.7%
White	33.6%	35.4%	38.2%	41.6%	41.1%	43.1%	45.1%
Black	7.1%	8.1%	7.1%	8.9%	10.9%	20.5%	30.1%
Hispanic		18.2%	11.0%	25.3%	16.4%	25.4%	34.4%
Eligible for School Lunch	9.1%	11.5%	15.5%	16.0%	18.4%	26.1%	33.8%
English Language Learners		5.0%	8.6%	7.3%	11.3%	20.8%	30.3%
Students With Disabilities		2.8%		17.0%	10.8%	20.3%	29.8%
Male	31.7%	32.2%	34.4%	37.8%	37.6%	40.2%	42.8%
Female	28.7%	28.6%	31.8%	32.9%	33.7%	37.2%	40.7%

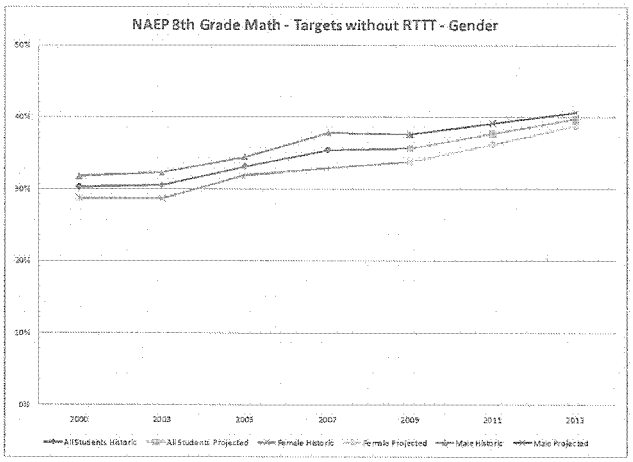


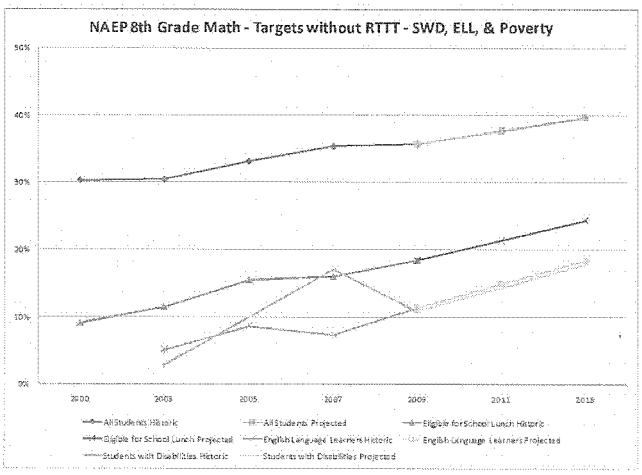




Targets Without RttT for the 8th Grade NAEP Mathematics Assessment Percent of Students by Subgroup At Least Proficient, 2002-2013							
Student Subgroup	2002	2003	2005	2007	2009 Target	2011 Target	2013 Target
All Students	30.3%	30.4%	33.1%	35.4%	35.7%	37.7%	39.7%
White	33.6%	35.4%	38.2%	41.6%	41.1%	42.8%	44.5%
Black	7.1%	8.1%	7.1%	8.9%	10.9%	14.4%	17.9%
Hispanic		18.2%	11.0%	25.3%	16.4%	19.9%	23.4%
Eligible for School Lunch	9.1%	11.5%	15.5%	16.0%	18.4%	21.4%	24.4%
English Language Learners		5.0%	8.6%	7.3%	11.3%	14.8%	18.3%
Students With Disabilities		2.8%		17.0%	10.8%	14.3%	17.8%
Male	31.7%	32.2%	34.4%	37.8%	37.6%	39.1%	40.6%
Female	28.7%	28.6%	31.8%	32.9%	33.7%	36.2%	38.7%



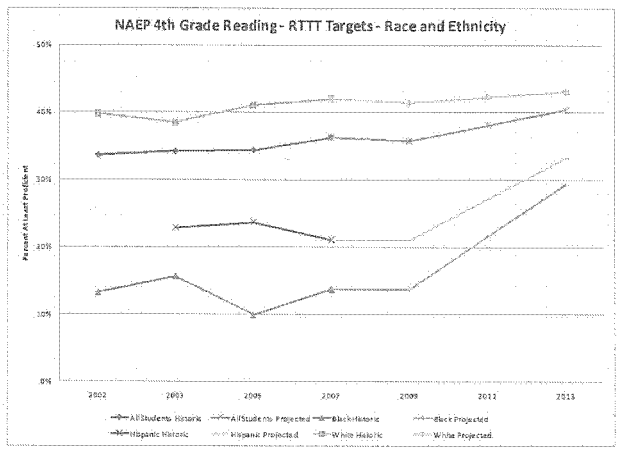


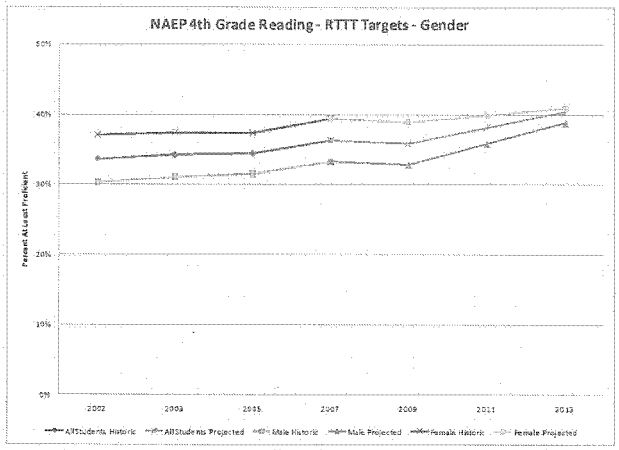


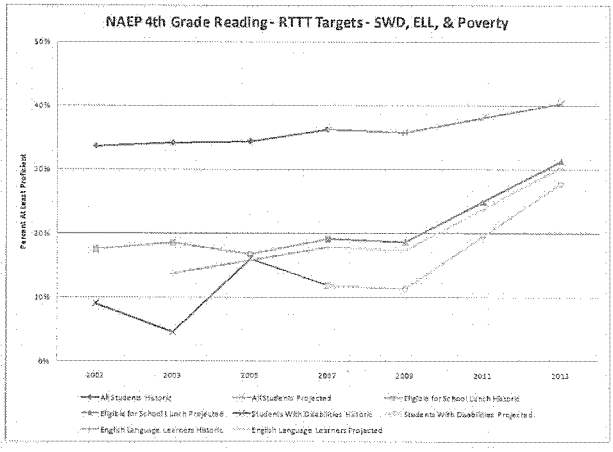
4TH GRADE NAEP READING

RttT Targets for the 4th Grade NAEP Reading Assessment
Percent of Students by Subgroup At Least Proficient, 2002-2013

Student Subgroup	2002	2003	2005	2007	2009 Target	2011 Target	2013 Target
All Students	33.6%	34.2%	34.4%	36.3%	35.8%	38.1%	40%
White	39.8%	38.5%	41.1%	42.0%	41.5%	42.3%	43%
Black	13.2%	15.6%	9.9%	13.7%	13.7%	21.5%	29%
Hispanic		22.9%	23.6%	21.1%	21.1%	27.2%	33%
Eligible for School Lunch	17.6%	18.6%	16.7%	19.2%	18.7%	25.0%	31%
Students With Disabilities	9.0%	4.5%	16.0%	11.9%	11.4%	19.6%	28%
English Language Learners		13.7%		17.9%	17.4%	23.9%	30%
Male	30.3%	31.0%	31.5%	33.3%	32.8%	35.8%	39%
Female	37.0%	37.4%	37.3%	39.4%	38.9%	39.9%	41%

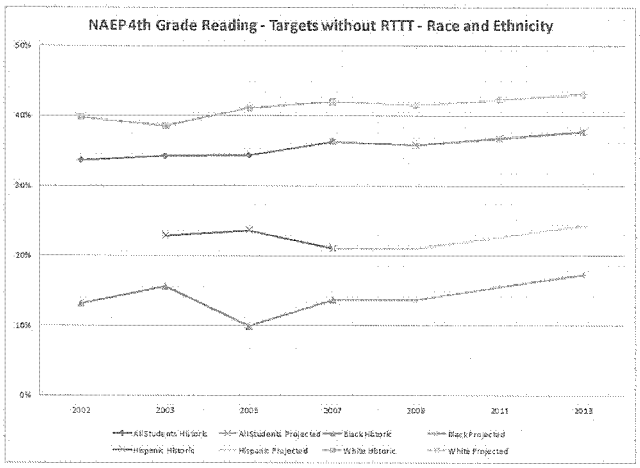


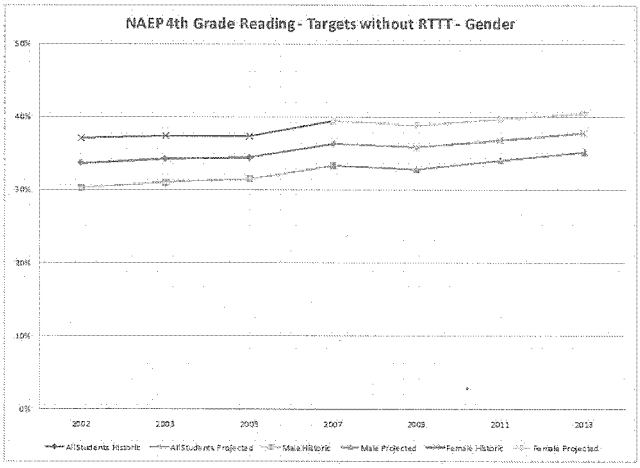


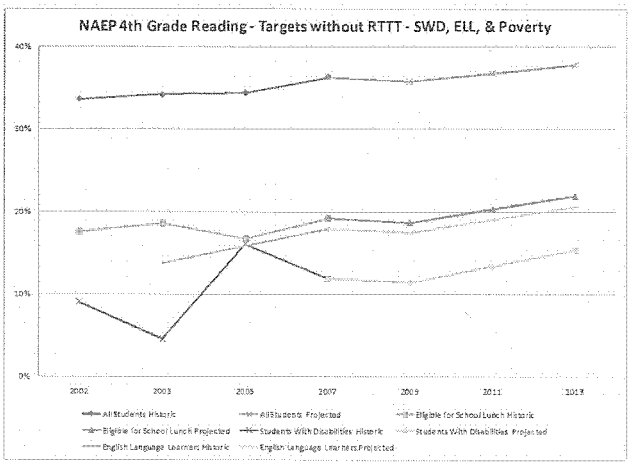


Targets Without RttT for the 4th Grade NAEP Reading Assessment
Percent of Students by Subgroup At Least Proficient, 2002-2013

Student Subgroup	2002	2003	2005	2007	2009 Target	2011 Target	2013 Target
All Students	33.6%	34.2%	34.4%	36.3%	35.8%	36.8%	38%
White	39.8%	38.5%	41.1%	42.0%	41.5%	42.3%	43%
Black	13.2%	15.6%	9.9%	13.7%	13.7%	15.5%	17%
Hispanic		22.9%	23.6%	21.1%	21.1%	22.7%	24%
Eligible for School Lunch	17.6%	18.6%	16.7%	19.2%	18.7%	20.3%	22%
Students With Disabilities	9.0%	4.5%	16.0%	11.9%	11.4%	13.4%	15%
English Language Learners		13.7%		17.9%	17.4%	19.0%	21%
Male	30.3%	31.0%	31.5%	33.3%	32.8%	34.0%	35%
Female	37.0%	37.4%	37.3%	39.4%	38.9%	39.7%	40%

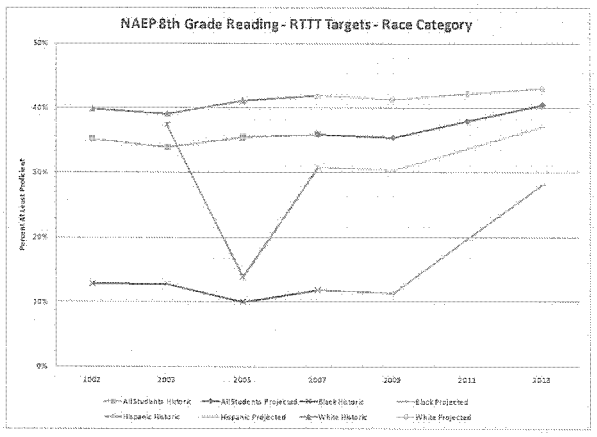


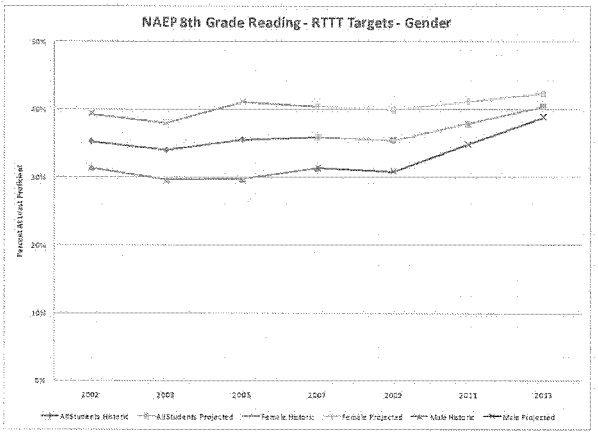


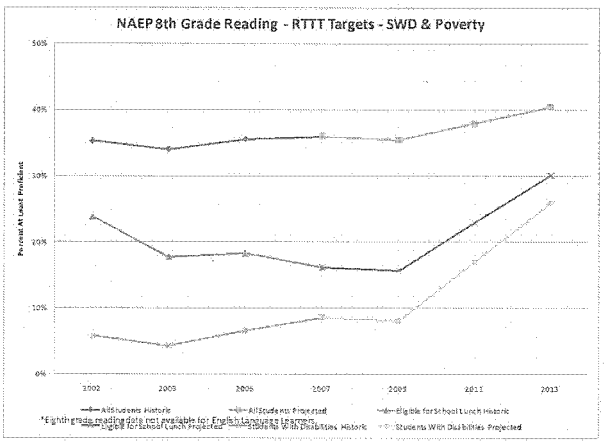


8TH GRADE NAEP READING

RttT Targets for the 8th Grade NAEP Reading Assessment							
Percent of Students by Subgroup At Least Proficient, 2002-2013							
Student Subgroup	2002	2003	2005	2007	2009 Target	2011 Target	2013 Target
All Students	35.2%	34.0%	35.5%	35.9%	35.4%	37.9%	40%
White	39.8%	39.1%	41.2%	41.9%	41.4%	42.2%	43%
Black	12.8%	12.7%	10.0%	11.8%	11.3%	19.7%	28%
Hispanic		37.3%	13.9%	30.8%	30.3%	33.7%	37%
Eligible for School Lunch	23.8%	17.7%	18.3%	16.2%	15.7%	22.9%	30%
Students With Disabilities	5.8%	4.3%	6.5%	8.6%	8.1%	17.0%	26%
Male	31.4%	29.6%	29.8%	31.3%	30.8%	34.8%	39%
Female	39.3%	38.0%	41.0%	40.4%	39.9%	41.1%	42%



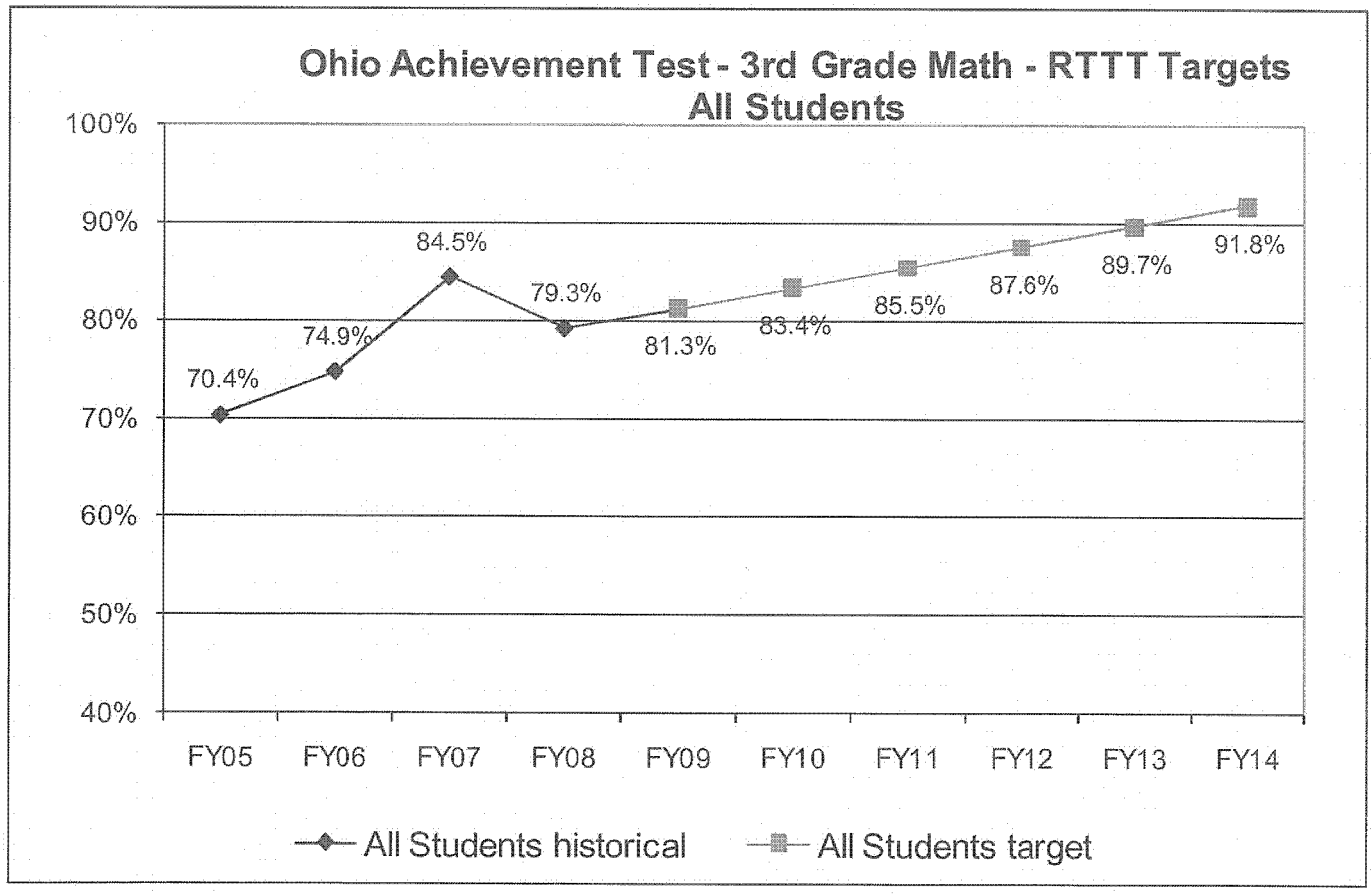


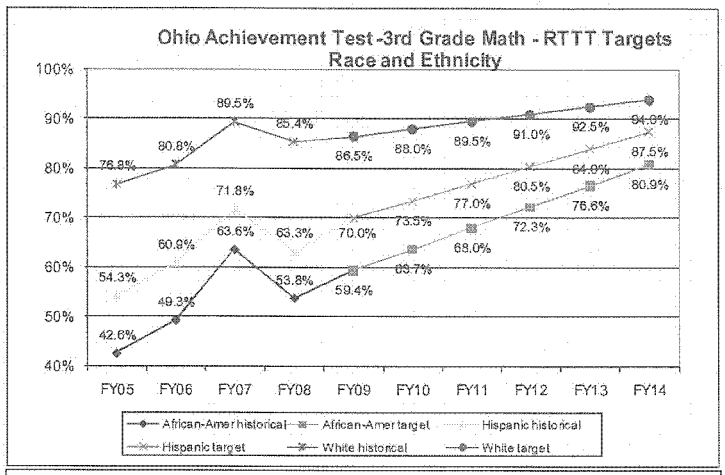


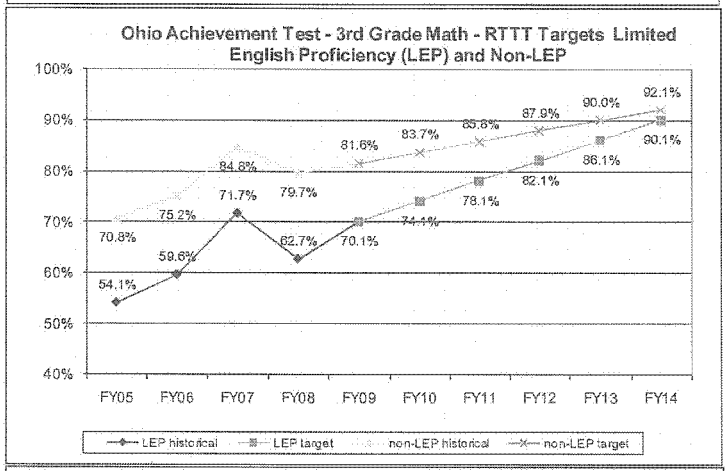
*Eighth grade reading data not available for English Language Learners

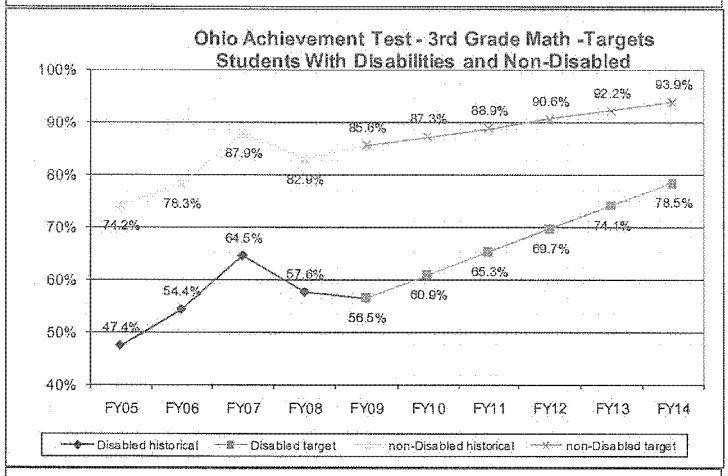
ESEA – OAT/OGT MATH

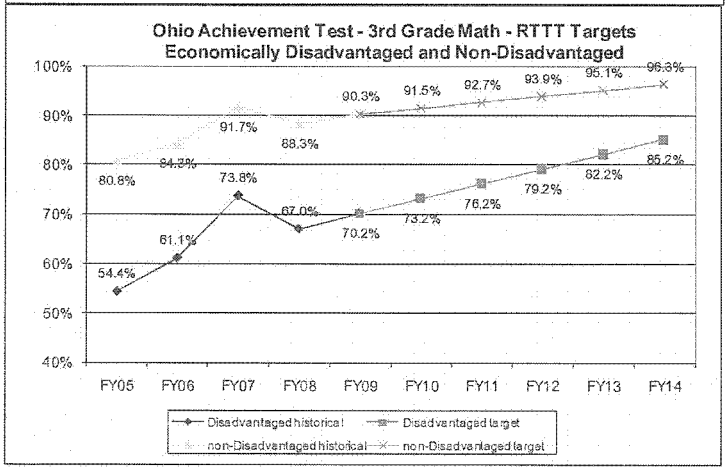
RttT Targets for the 3rd Grade OAT Reading Assessment Percent of Students by Subgroup At Least Proficient		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	57.4%	58.6%	52.3%	57.4%	56.4%	55.9%					
African-American	target						55.9%	59.6%	63.3%	67.0%	70.7%	74.4%
Hispanic	historical	62.5%	62.6%	59.1%	62.5%	62.0%	62.4%					
Hispanic	target						62.4%	65.5%	68.6%	71.7%	74.8%	77.9%
White	historical	83.3%	81.8%	80.6%	83.6%	82.7%	82.6%					
White	target						82.6%	83.8%	85.0%	86.2%	87.4%	88.6%
LEP	historical	53.9%	59.7%	55.3%	60.6%	59.0%	62.5%					
LEP	target						62.5%	65.6%	68.7%	71.8%	74.9%	78.0%
Non-LEP	historical	78.6%	77.6%	75.5%	78.7%	77.9%	77.8%					
Non-LEP	target						77.8%	79.5%	81.2%	82.9%	84.6%	86.3%
Disabled	historical	50.2%	54.1%	52.6%	55.6%	55.7%	52.8%					
Disabled	target						52.8%	56.5%	60.2%	63.9%	67.6%	71.3%
Non-Disabled	historical	82.6%	81.0%	78.9%	82.2%	81.1%	81.6%					
Non-Disabled	target						81.6%	83.0%	84.4%	85.8%	87.2%	88.6%
Disadvantaged	historical	63.8%	64.5%	61.1%	65.5%	65.3%	65.0%					
Disadvantaged	target						65.0%	67.6%	70.2%	72.8%	75.4%	78.0%
Non-Disadvantaged	historical	86.9%	85.8%	85.0%	87.3%	86.7%	87.8%					
Non-Disadvantaged	target						87.8%	88.5%	89.2%	89.9%	90.6%	91.3%
All Students	historical	78.2%	77.3%	75.1%	78.3%	77.4%	77.4%					
All Students	target						77.4%	79.1%	80.8%	82.5%	84.2%	85.9%




Ohio Achievement Test -3rd Grade Math - RTTT Targets
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

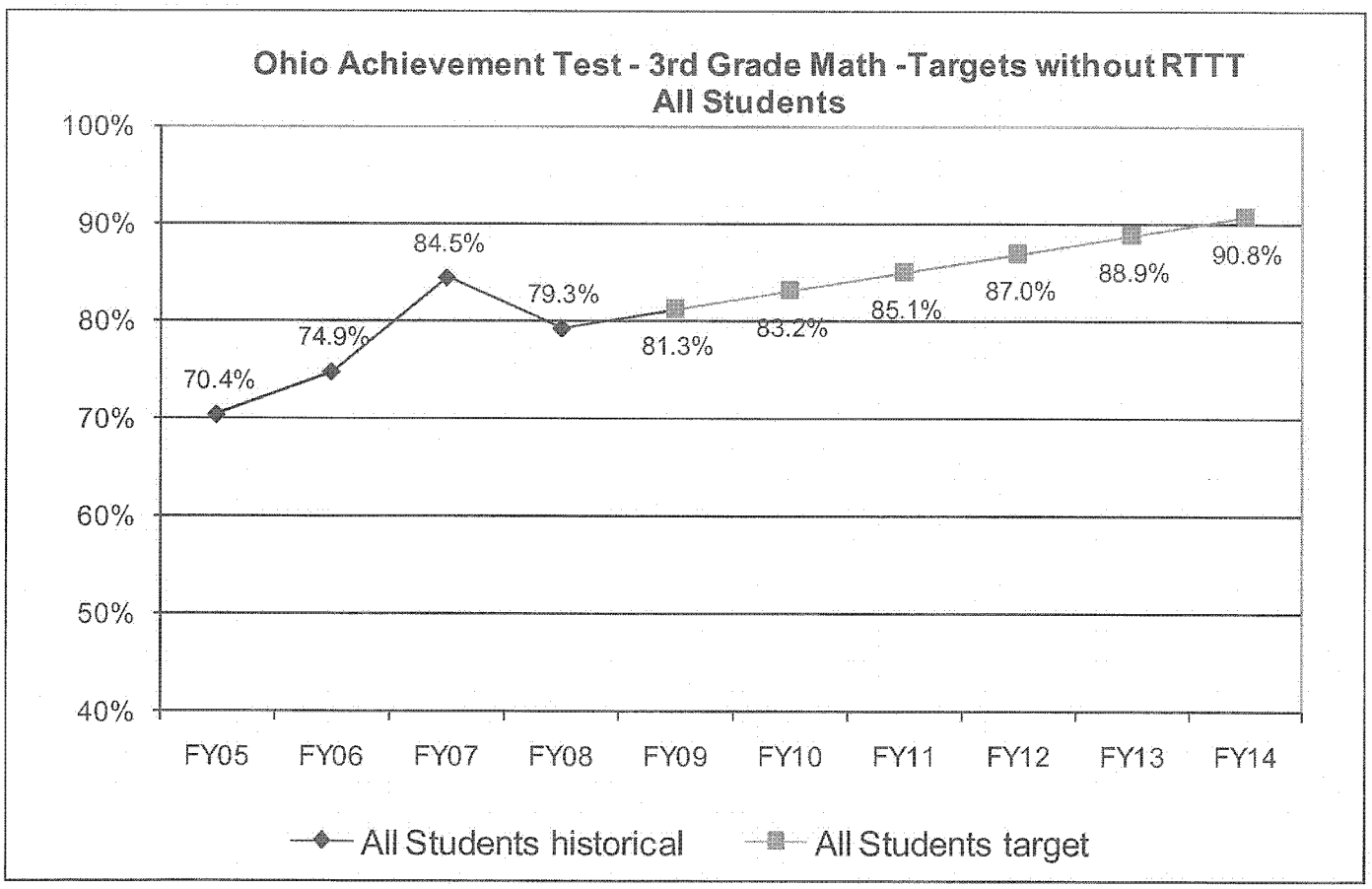

Ohio Achievement Test - 3rd Grade Math - RTTT Targets Limited
English Proficiency (LEP) and Non-LEP
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

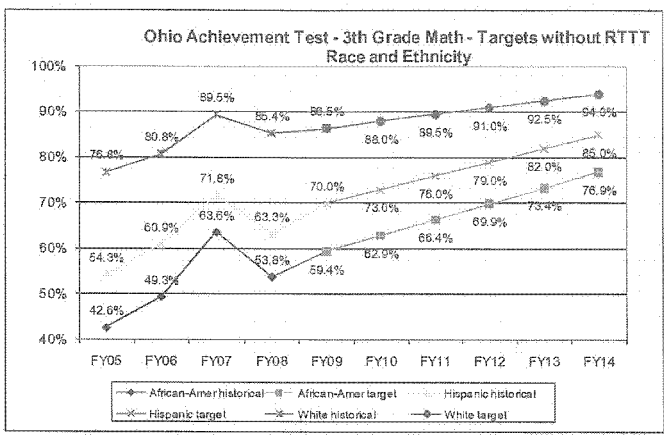

Ohio Achievement Test - 3rd Grade Math -Targets
Students With Disabilities and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

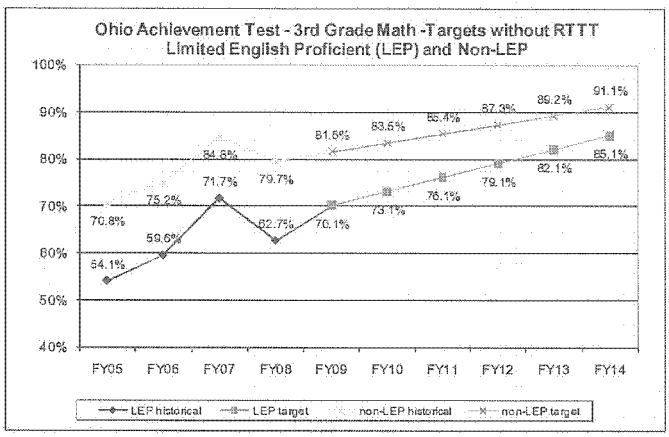

Ohio Achievement Test - 3rd Grade Math - RTTT Targets
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

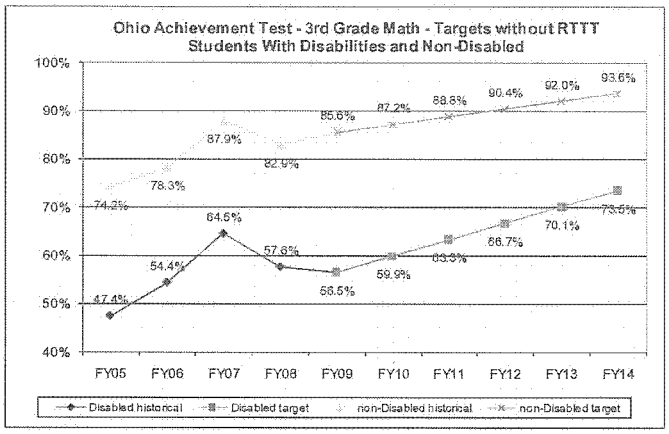
Targets Without RttT for the 3rd Grade OAT Math Assessment
Percent of Students by Subgroup At Least Proficient

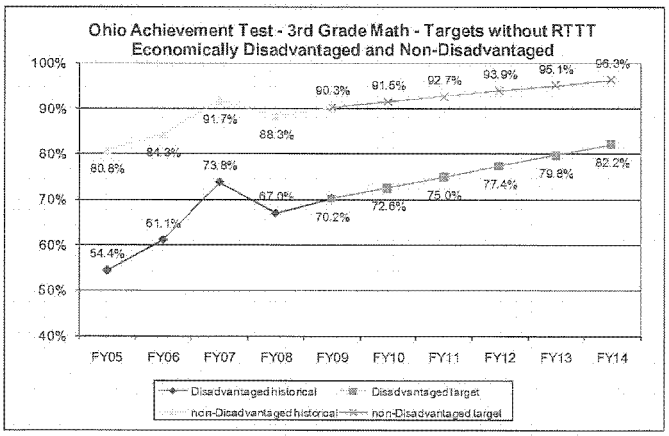
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	42.6%	49.3%	63.6%	53.8%	59.4%					
African-American	target					59.4%	62.9%	66.4%	69.9%	73.4%	76.9%
Hispanic	historical	54.3%	60.9%	71.8%	63.3%	70.0%					
Hispanic	target					70.0%	73.0%	76.0%	79.0%	82.0%	85.0%
White	historical	76.8%	80.8%	89.5%	85.4%	86.5%					
White	target					86.5%	88.0%	89.5%	91.0%	92.5%	94.0%
LEP	historical	54.1%	59.6%	71.7%	62.7%	70.1%					
LEP	target					70.1%	73.1%	76.1%	79.1%	82.1%	85.1%
Non-LEP	historical	70.8%	75.2%	84.8%	79.7%	81.6%					
Non-LEP	target					81.6%	83.5%	85.4%	87.3%	89.2%	91.1%
Disabled	historical	47.4%	54.4%	64.5%	57.6%	56.5%					
Disabled	target					56.5%	59.9%	63.3%	66.7%	70.1%	73.5%
Non-Disabled	historical	74.2%	78.3%	87.9%	82.9%	85.6%					
Non-Disabled	target					85.6%	87.2%	88.8%	90.4%	92.0%	93.6%
Disadvantaged	historical	54.4%	61.1%	73.8%	67.0%	70.2%					
Disadvantaged	target					70.2%	72.6%	75.0%	77.4%	79.8%	82.2%
Non-Disadvantaged	historical	80.8%	84.3%	91.7%	88.3%	90.3%					
Non-Disadvantaged	target					90.3%	91.5%	92.7%	93.9%	95.1%	96.3%
All Students	historical	70.4%	74.9%	84.5%	79.3%	81.3%					
All Students	target					81.3%	83.2%	85.1%	87.0%	88.9%	90.8%




Ohio Achievement Test - 3th Grade Math - Targets without RTTT
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

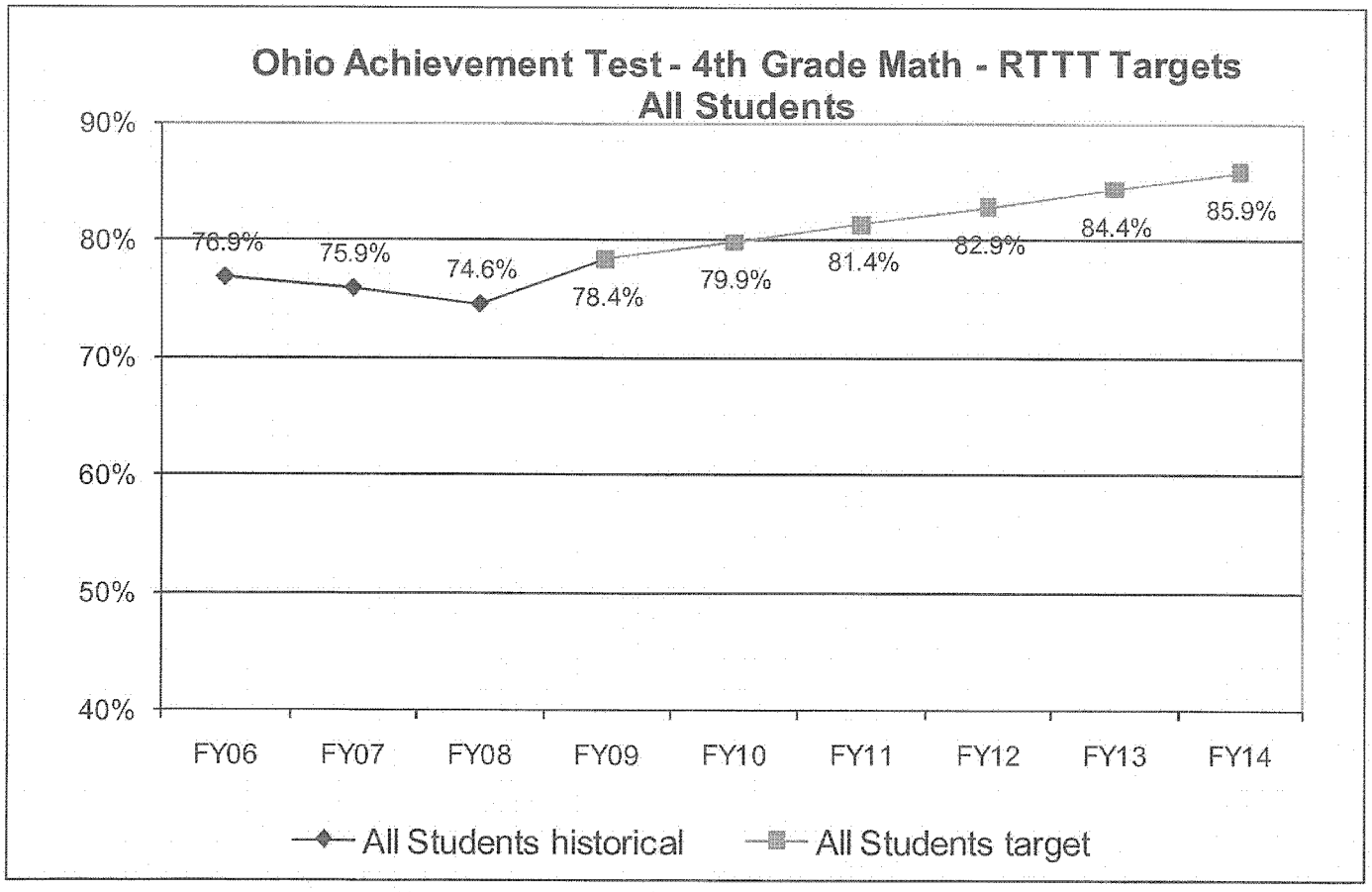

Ohio Achievement Test - 3rd Grade Math -Targets without RTTT
Limited English Proficient (LEP) and Non-LEP
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

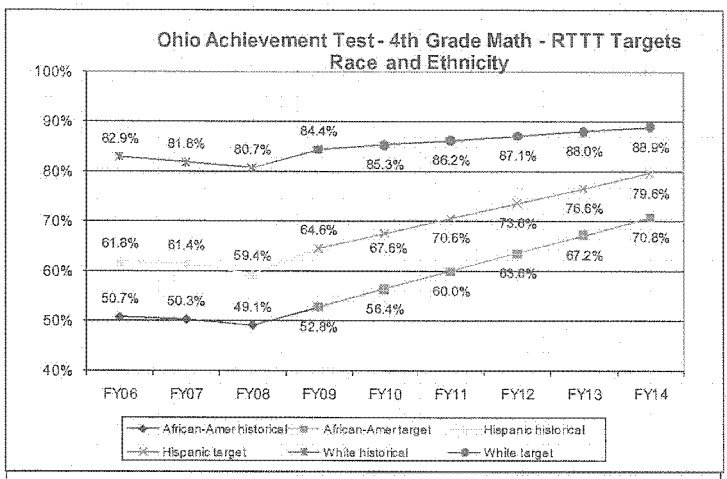

Ohio Achievement Test - 3rd Grade Math - Targets without RTTT
Students With Disabilities and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

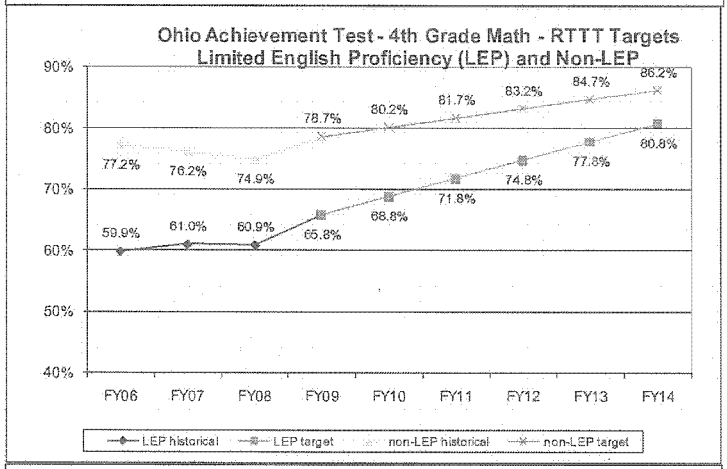

Ohio Achievement Test - 3rd Grade Math - Targets without RTTT
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

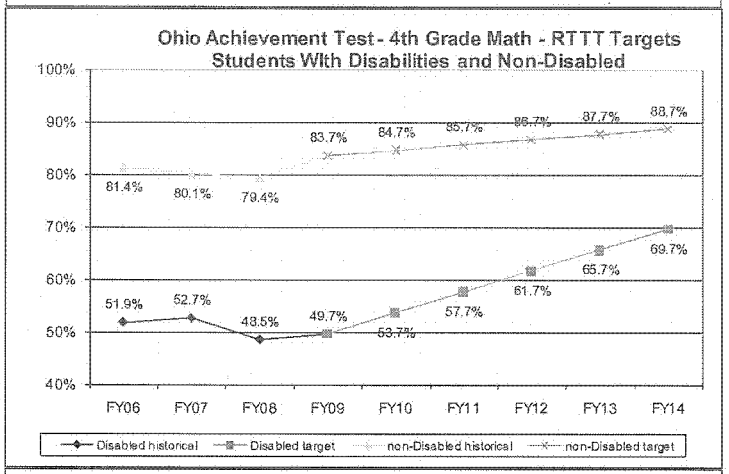
RttT Targets for the 4th Grade OAT Math Assessment
Percent of Students by Subgroup At Least Proficient

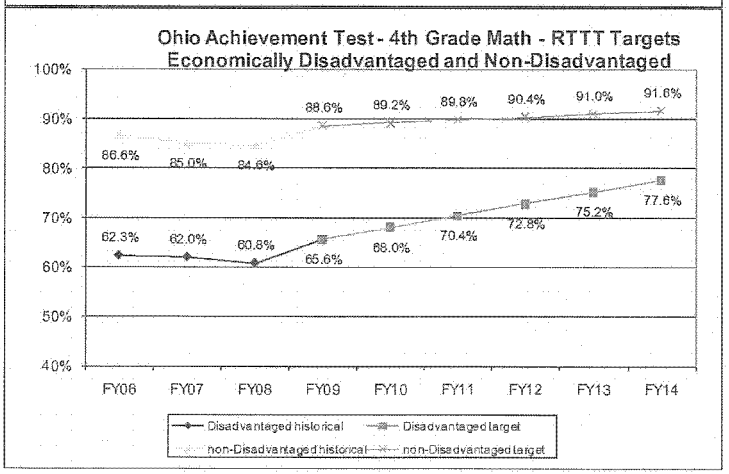
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical		50.7%	50.3%	49.1%	52.8%					
African-American	target					52.8%	56.4%	60.0%	63.6%	67.2%	70.8%
Hispanic	historical		61.8%	61.4%	59.4%	64.6%					
Hispanic	target					64.6%	67.6%	70.6%	73.6%	76.6%	79.6%
White	historical		82.9%	81.8%	80.7%	84.4%					
White	target					84.4%	85.3%	86.2%	87.1%	88.0%	88.9%
LEP	historical		59.9%	61.0%	60.9%	65.8%					
LEP	target					65.8%	68.8%	71.8%	74.8%	77.8%	80.8%
Non-LEP	historical		77.2%	76.2%	74.9%	78.7%					
Non-LEP	target					78.7%	80.2%	81.7%	83.2%	84.7%	86.2%
Disabled	historical		51.9%	52.7%	48.5%	49.7%					
Disabled	target					49.7%	53.7%	57.7%	61.7%	65.7%	69.7%
Non-Disabled	historical		81.4%	80.1%	79.4%	83.7%					
Non-Disabled	target					83.7%	84.7%	85.7%	86.7%	87.7%	88.7%
Disadvantaged	historical		62.3%	62.0%	60.8%	65.6%					
Disadvantaged	target					65.6%	68.0%	70.4%	72.8%	75.2%	77.6%
Non-Disadvantaged	historical		86.6%	85.0%	84.6%	88.6%					
Non-Disadvantaged	target					88.6%	89.2%	89.8%	90.4%	91.0%	91.6%
All Students	historical		76.9%	75.9%	74.6%	78.4%					
All Students	target					78.4%	79.9%	81.4%	82.9%	84.4%	85.9%




Ohio Achievement Test - 4th Grade Math - RTTT Targets
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
82.9% 81.8% 80.7% 84.4% 85.3% 86.2% 87.1% 88.0% 88.9%
61.8% 61.4% 59.4% 64.6% 67.6% 70.6% 73.6% 76.6% 79.6%
50.7% 50.3% 49.1% 52.8% 56.4% 60.0% 63.6% 67.2% 70.8%
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

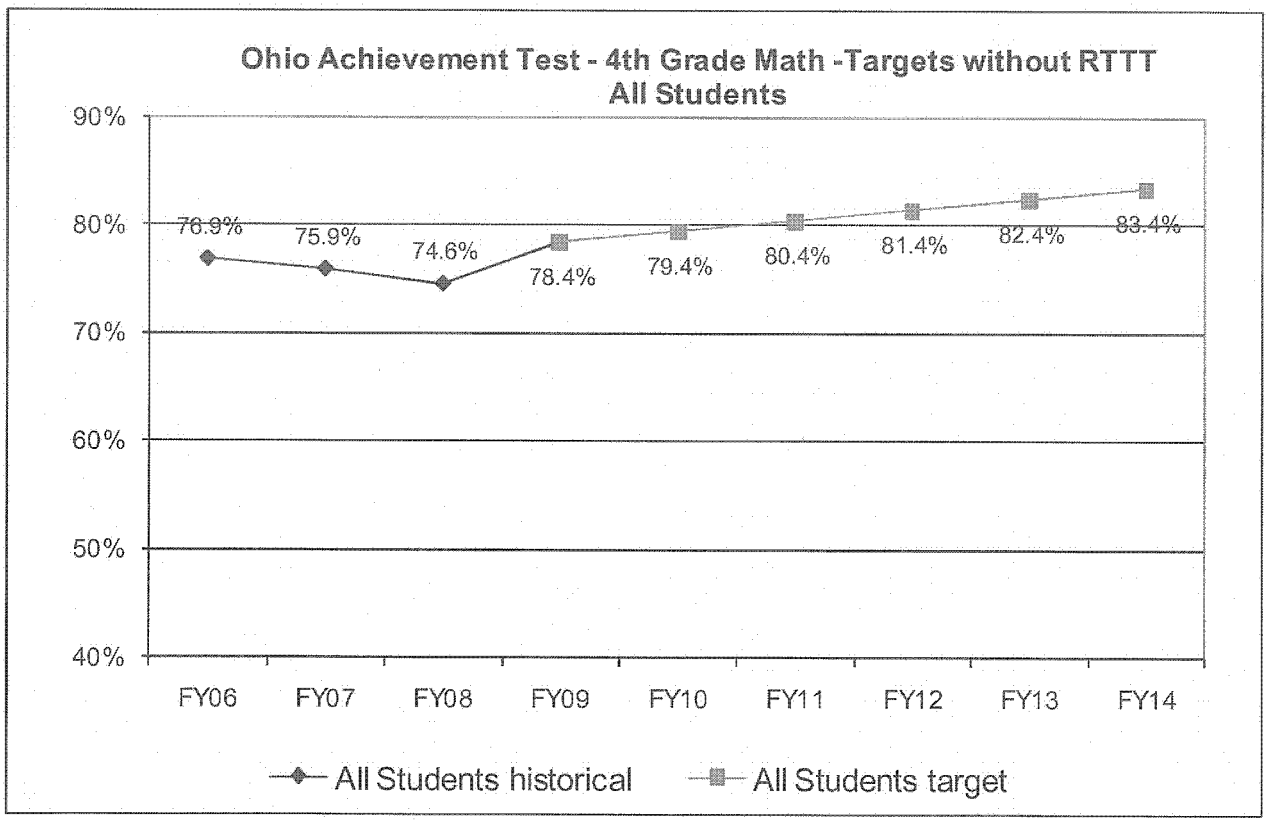

Ohio Achievement Test - 4th Grade Math - RTTT Targets
Limited English Proficiency (LEP) and Non-LEP
90%
80%
70%
60%
50%
40%
FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
77.2% 76.2% 74.9% 78.7% 80.2% 81.7% 83.2% 84.7% 86.2%
59.9% 61.0% 60.9% 65.8% 68.8% 71.8% 74.8% 77.8% 80.8%
LEP historical
LEP target
non-LEP historical
non-LEP target

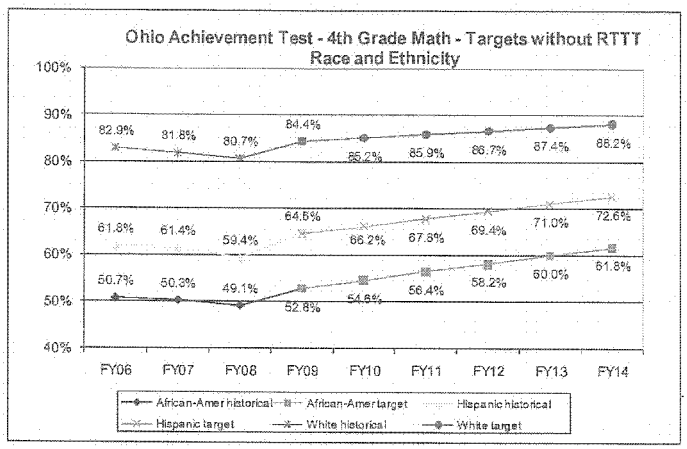

Ohio Achievement Test - 4th Grade Math - RTTT Targets
Students With Disabilities and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
81.4% 80.1% 79.4% 83.7% 84.7% 85.7% 86.7% 87.7% 88.7%
51.9% 52.7% 48.5% 49.7% 53.7% 57.7% 61.7% 65.7% 69.7%
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

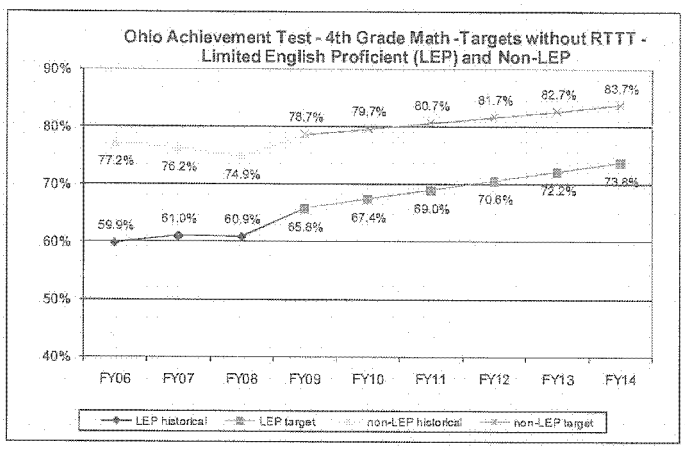

Ohio Achievement Test - 4th Grade Math - RTTT Targets
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
86.6% 85.0% 84.6% 88.6% 89.2% 89.8% 90.4% 91.0% 91.6%
62.3% 62.0% 60.8% 65.6% 68.0% 70.4% 72.8% 75.2% 77.6%
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

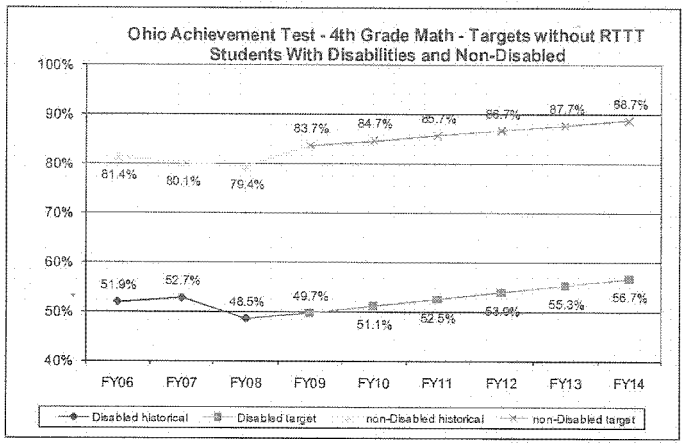
Targets Without RttT for the 4th Grade OAT Math Assessment
Percent of Students by Subgroup At Least Proficient

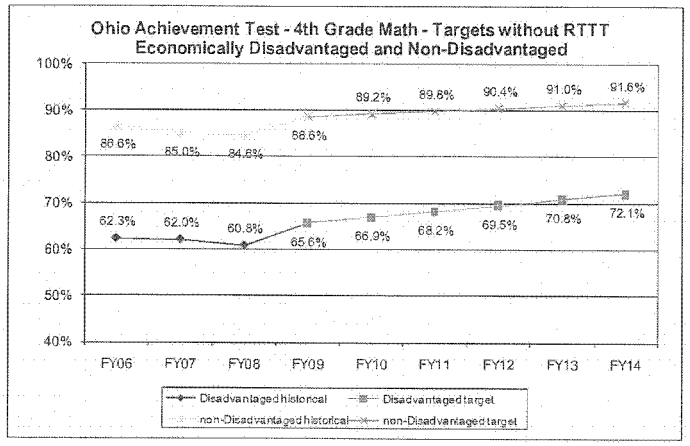
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical		50.7%	50.3%	49.1%	52.8%					
African-American	target					52.8%	54.6%	56.4%	58.2%	60.0%	61.8%
Hispanic	historical		61.8%	61.4%	59.4%	64.6%					
Hispanic	target					64.6%	66.2%	67.8%	69.4%	71.0%	72.6%
White	historical		82.9%	81.8%	80.7%	84.4%					
White	target					84.4%	85.2%	85.9%	86.7%	87.4%	88.2%
LEP	historical		59.9%	61.0%	60.9%	65.8%					
LEP	target					65.8%	67.4%	69.0%	70.6%	72.2%	73.8%
Non-LEP	historical		77.2%	76.2%	74.9%	78.7%					
Non-LEP	target					78.7%	79.7%	80.7%	81.7%	82.7%	83.7%
Disabled	historical		51.9%	52.7%	48.5%	49.7%					
Disabled	target					49.7%	51.1%	52.5%	53.9%	55.3%	56.7%
Non-Disabled	historical		81.4%	80.1%	79.4%	83.7%					
Non-Disabled	target					83.7%	84.7%	85.7%	86.7%	87.7%	88.7%
Disadvantaged	historical		62.3%	62.0%	60.8%	65.6%					
Disadvantaged	target					65.6%	66.9%	68.2%	69.5%	70.8%	72.1%
Non-Disadvantaged	historical		86.6%	85.0%	84.6%	88.6%					
Non-Disadvantaged	target					88.6%	89.2%	89.8%	90.4%	91.0%	91.6%
All Students	historical		76.9%	75.9%	74.6%	78.4%					
All Students	target					78.4%	79.4%	80.4%	81.4%	82.4%	83.4%




Ohio Achievement Test - 4th Grade Math - Targets without RTTT
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
82.9% 81.8% 80.7% 84.4% 85.2% 85.9% 86.7% 87.4% 88.2%
61.8% 61.4% 59.4% 64.5% 66.2% 67.8% 69.4% 71.0% 72.6%
50.7% 50.3% 49.1% 52.8% 54.6% 56.4% 58.2% 60.0% 61.8%
FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

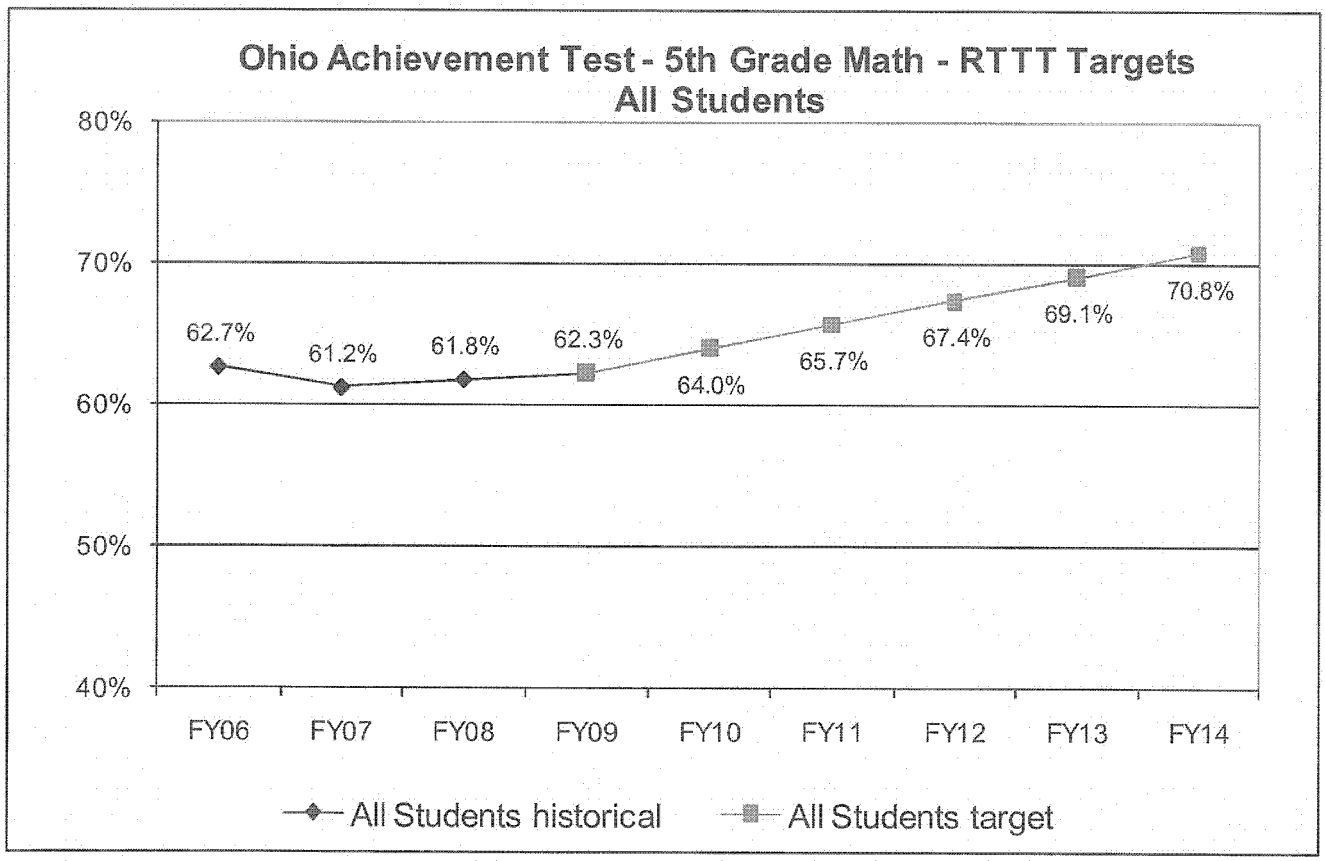

Ohio Achievement Test - 4th Grade Math -Targets without RTTT -
Limited English Proficient (LEP) and Non-LEP
90%
80%
70%
60%
50%
40%
77.2% 76.2% 74.9% 78.7% 79.7% 80.7% 81.7% 82.7% 83.7%
59.9% 61.0% 60.9% 65.8% 67.4% 69.0% 70.6% 72.2% 73.8%
FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

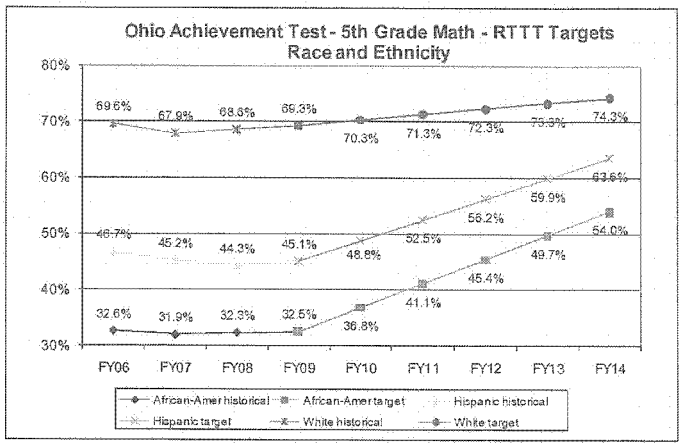

Ohio Achievement Test - 4th Grade Math - Targets without RTTT
Students With Disabilities and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
81.4% 80.1% 79.4% 83.7% 84.7% 85.7% 86.7% 87.7% 88.7%
51.9% 52.7% 48.5% 49.7% 51.1% 52.5% 53.9% 55.3% 56.7%
FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

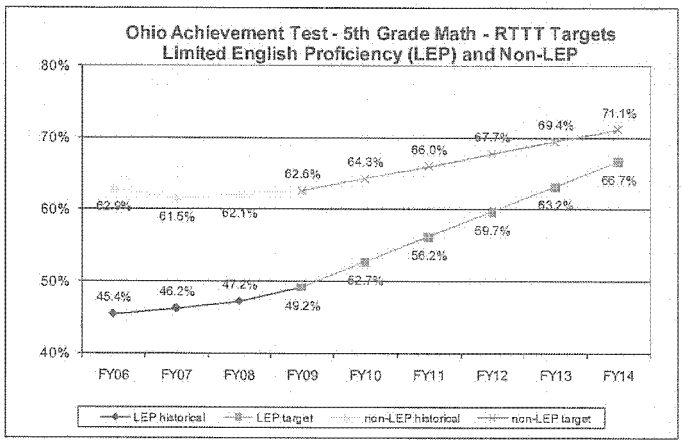

Ohio Achievement Test - 4th Grade Math - Targets without RTTT
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
86.6% 85.0% 84.6% 88.6% 89.2% 89.8% 90.4% 91.0% 91.6%
62.3% 62.0% 60.8% 65.6% 66.9% 68.2% 69.5% 70.8% 72.1%
FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

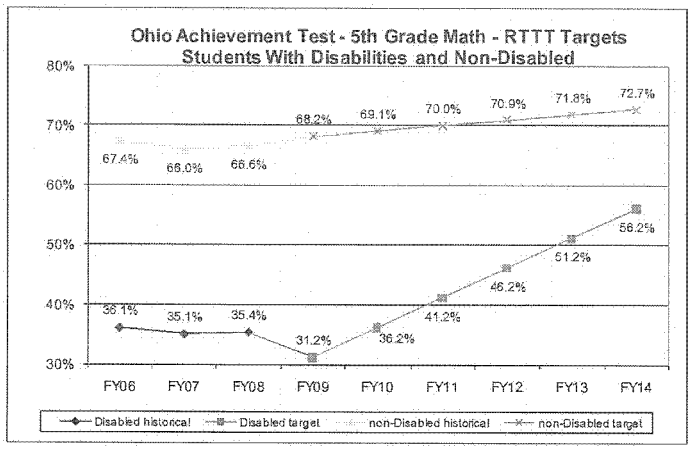
RttT Targets for the 5th Grade OAT Math Assessment
Percent of Students by Subgroup At Least Proficient

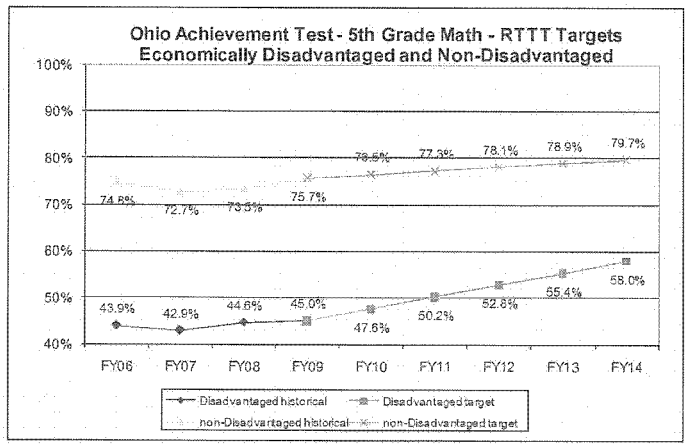
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical		32.6%	31.9%	32.3%	32.5%					
African-American	target					32.5%	36.8%	41.1%	45.4%	49.7%	54.0%
Hispanic	historical		46.7%	45.2%	44.3%	45.1%					
Hispanic	target					45.1%	48.8%	52.5%	56.2%	59.9%	63.6%
White	historical		69.6%	67.9%	68.6%	69.3%					
White	target					69.3%	70.3%	71.3%	72.3%	73.3%	74.3%
LEP	historical		45.4%	46.2%	47.2%	49.2%					
LEP	target					49.2%	52.7%	56.2%	59.7%	63.2%	66.7%
Non-LEP	historical		62.9%	61.5%	62.1%	62.6%					
Non-LEP	target					62.6%	64.3%	66.0%	67.7%	69.4%	71.1%
Disabled	historical		36.1%	35.1%	35.4%	31.2%					
Disabled	target					31.2%	36.2%	41.2%	46.2%	51.2%	56.2%
Non-Disabled	historical		67.4%	66.0%	66.6%	68.2%					
Non-Disabled	target					68.2%	69.1%	70.0%	70.9%	71.8%	72.7%
Disadvantaged	historical		43.9%	42.9%	44.6%	45.0%					
Disadvantaged	target					45.0%	47.6%	50.2%	52.8%	55.4%	58.0%
Non-Disadvantaged	historical		74.8%	72.7%	73.5%	75.7%					
Non-Disadvantaged	target					75.7%	76.5%	77.3%	78.1%	78.9%	79.7%
All Students	historical		62.7%	61.2%	61.8%	62.3%					
All Students	target					62.3%	64.0%	65.7%	67.4%	69.1%	70.8%




Ohio Achievement Test - 5th Grade Math - RTTT Targets
Race and Ethnicity
80%
70%
60%
50%
40%
30%
69.6%
67.9%
68.6%
69.3%
70.3%
71.3%
72.3%
73.3%
74.3%
46.7%
45.2%
44.3%
45.1%
48.8%
52.5%
56.2%
59.9%
63.6%
32.6%
31.9%
32.3%
32.5%
36.8%
41.1%
45.4%
49.7%
54.0%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

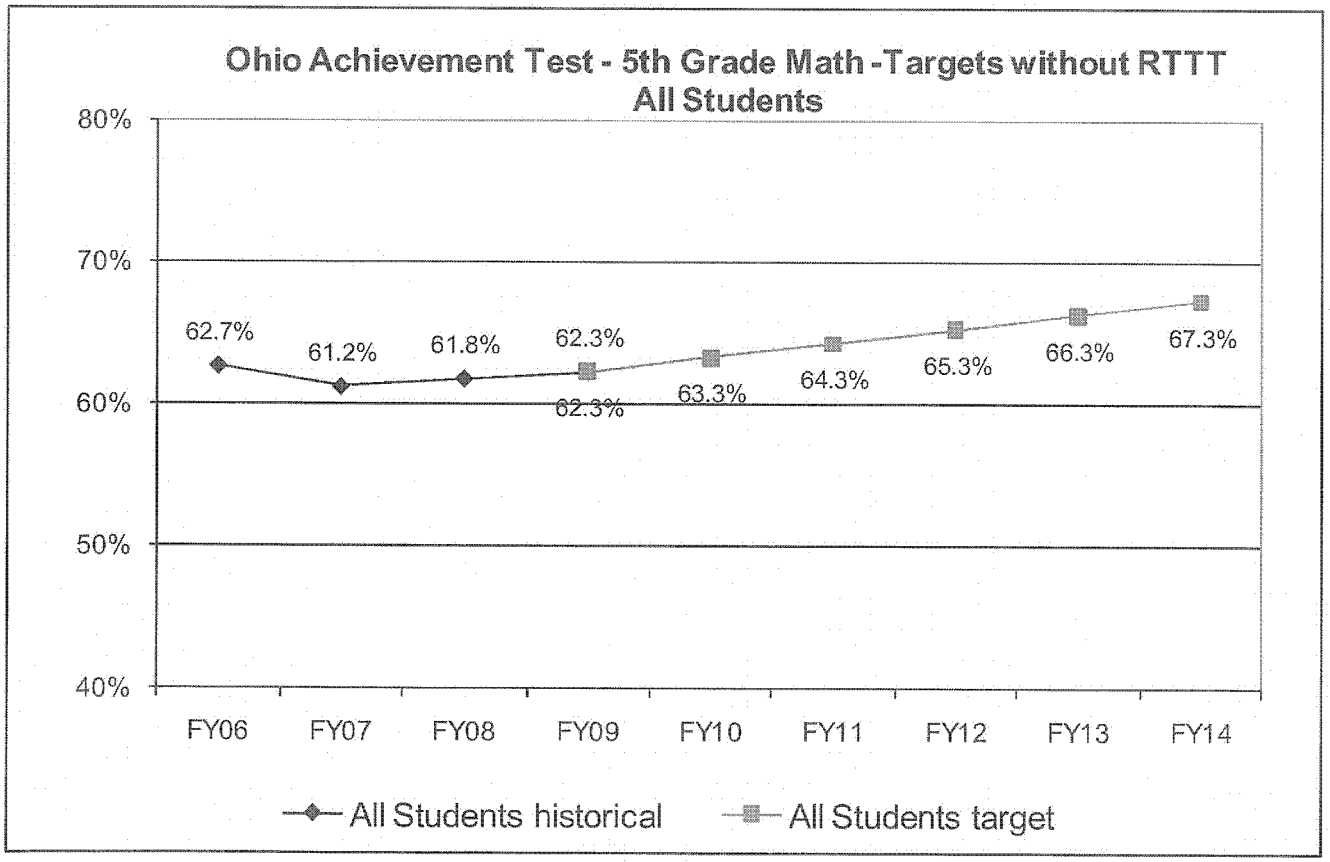

Ohio Achievement Test - 5th Grade Math - RTTT Targets
Limited English Proficiency (LEP) and Non-LEP
80%
70%
60%
50%
40%
62.9%
61.5%
62.1%
62.6%
64.3%
66.0%
67.7%
69.4%
71.1%
45.4%
46.2%
47.2%
49.2%
52.7%
56.2%
59.7%
63.2%
66.7%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

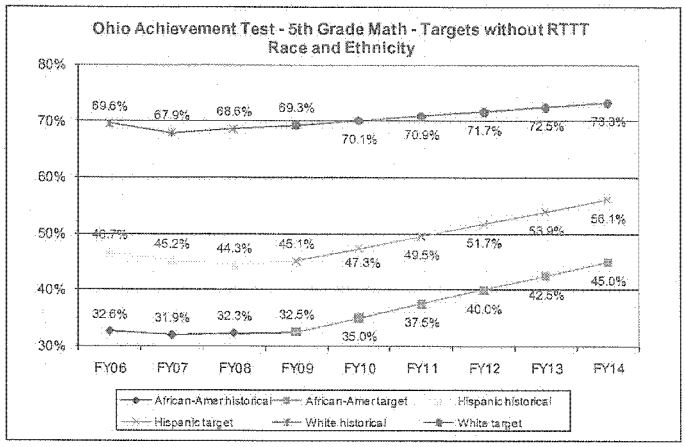

Ohio Achievement Test - 5th Grade Math - RTTT Targets
Students With Disabilities and Non-Disabled
80%
70%
60%
50%
40%
30%
67.4%
66.0%
66.6%
68.2%
69.1%
70.0%
70.9%
71.8%
72.7%
36.1%
35.1%
35.4%
31.2%
36.2%
41.2%
46.2%
51.2%
56.2%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

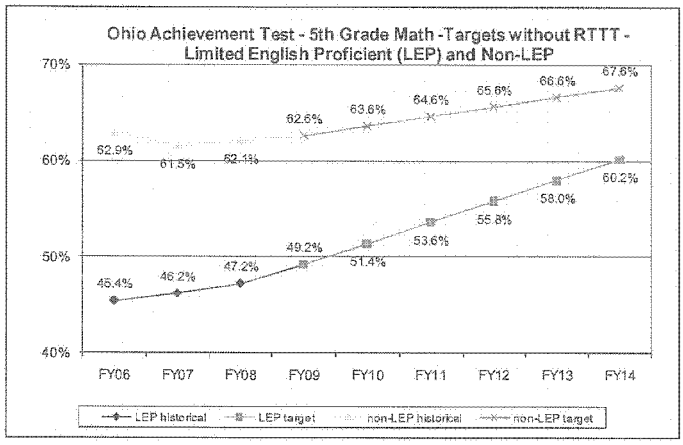

Ohio Achievement Test - 5th Grade Math - RTTT Targets
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
74.8%
72.7%
73.5%
75.7%
76.5%
77.3%
78.1%
78.9%
79.7%
43.9%
42.9%
44.6%
45.0%
47.6%
50.2%
52.8%
55.4%
58.0%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

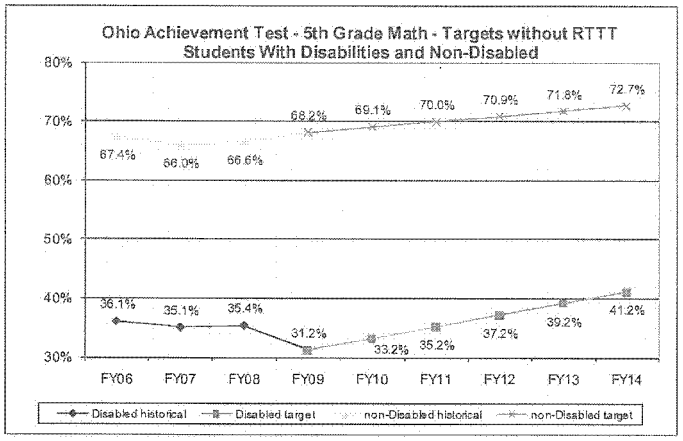
Targets Without RttT for the 5th Grade OAT Math Assessment
Percent of Students by Subgroup At Least Proficient

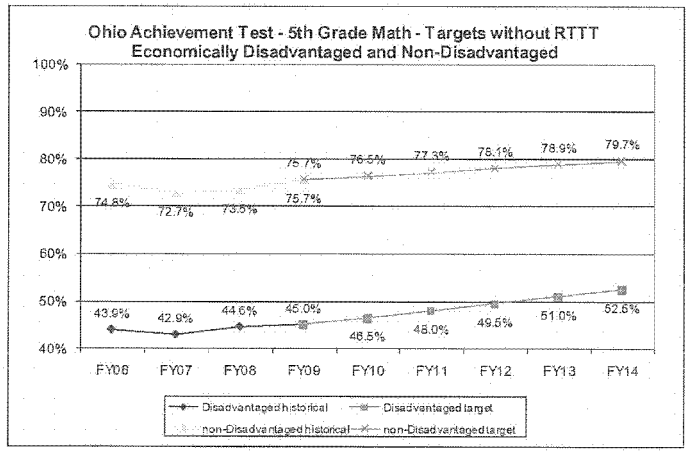
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical		32.6%	31.9%	32.3%	32.5%					
African-American	target					32.5%	35.0%	37.5%	40.0%	42.5%	45.0%
Hispanic	historical		46.7%	45.2%	44.3%	45.1%					
Hispanic	target					45.1%	47.3%	49.5%	51.7%	53.9%	56.1%
White	historical		69.6%	67.9%	68.6%	69.3%					
White	target					69.3%	70.1%	70.9%	71.7%	72.5%	73.3%
LEP	historical		45.4%	46.2%	47.2%	49.2%					
LEP	target					49.2%	51.4%	53.6%	55.8%	58.0%	60.2%
Non-LEP	historical		62.9%	61.5%	62.1%	62.6%					
Non-LEP	target					62.6%	63.6%	64.6%	65.6%	66.6%	67.6%
Disabled	historical		36.1%	35.1%	35.4%	31.2%					
Disabled	target					31.2%	33.2%	35.2%	37.2%	39.2%	41.2%
Non-Disabled	historical		67.4%	66.0%	66.6%	68.2%					
Non-Disabled	target					68.2%	69.1%	70.0%	70.9%	71.8%	72.7%
Disadvantaged	historical		43.9%	42.9%	44.6%	45.0%					
Disadvantaged	target					45.0%	46.5%	48.0%	49.5%	51.0%	52.5%
Non-Disadvantaged	historical		74.8%	72.7%	73.5%	75.7%					
Non-Disadvantaged	target					75.7%	76.5%	77.3%	78.1%	78.9%	79.7%
All Students	historical		62.7%	61.2%	61.8%	62.3%					
All Students	target					62.3%	63.3%	64.3%	65.3%	66.3%	67.3%




Ohio Achievement Test - 5th Grade Math - Targets without RTTT
Race and Ethnicity
80%
70%
60%
50%
40%
30%
69.6%
67.9%
68.6%
69.3%
70.1%
70.9%
71.7%
72.5%
73.3%
46.7%
45.2%
44.3%
45.1%
47.3%
49.5%
51.7%
53.9%
56.1%
32.6%
31.9%
32.3%
32.5%
35.0%
37.5%
40.0%
42.5%
45.0%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

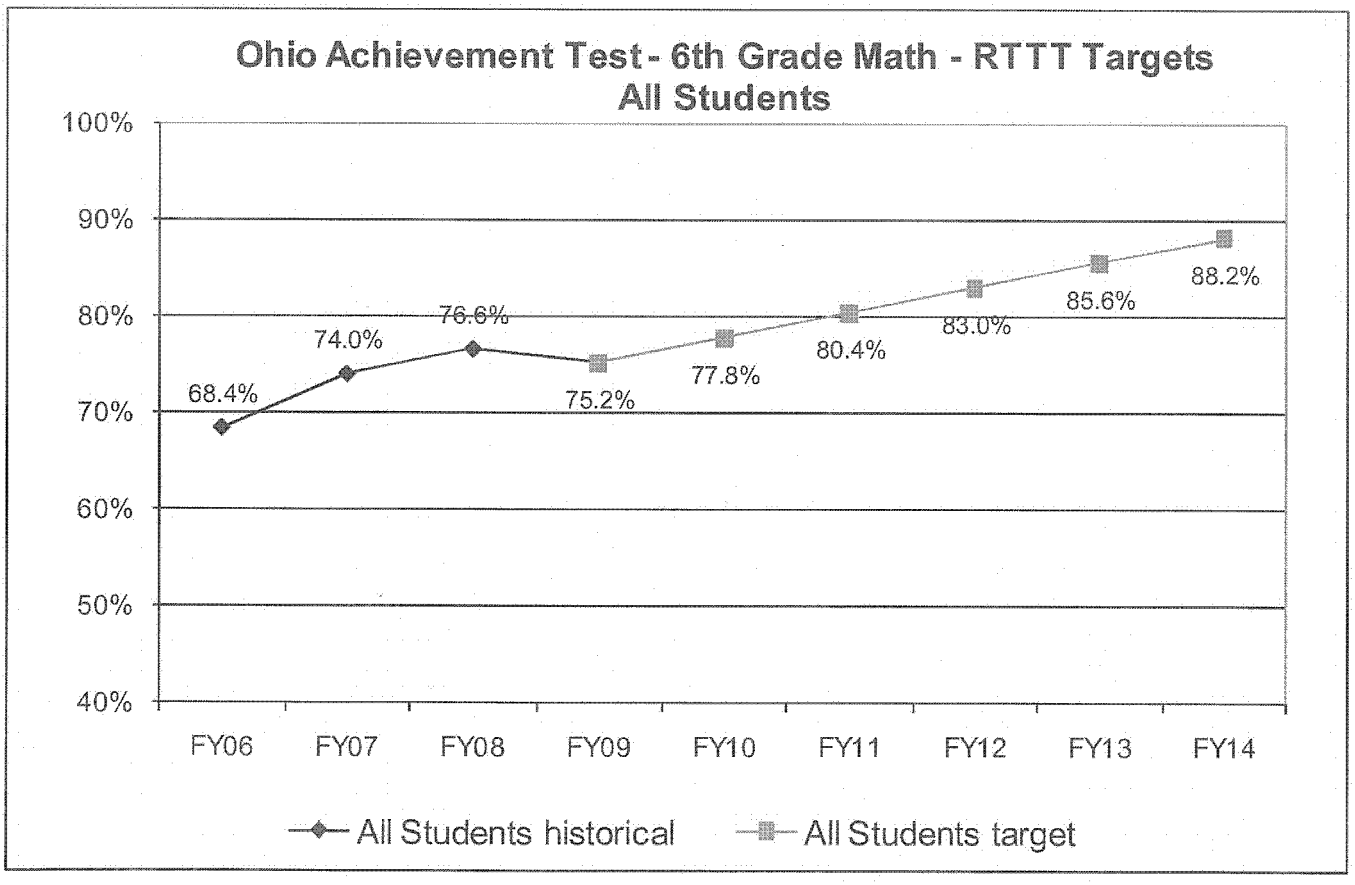

Ohio Achievement Test - 5th Grade Math -Targets without RTTT -
Limited English Proficient (LEP) and Non-LEP
70%
60%
50%
40%
62.9%
61.5%
62.4%
62.6%
63.6%
64.6%
65.6%
66.6%
67.6%
45.4%
46.2%
47.2%
49.2%
51.4%
53.6%
55.8%
58.0%
60.2%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

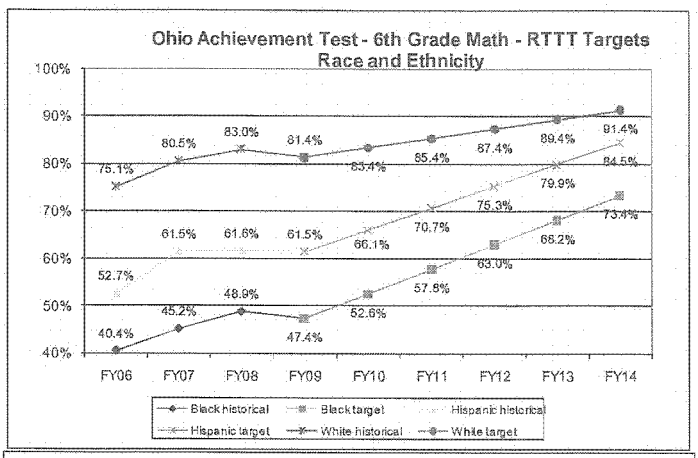

Ohio Achievement Test - 5th Grade Math - Targets without RTTT
Students With Disabilities and Non-Disabled
80%
70%
60%
50%
40%
30%
67.4%
66.0%
66.6%
68.2%
69.1%
70.0%
70.9%
71.8%
72.7%
36.1%
35.1%
35.4%
31.2%
33.2%
35.2%
37.2%
39.2%
41.2%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

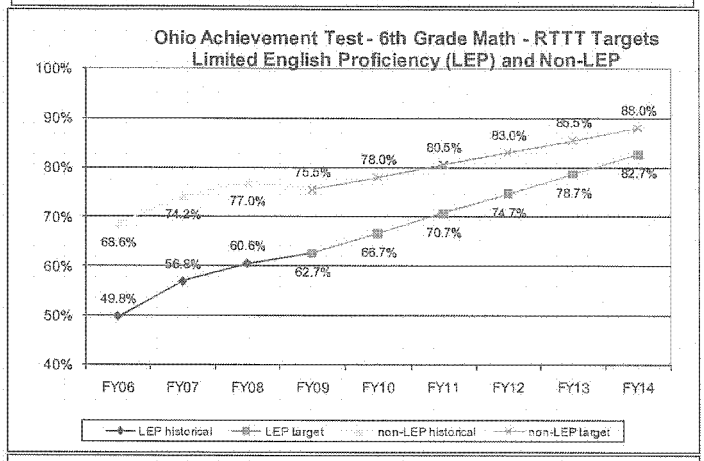

Ohio Achievement Test - 5th Grade Math - Targets without RTTT
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
74.8%
72.7%
73.5%
75.7%
76.5%
77.3%
78.1%
78.9%
79.7%
43.9%
42.9%
44.6%
45.0%
46.5%
48.0%
49.5%
51.0%
52.5%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

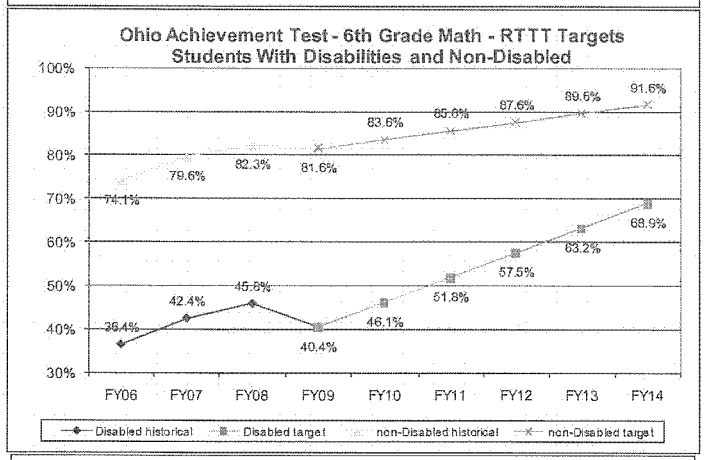
RttT Targets for the 6th Grade OAT Math Assessment
Percent of Students by Subgroup At Least Proficient

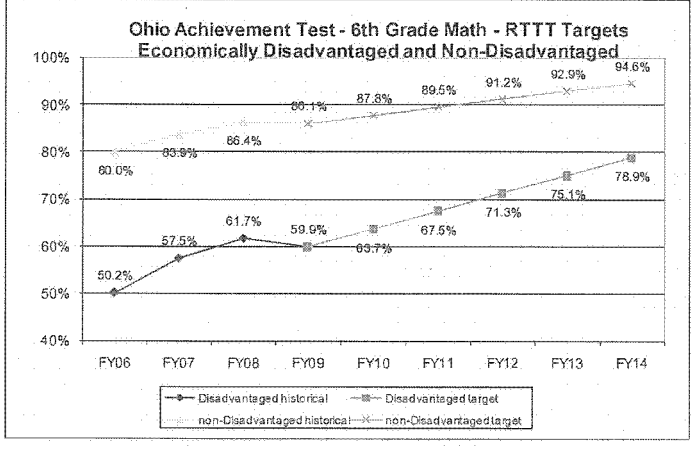
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical		40.4%	45.2%	48.9%	47.4%					
African-American	target					47.4%	52.6%	57.8%	63.0%	68.2%	73.4%
Hispanic	historical		52.7%	61.5%	61.6%	61.5%					
Hispanic	target					61.5%	66.1%	70.7%	75.3%	79.9%	84.5%
White	historical		75.1%	80.5%	83.0%	81.4%					
White	target					81.4%	83.4%	85.4%	87.4%	89.4%	91.4%
LEP	historical		49.8%	56.8%	60.6%	62.7%					
LEP	target					62.7%	66.7%	70.7%	74.7%	78.7%	82.7%
Non-LEP	historical		68.6%	74.2%	77.0%	75.5%					
Non-LEP	target					75.5%	78.0%	80.5%	83.0%	85.5%	88.0%
Disabled	historical		36.4%	42.4%	45.8%	40.4%					
Disabled	target					40.4%	46.1%	51.8%	57.5%	63.2%	68.9%
Non-Disabled	historical		74.1%	79.6%	82.3%	81.6%					
Non-Disabled	target					81.6%	83.6%	85.6%	87.6%	89.6%	91.6%
Disadvantaged	historical		50.2%	57.5%	61.7%	59.9%					
Disadvantaged	target					59.9%	63.7%	67.5%	71.3%	75.1%	78.9%
Non-Disadvantaged	historical		80.0%	83.9%	86.4%	86.1%					
Non-Disadvantaged	target					86.1%	87.8%	89.5%	91.2%	92.9%	94.6%
All Students	historical		68.4%	74.0%	76.6%	75.2%					
All Students	target					75.2%	77.8%	80.4%	83.0%	85.6%	88.2%




Ohio Achievement Test - 6th Grade Math - RTTT Targets
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
75.1% 80.5% 83.0% 81.4% 83.4% 85.4% 87.4% 89.4% 91.4%
61.5% 61.6% 61.5% 66.1% 70.7% 75.3% 79.9% 84.5%
52.7% 45.2% 48.8% 47.4% 52.6% 57.8% 63.0% 68.2% 73.4%
40.4%
Black historical
Black target
Hispanic historical
Hispanic target
White historical
White target

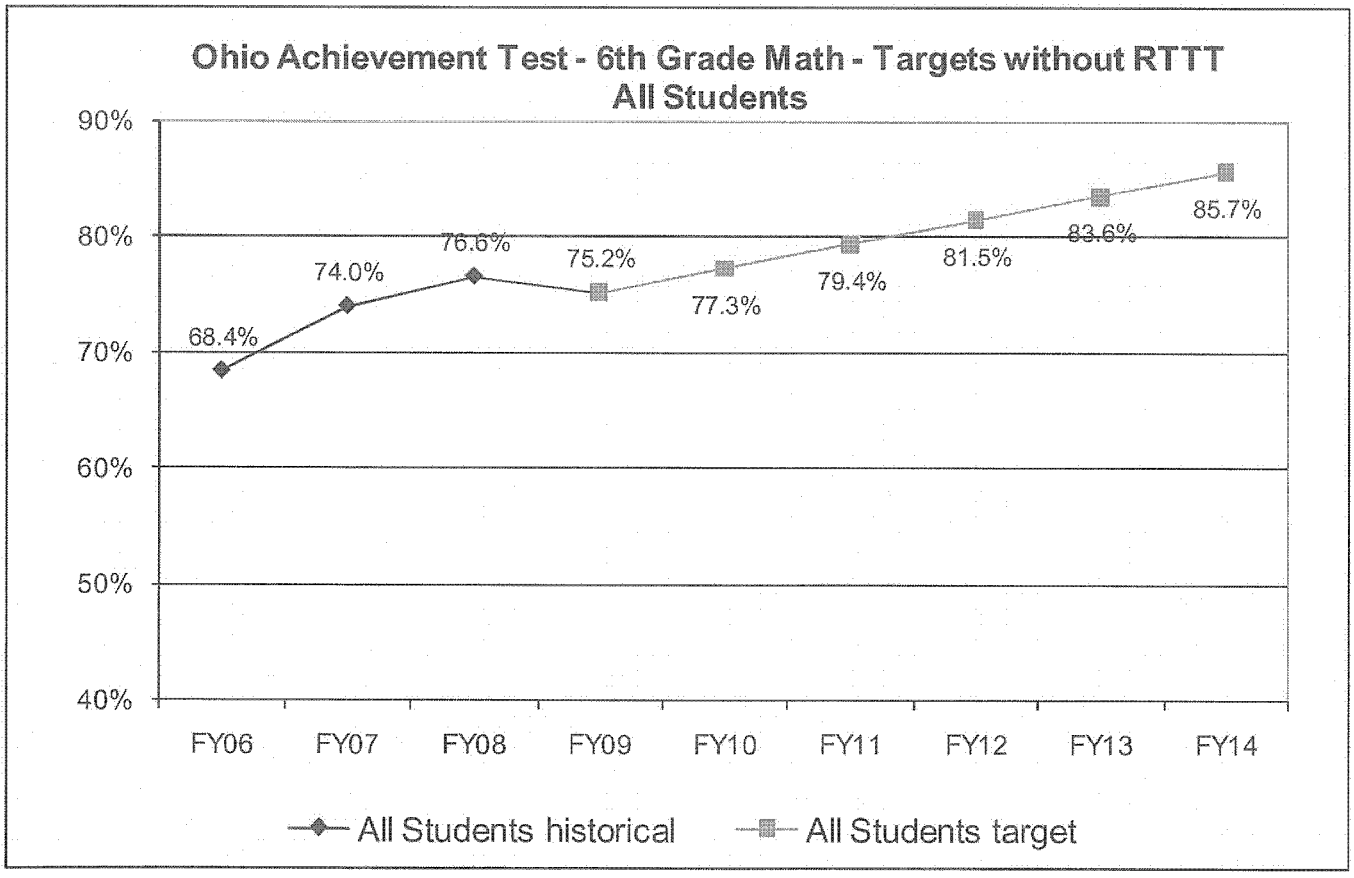

Ohio Achievement Test - 6th Grade Math - RTTT Targets
Limited English Proficiency (LEP) and Non-LEP
100%
90%
80%
70%
60%
50%
40%
FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
68.6% 74.2% 77.0% 78.0% 80.5% 83.0% 85.5% 88.0%
75.5% 78.7% 82.7%
49.8% 56.8% 60.6% 62.7% 66.7% 70.7% 74.7%
LEP historical
LEP target
non-LEP historical
non-LEP target

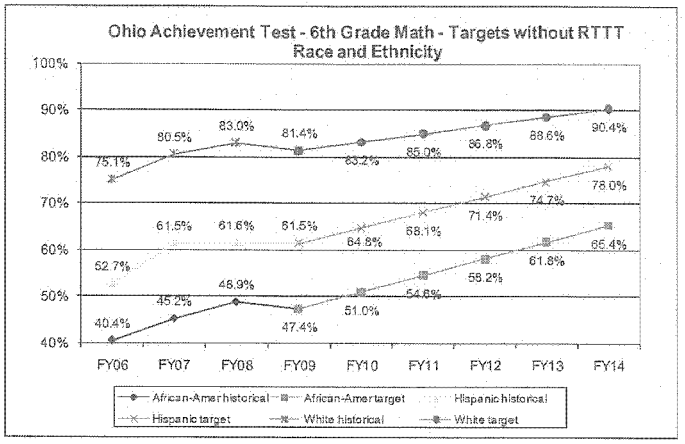

Ohio Achievement Test - 6th Grade Math - RTTT Targets
Students With Disabilities and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
30%
FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
74.1% 79.6% 82.3% 81.6% 83.6% 85.6% 87.6% 89.6% 91.6%
63.2% 68.9%
57.5%
51.8%
46.1%
42.4% 45.8% 40.4%
36.4%
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

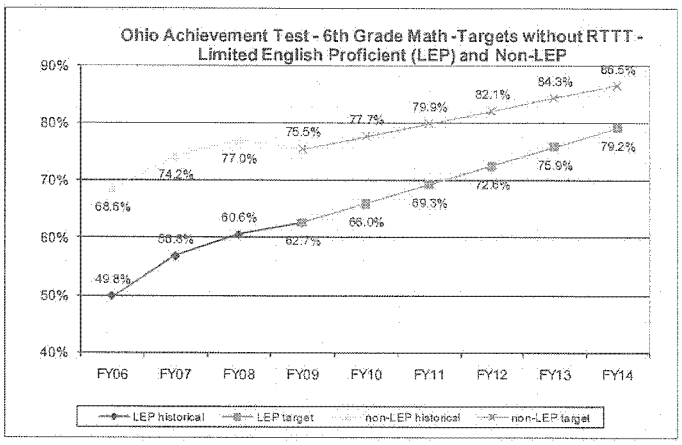

Ohio Achievement Test - 6th Grade Math - RTTT Targets
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
80.0% 83.9% 86.4% 88.1% 87.8% 89.5% 91.2% 92.9% 94.6%
75.1% 78.9%
71.3%
67.5%
63.7%
57.5% 61.7% 59.9%
50.2%
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

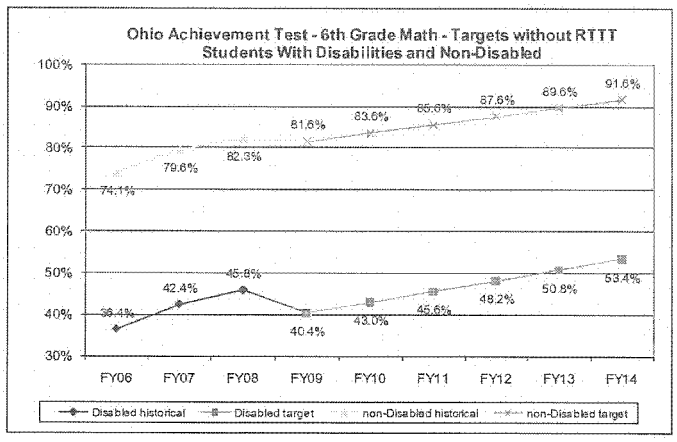
Targets Without RttT for the 6th Grade OAT Math Assessment
Percent of Students by Subgroup At Least Proficient

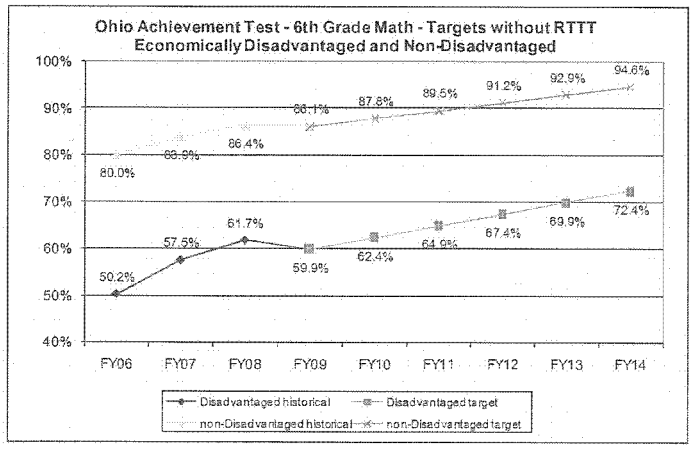
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical		40.4%	45.2%	48.9%	47.4%					
African-American	target					47.4%	51.0%	54.6%	58.2%	61.8%	65.4%
Hispanic	historical		52.7%	61.5%	61.6%	61.5%					
Hispanic	target					61.5%	64.8%	68.1%	71.4%	74.7%	78.0%
White	historical		75.1%	80.5%	83.0%	81.4%					
White	target					81.4%	83.2%	85.0%	86.8%	88.6%	90.4%
LEP	historical		49.8%	56.8%	60.6%	62.7%					
LEP	target					62.7%	66.0%	69.3%	72.6%	75.9%	79.2%
Non-LEP	historical		68.6%	74.2%	77.0%	75.5%					
Non-LEP	target					75.5%	77.7%	79.9%	82.1%	84.3%	86.5%
Disabled	historical		36.4%	42.4%	45.8%	40.4%					
Disabled	target					40.4%	43.0%	45.6%	48.2%	50.8%	53.4%
Non-Disabled	historical		74.1%	79.6%	82.3%	81.6%					
Non-Disabled	target					81.6%	83.6%	85.6%	87.6%	89.6%	91.6%
Disadvantaged	historical		50.2%	57.5%	61.7%	59.9%					
Disadvantaged	target					59.9%	62.4%	64.9%	67.4%	69.9%	72.4%
Non-Disadvantaged	historical		80.0%	83.9%	86.4%	86.1%					
Non-Disadvantaged	target					86.1%	87.8%	89.5%	91.2%	92.9%	94.6%
All Students	historical		68.4%	74.0%	76.6%	75.2%					
All Students	target					75.2%	77.3%	79.4%	81.5%	83.6%	85.7%




Ohio Achievement Test - 6th Grade Math - Targets without RTTT
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
75.1% 80.5% 83.0% 81.4% 83.2% 85.0% 86.8% 88.6% 90.4%
52.7% 61.5% 61.6% 61.5% 64.8% 68.1% 71.4% 74.7% 78.0%
40.4% 45.2% 48.9% 47.4% 51.0% 54.8% 58.2% 61.8% 65.4%
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

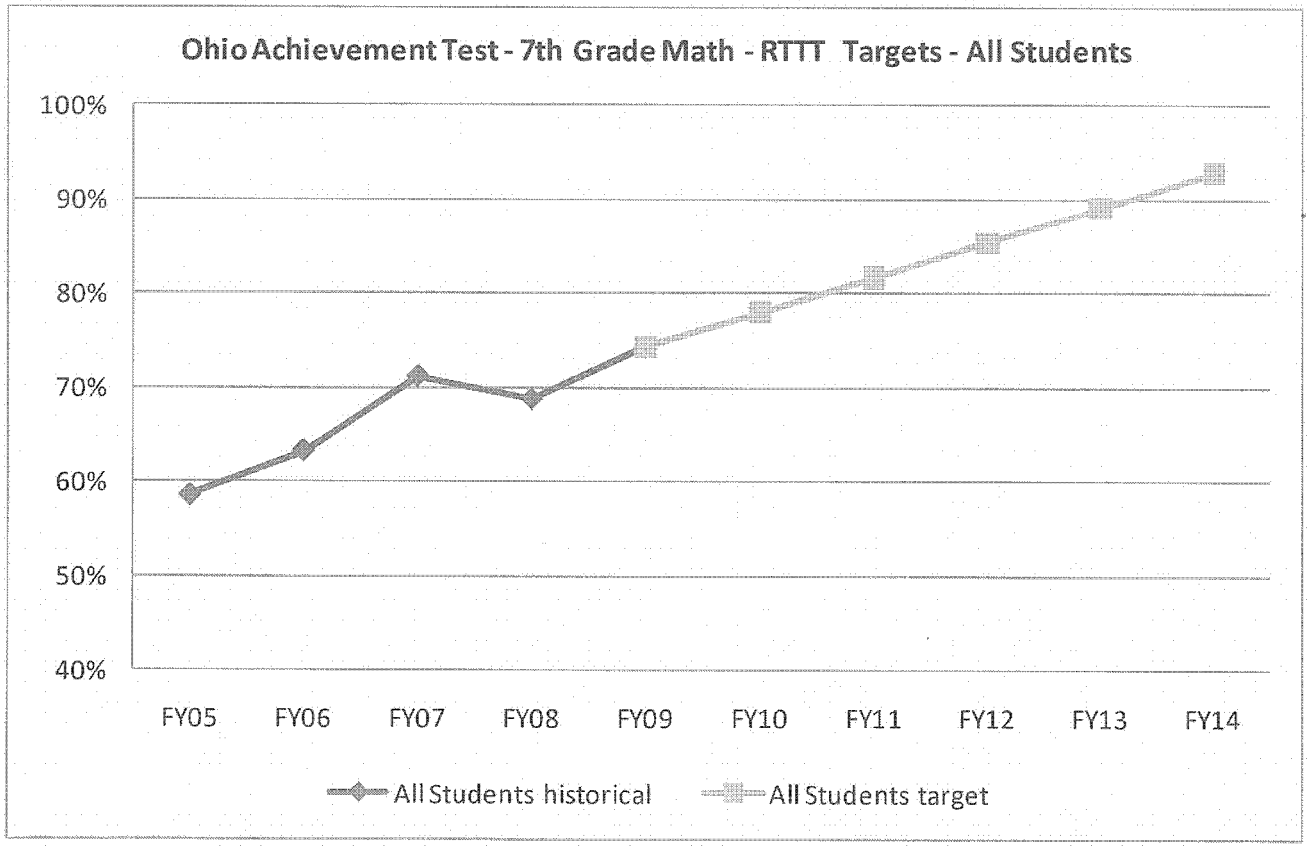

Ohio Achievement Test - 6th Grade Math -Targets without RTTT -
Limited English Proficient (LEP) and Non-LEP
90%
80%
70%
60%
50%
40%
FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
68.6% 74.2% 77.0% 75.5% 77.7% 79.9% 82.1% 84.3% 86.5%
49.8% 56.8% 60.6% 62.7% 66.0% 69.3% 72.6% 75.9% 79.2%
LEP historical
LEP target
non-LEP historical
non-LEP target

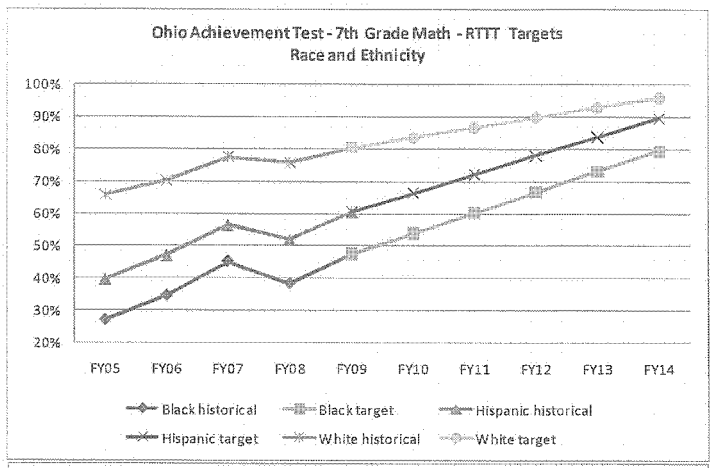

Ohio Achievement Test - 6th Grade Math - Targets without RTTT
Students With Disabilities and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
30%
FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
74.1% 79.6% 82.3% 81.6% 83.6% 85.6% 87.6% 89.6% 91.6%
38.4% 42.4% 45.8% 40.4% 43.0% 45.6% 48.2% 50.8% 53.4%
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

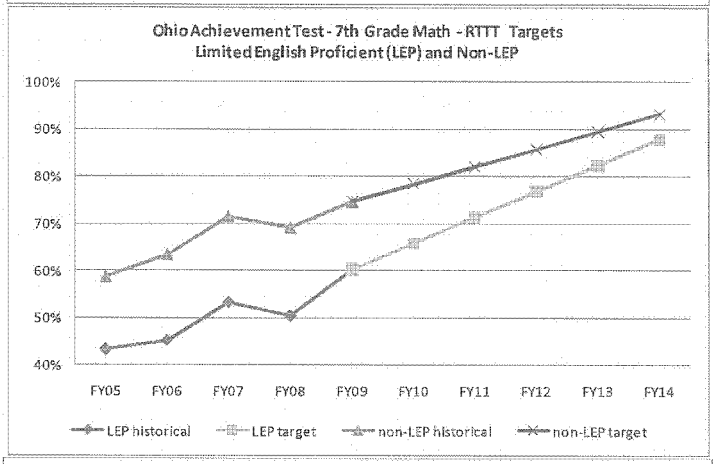

Ohio Achievement Test - 6th Grade Math - Targets without RTTT
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
80.0% 86.9% 86.4% 88.1% 87.8% 89.5% 91.2% 92.9% 94.6%
50.2% 57.5% 61.7% 59.9% 62.4% 64.9% 67.4% 69.9% 72.4%
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

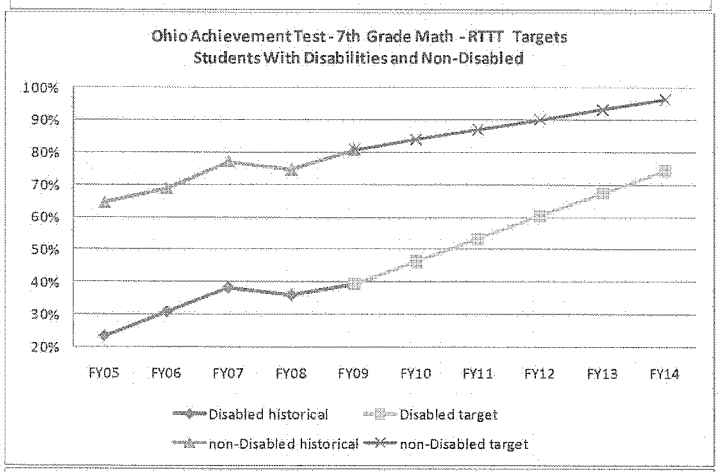
RttT Targets for the 7th Grade OAT Math Assessment
Percent of Students by Subgroup At Least Proficient

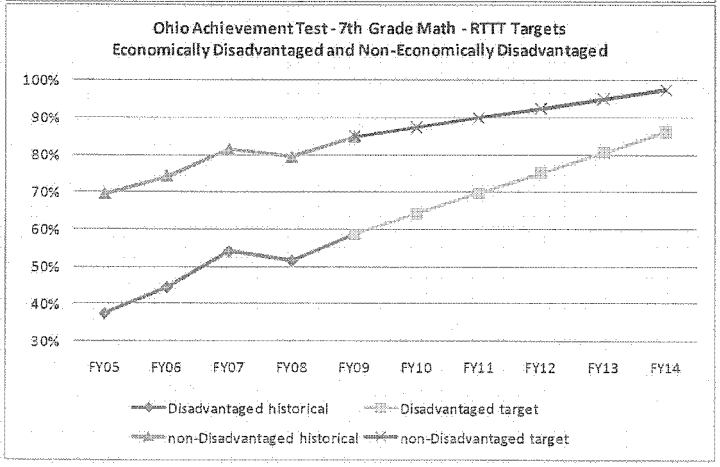
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	27.0%	34.6%	45.0%	38.3%	47.5%					
African-American	target					47.5%	53.9%	60.3%	66.7%	73.1%	79.5%
Hispanic	historical	39.7%	47.0%	56.4%	51.9%	60.5%					
Hispanic	target					60.5%	66.3%	72.1%	77.9%	83.7%	89.5%
White	historical	65.7%	70.2%	77.5%	75.7%	80.4%					
White	target					80.4%	83.5%	86.6%	89.7%	92.8%	95.9%
LEP	historical	43.3%	45.2%	53.2%	50.4%	60.3%					
LEP	target					60.3%	65.8%	71.3%	76.8%	82.3%	87.8%
Non-LEP	historical	58.7%	63.4%	71.5%	69.1%	74.6%					
Non-LEP	target					74.6%	78.3%	82.0%	85.7%	89.4%	93.1%
Disabled	historical	23.3%	30.8%	38.1%	36.0%	39.4%					
Disabled	target					39.4%	46.4%	53.4%	60.4%	67.4%	74.4%
Non-Disabled	historical	64.5%	68.9%	77.1%	74.7%	80.8%					
Non-Disabled	target					80.8%	83.9%	87.0%	90.1%	93.2%	96.3%
Disadvantaged	historical	37.3%	44.4%	54.0%	51.6%	58.6%					
Disadvantaged	target					58.6%	64.1%	69.6%	75.1%	80.6%	86.1%
Non-Disadvantaged	historical	69.5%	74.1%	81.4%	79.4%	84.8%					
Non-Disadvantaged	target					84.8%	87.3%	89.8%	92.3%	94.8%	97.3%
All Students	historical	58.5%	63.2%	71.2%	68.8%	74.3%					
All Students	target					74.3%	78.0%	81.7%	85.4%	89.1%	92.8%



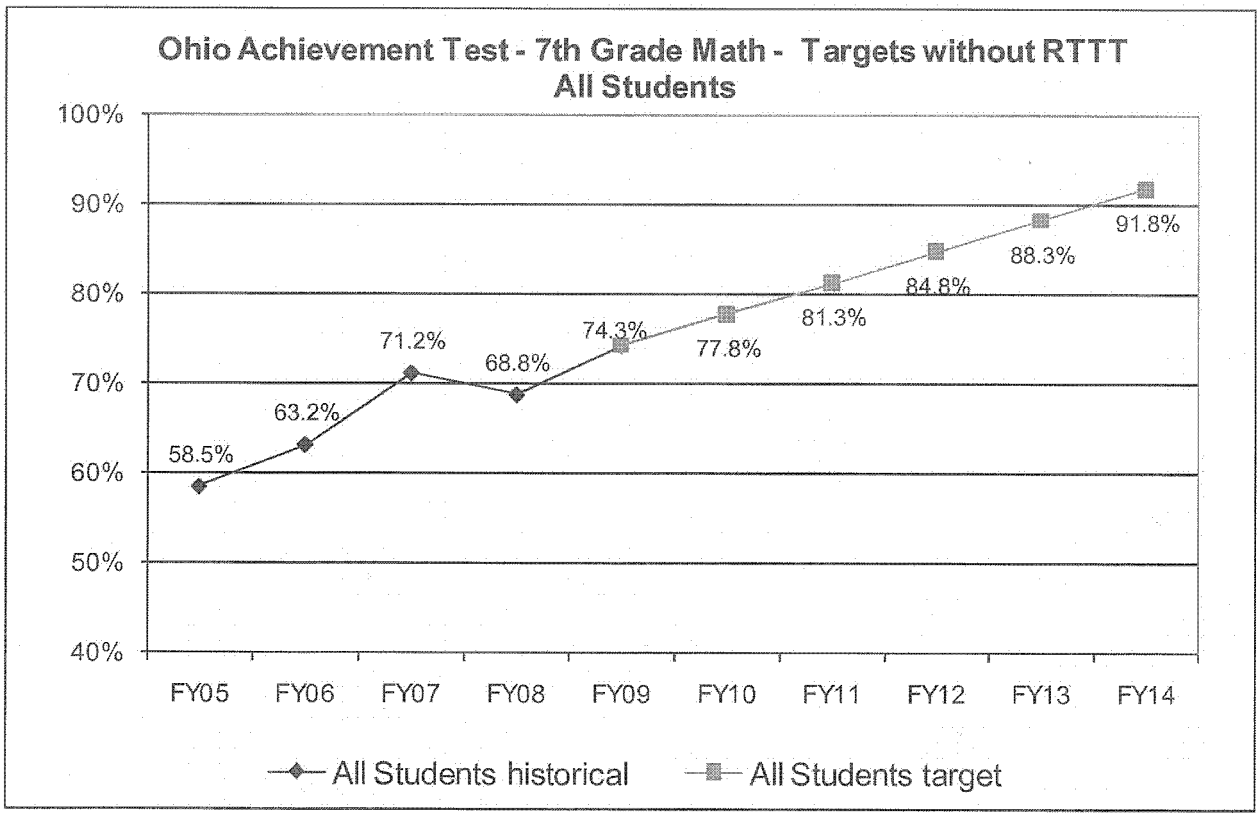

Ohio Achievement Test - 7th Grade Math - RTTT Targets
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
30%
20%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Black historical
Black target
Hispanic historical
Hispanic target
White historical
White target

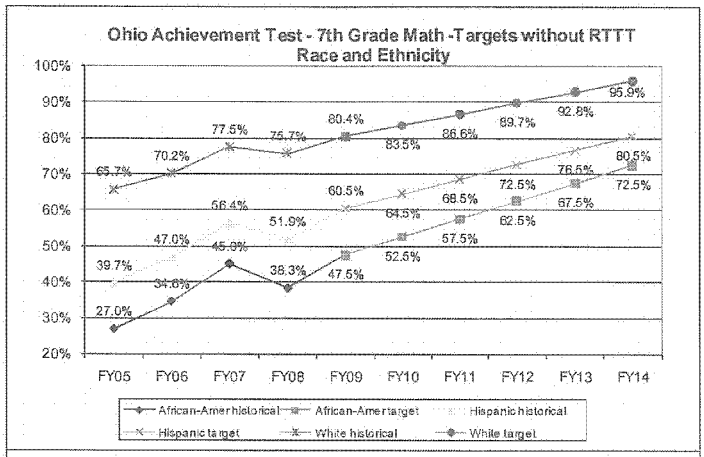

Ohio Achievement Test - 7th Grade Math - RTTT Targets
Limited English Proficient (LEP) and Non-LEP
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

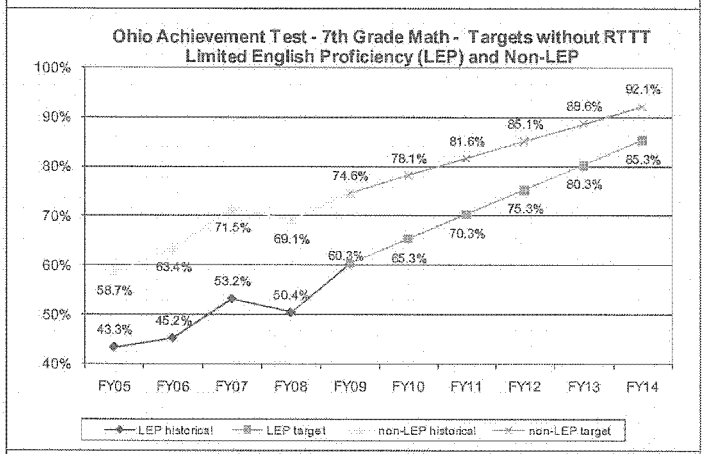

Ohio Achievement Test - 7th Grade Math - RTTT Targets
Students With Disabilities and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
30%
20%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

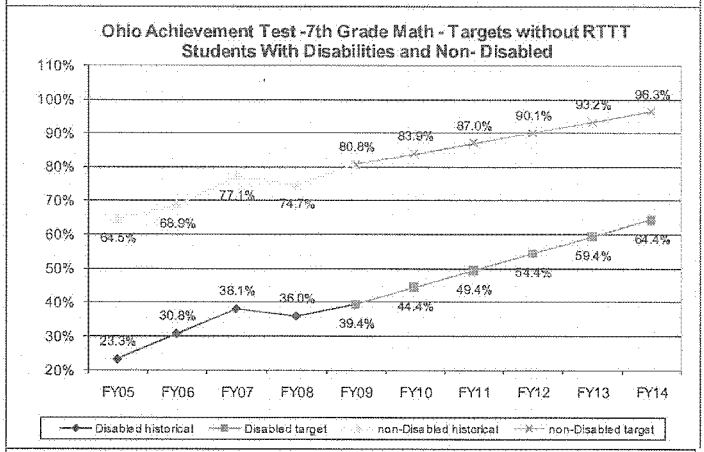

Ohio Achievement Test - 7th Grade Math - RTTT Targets
Economically Disadvantaged and Non-Economically Disadvantaged
100%
90%
80%
70%
60%
50%
40%
30%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

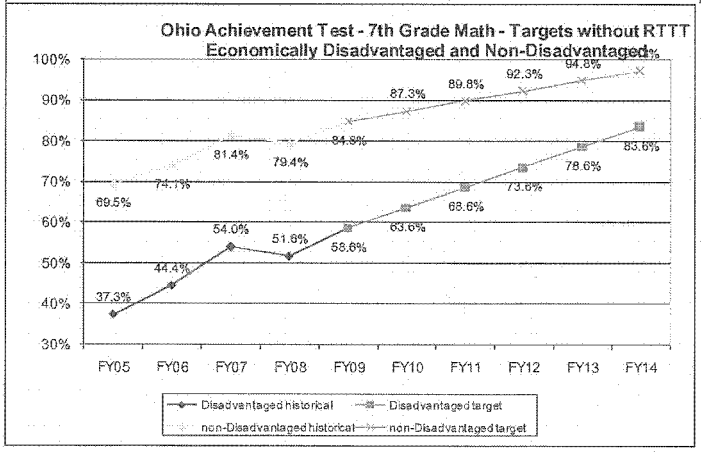
Targets Without RttT for the 7th Grade OAT Math Assessment Percent of Students by Subgroup At Least Proficient		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	27.0%	34.6%	45.0%	38.3%	47.5%					
African-American	target					47.5%	52.5%	57.5%	62.5%	67.5%	72.5%
Hispanic	historical	39.7%	47.0%	56.4%	51.9%	60.5%					
Hispanic	target					60.5%	64.5%	68.5%	72.5%	76.5%	80.5%
White	historical	65.7%	70.2%	77.5%	75.7%	80.4%					
White	target					80.4%	83.5%	86.6%	89.7%	92.8%	95.9%
LEP	historical	43.3%	45.2%	53.2%	50.4%	60.3%					
LEP	target					60.3%	65.3%	70.3%	75.3%	80.3%	85.3%
Non-LEP	historical	58.7%	63.4%	71.5%	69.1%	74.6%					
Non-LEP	target					74.6%	78.1%	81.6%	85.1%	88.6%	92.1%
Disabled	historical	23.3%	30.8%	38.1%	36.0%	39.4%					
Disabled	target					39.4%	44.4%	49.4%	54.4%	59.4%	64.4%
Non-Disabled	historical	64.5%	68.9%	77.1%	74.7%	80.8%					
Non-Disabled	target					80.8%	83.9%	87.0%	90.1%	93.2%	96.3%
Disadvantaged	historical	37.3%	44.4%	54.0%	51.6%	58.6%					
Disadvantaged	target					58.6%	63.6%	68.6%	73.6%	78.6%	83.6%
Non-Disadvantaged	historical	69.5%	74.1%	81.4%	79.4%	84.8%					
Non-Disadvantaged	target					84.8%	87.3%	89.8%	92.3%	94.8%	97.3%
All Students	historical	58.5%	63.2%	71.2%	68.8%	74.3%					
All Students	target					74.3%	77.8%	81.3%	84.8%	88.3%	91.8%




Ohio Achievement Test - 7th Grade Math -Targets without RTTT
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
30%
20%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
65.7% 70.2% 77.5% 75.7% 80.4% 83.5% 86.6% 89.7% 92.8% 95.9%
39.7% 47.0% 56.4% 51.9% 60.5% 64.5% 68.5% 72.5% 76.5% 80.5%
27.0% 34.8% 45.9% 38.3% 47.5% 52.5% 57.5% 62.5% 67.5% 72.5%
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

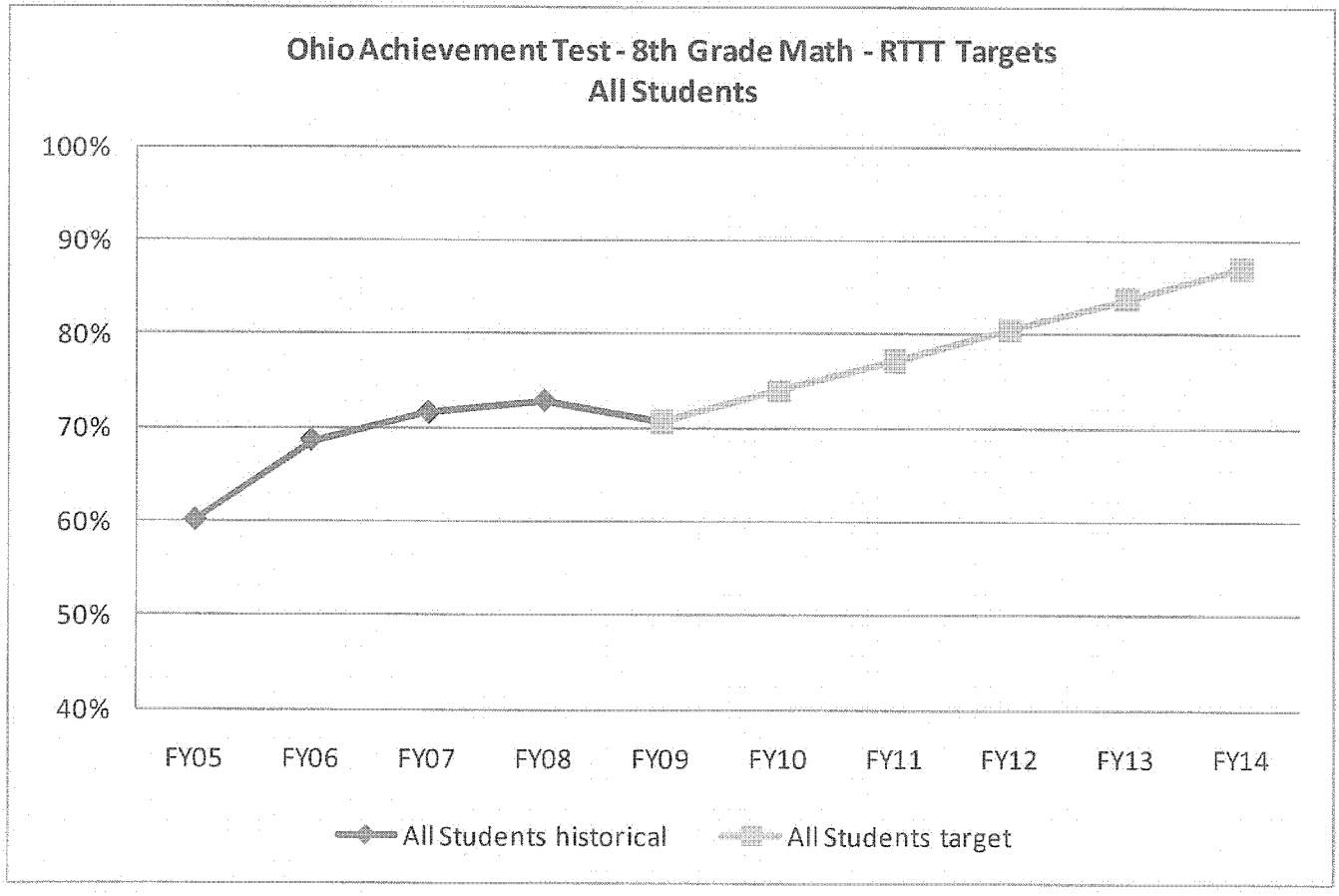

Ohio Achievement Test - 7th Grade Math - Targets without RTTT
Limited English Proficiency (LEP) and Non-LEP
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
58.7% 63.4% 71.5% 69.1% 74.6% 78.1% 81.6% 85.1% 88.6% 92.1%
43.3% 45.2% 53.2% 50.4% 60.3% 65.3% 70.3% 75.3% 80.3% 85.3%
LEP historical
LEP target
non-LEP historical
non-LEP target

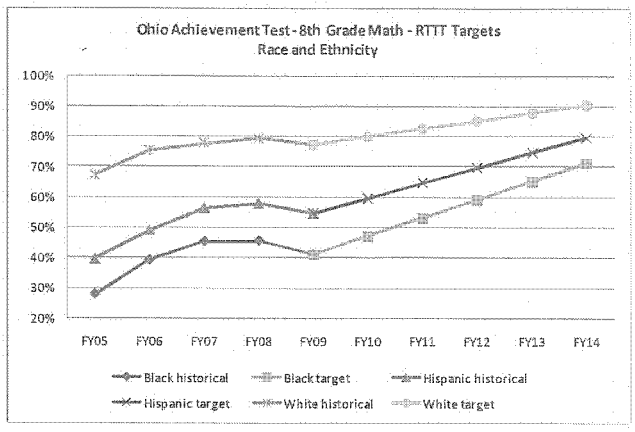

Ohio Achievement Test -7th Grade Math - Targets without RTTT
Students With Disabilities and Non- Disabled
110%
100%
90%
80%
70%
60%
50%
40%
30%
20%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
64.5% 68.9% 77.1% 74.7% 80.8% 83.9% 87.0% 90.1% 93.2% 96.3%
23.3% 30.8% 38.1% 36.0% 39.4% 44.4% 49.4% 54.4% 59.4% 64.4%
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

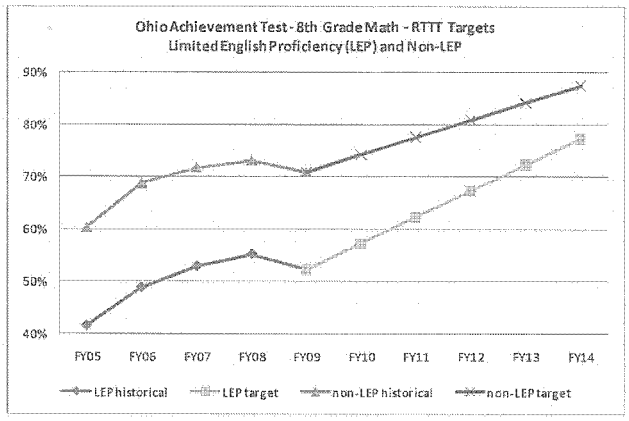

Ohio Achievement Test - 7th Grade Math - Targets without RTTT
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
30%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
69.5% 74.1% 81.4% 79.4% 84.8% 87.3% 89.8% 92.3% 94.8% 97.4%
37.3% 44.4% 54.0% 51.6% 58.6% 63.6% 68.6% 73.6% 78.6% 83.6%
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

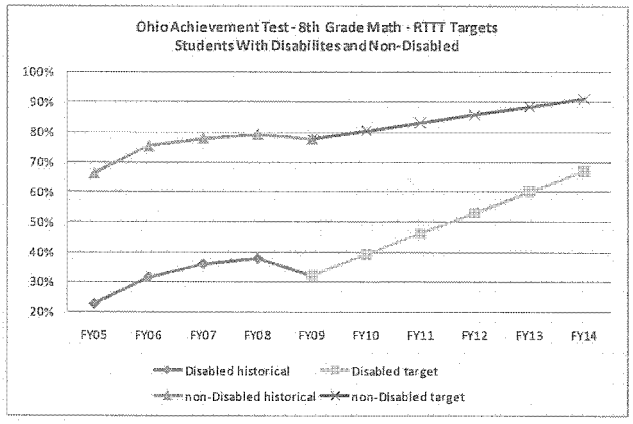
RttT Targets for the 8th Grade OAT Math Assessment
Percent of Students by Subgroup At Least Proficient

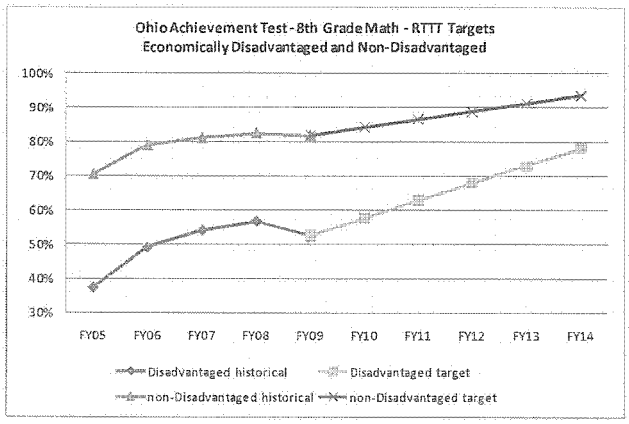
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	27.9%	39.3%	45.4%	45.6%	41.1%					
African-American	target					41.1%	47.1%	53.1%	59.1%	65.1%	71.1%
Hispanic	historical	39.6%	49.0%	56.4%	57.8%	54.6%					
Hispanic	target					54.6%	59.6%	64.6%	69.6%	74.6%	79.6%
White	historical	67.2%	75.3%	77.8%	79.2%	77.3%					
White	target					77.3%	79.9%	82.5%	85.1%	87.7%	90.3%
LEP	historical	41.6%	49.0%	53.0%	55.2%	52.3%					
LEP	target					52.3%	57.3%	62.3%	67.3%	72.3%	77.3%
Non-LEP	historical	60.3%	68.8%	71.8%	73.1%	70.9%					
Non-LEP	target					70.9%	74.2%	77.5%	80.8%	84.1%	87.4%
Disabled	historical	22.7%	31.4%	35.8%	37.8%	32.1%					
Disabled	target					32.1%	39.1%	46.1%	53.1%	60.1%	67.1%
Non-Disabled	historical	66.3%	75.1%	77.9%	79.1%	77.6%					
Non-Disabled	target					77.6%	80.3%	83.0%	85.7%	88.4%	91.1%
Disadvantaged	historical	37.4%	49.1%	54.1%	56.8%	52.6%					
Disadvantaged	target					52.6%	57.7%	62.8%	67.9%	73.0%	78.1%
Non-Disadvantaged	historical	70.6%	78.9%	81.0%	82.4%	81.9%					
Non-Disadvantaged	target					81.9%	84.2%	86.5%	88.8%	91.1%	93.4%
All Students	historical	60.1%	68.6%	71.5%	72.8%	70.6%					
All Students	target					70.6%	73.9%	77.2%	80.5%	83.8%	87.1%




Ohio Achievement Test - 8th Grade Math - RTTT Targets
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
30%
20%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Black historical
Black target
Hispanic historical
Hispanic target
White historical
White target

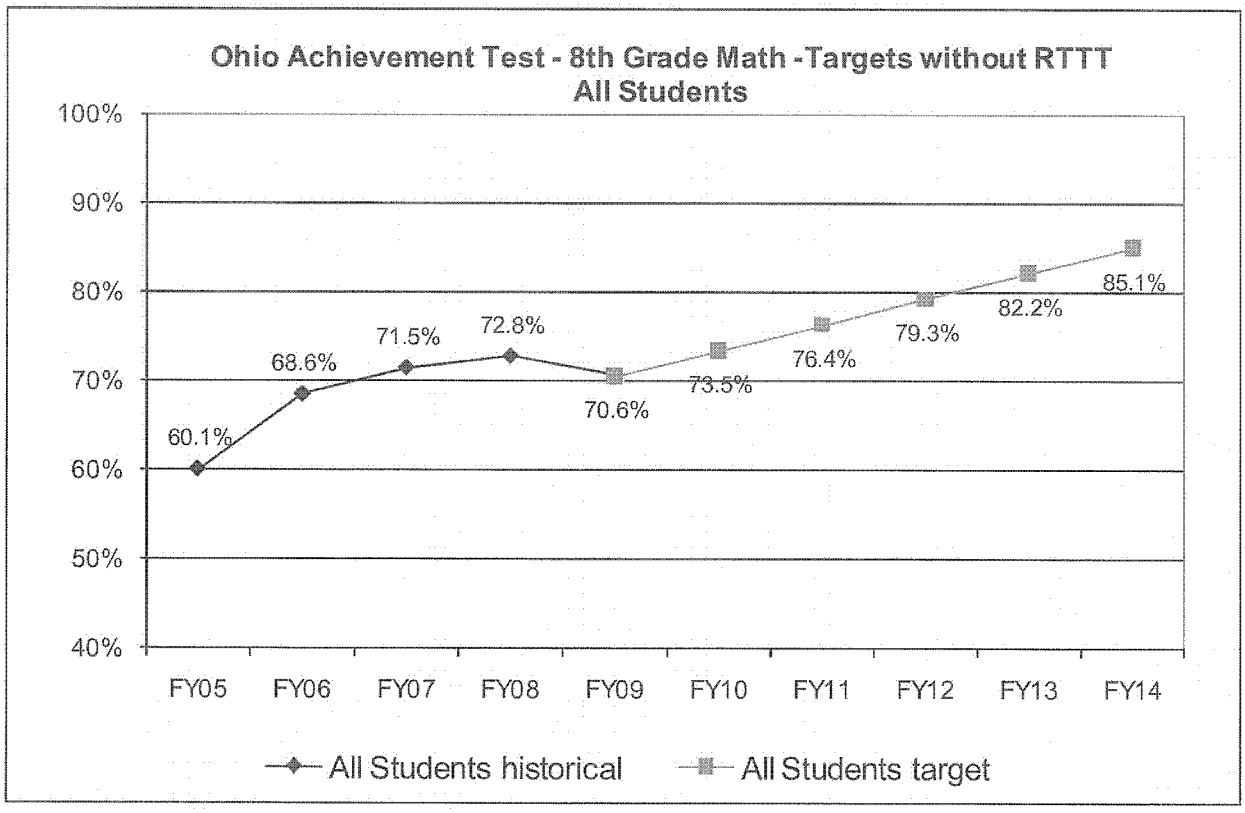

Ohio Achievement Test - 8th Grade Math - RTTT Targets
Limited English Proficiency (LEP) and Non-LEP
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

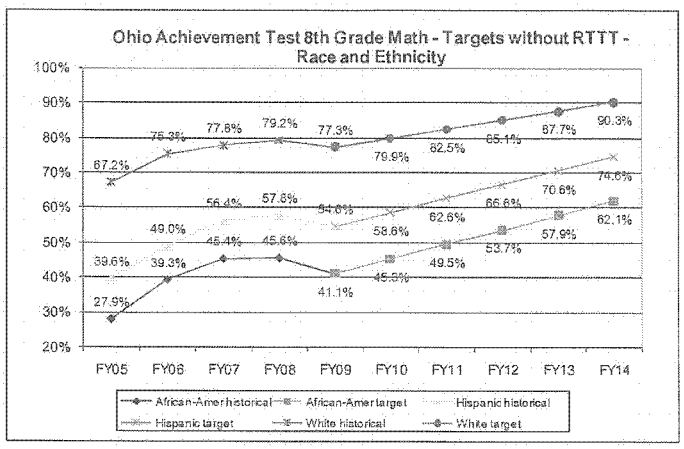

Ohio Achievement Test - 8th Grade Math - RTTT Targets
Students With Disabilites and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
30%
20%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

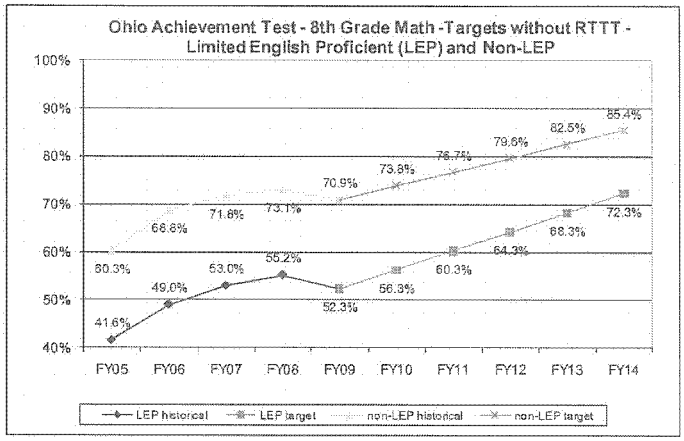

Ohio Achievement Test - 8th Grade Math - RTTT Targets
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
30%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

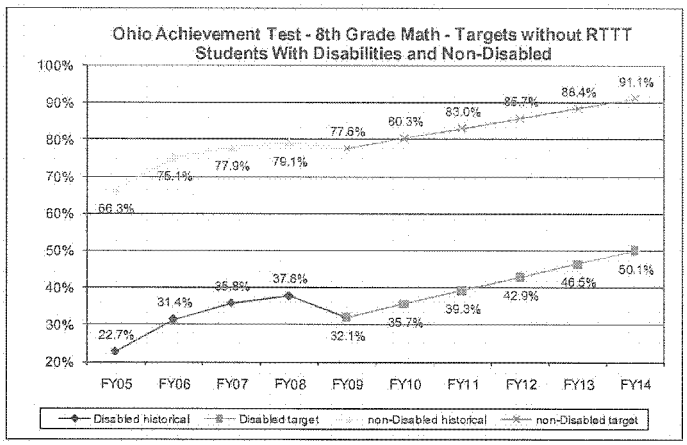
Targets Without RttT for the 8th Grade OAT Math Assessment
Percent of Students by Subgroup At Least Proficient

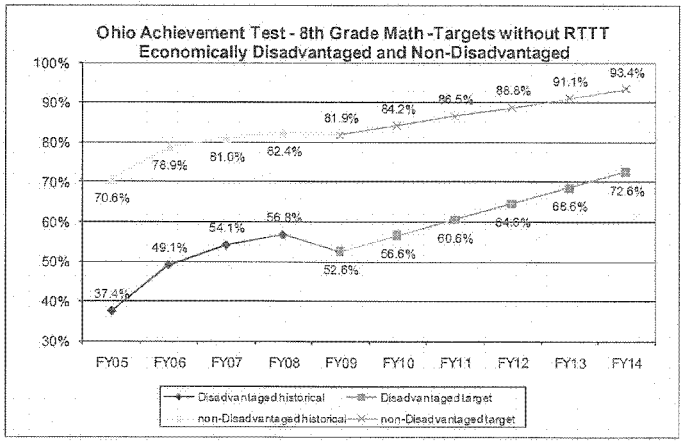
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	27.9%	39.3%	45.4%	45.6%	41.1%					
African-American	target					41.1%	45.3%	49.5%	53.7%	57.9%	62.1%
Hispanic	historical	39.6%	49.0%	56.4%	57.8%	54.6%					
Hispanic	target					54.6%	58.6%	62.6%	66.6%	70.6%	74.6%
White	historical	67.2%	75.3%	77.8%	79.2%	77.3%					
White	target					77.3%	79.9%	82.5%	85.1%	87.7%	90.3%
LEP	historical	41.6%	49.0%	53.0%	55.2%	52.3%					
LEP	target					52.3%	56.3%	60.3%	64.3%	68.3%	72.3%
Non-LEP	historical	60.3%	68.8%	71.8%	73.1%	70.9%					
Non-LEP	target					70.9%	73.8%	76.7%	79.6%	82.5%	85.4%
Disabled	historical	22.7%	31.4%	35.8%	37.8%	32.1%					
Disabled	target					32.1%	35.7%	39.3%	42.9%	46.5%	50.1%
Non-Disabled	historical	66.3%	75.1%	77.9%	79.1%	77.6%					
Non-Disabled	target					77.6%	80.3%	83.0%	85.7%	88.4%	91.1%
Disadvantaged	historical	37.4%	49.1%	54.1%	56.8%	52.6%					
Disadvantaged	target					52.6%	56.6%	60.6%	64.6%	68.6%	72.6%
Non-Disadvantaged	historical	70.6%	78.9%	81.0%	82.4%	81.9%					
Non-Disadvantaged	target					81.9%	84.2%	86.5%	88.8%	91.1%	93.4%
All Students	historical	60.1%	68.6%	71.5%	72.8%	70.6%					
All Students	target					70.6%	73.5%	76.4%	79.3%	82.2%	85.1%




Ohio Achievement Test 8th Grade Math - Targets without RTTT - Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
30%
20%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

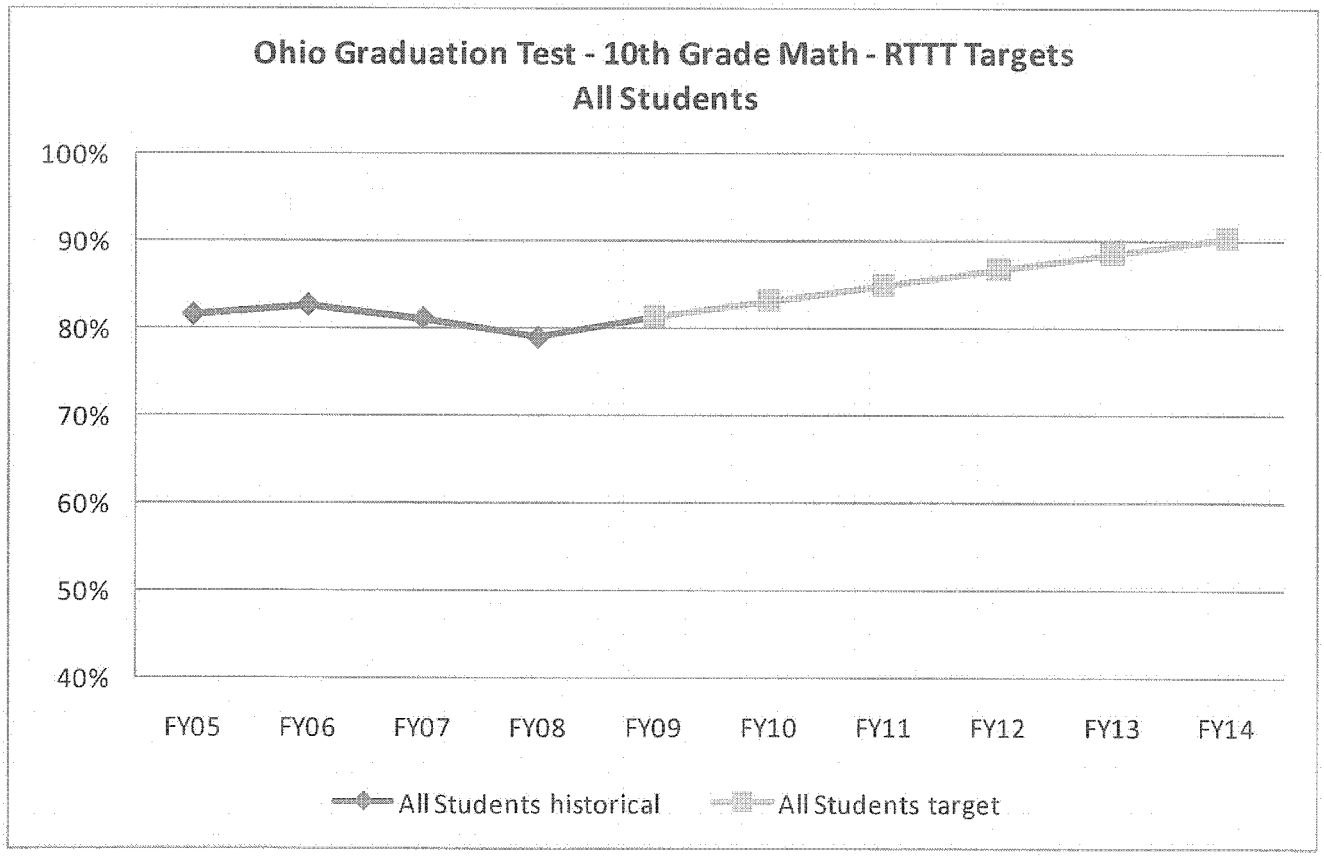

Ohio Achievement Test - 8th Grade Math -Targets without RTTT - Limited English Proficient (LEP) and Non-LEP
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

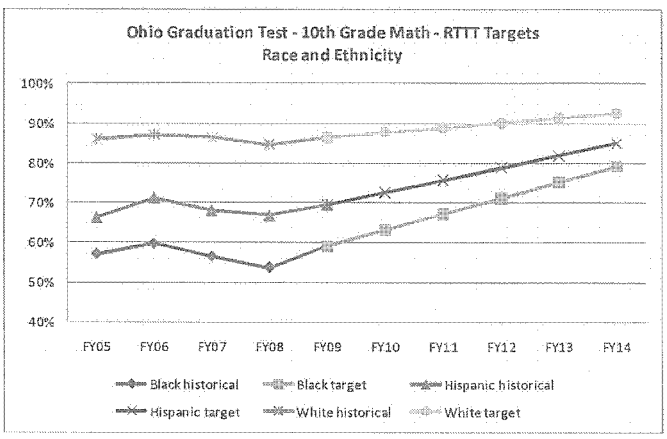

Ohio Achievement Test - 8th Grade Math - Targets without RTTT Students With Disabilities and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
30%
20%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

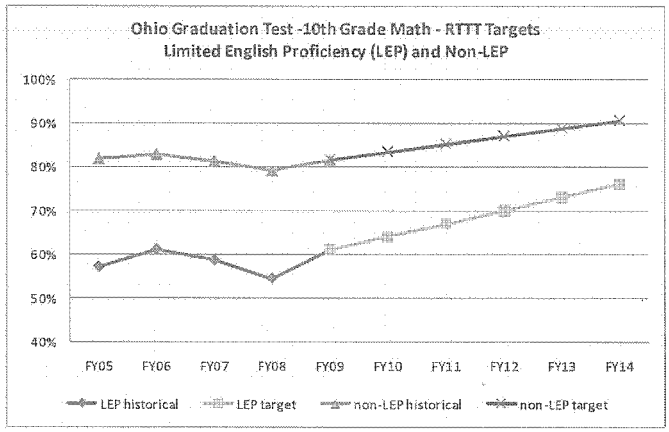

Ohio Achievement Test - 8th Grade Math -Targets without RTTT Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
30%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

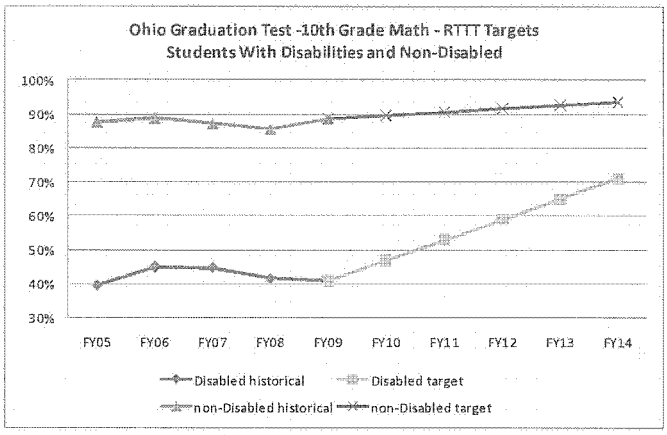
RttT Targets for the 10th Grade OGT Math Assessment
Percent of Students by Subgroup At Least Proficient

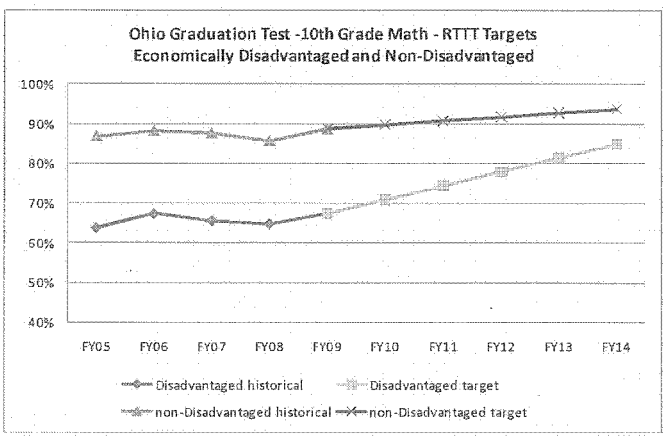
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	57.1%	59.7%	56.4%	53.7%	59.2%					
African-American	target					59.2%	63.2%	67.2%	71.2%	75.2%	79.2%
Hispanic	historical	66.3%	71.2%	68.0%	66.8%	69.5%					
Hispanic	target					69.5%	72.6%	75.7%	78.8%	81.9%	85.0%
White	historical	85.9%	87.2%	86.4%	84.6%	86.5%					
White	target					86.5%	87.7%	88.9%	90.1%	91.3%	92.5%
LEP	historical	57.2%	61.2%	58.7%	54.5%	61.1%					
LEP	target					61.1%	64.1%	67.1%	70.1%	73.1%	76.1%
Non-LEP	historical	81.9%	82.9%	81.4%	79.3%	81.7%					
Non-LEP	target					81.7%	83.5%	85.3%	87.1%	88.9%	90.7%
Disabled	historical	39.6%	45.0%	44.7%	41.5%	40.9%					
Disabled	target					40.9%	46.9%	52.9%	58.9%	64.9%	70.9%
Non-Disabled	historical	87.6%	88.8%	87.2%	85.5%	88.5%					
Non-Disabled	target					88.5%	89.5%	90.5%	91.5%	92.5%	93.5%
Disadvantaged	historical	63.7%	67.4%	65.5%	64.7%	67.4%					
Disadvantaged	target					67.4%	70.9%	74.4%	77.9%	81.4%	84.9%
Non-Disadvantaged	historical	86.9%	88.3%	87.7%	85.7%	88.7%					
Non-Disadvantaged	target					88.7%	89.7%	90.7%	91.7%	92.7%	93.7%
All Students	historical	81.6%	82.7%	81.2%	79.0%	81.4%					
All Students	target					81.4%	83.2%	85.0%	86.8%	88.6%	90.4%




Ohio Graduation Test - 10th Grade Math - RTTT Targets
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Black historical
Black target
Hispanic historical
Hispanic target
White historical
White target

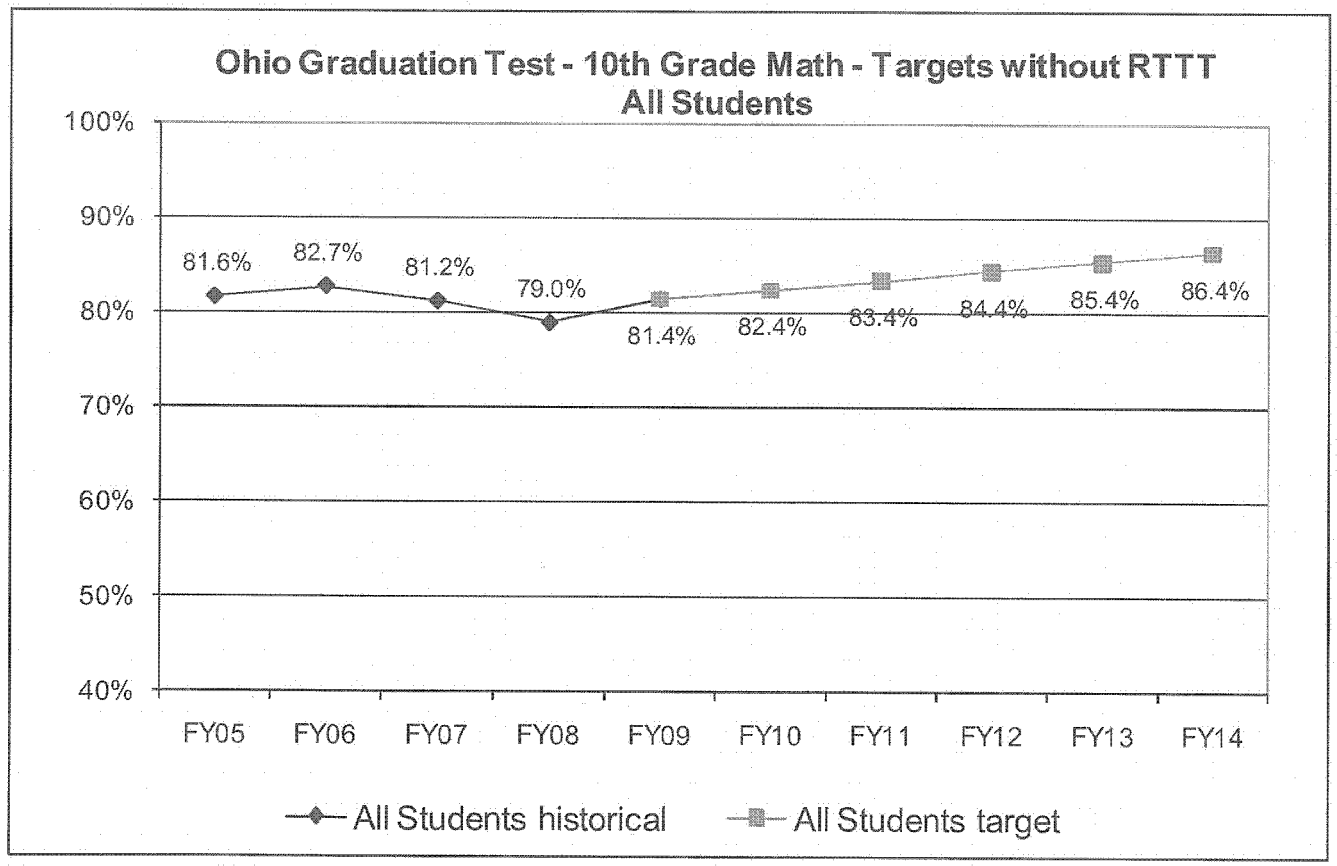

Ohio Graduation Test -10th Grade Math - RTTT Targets
Limited English Proficiency (LEP) and Non-LEP
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

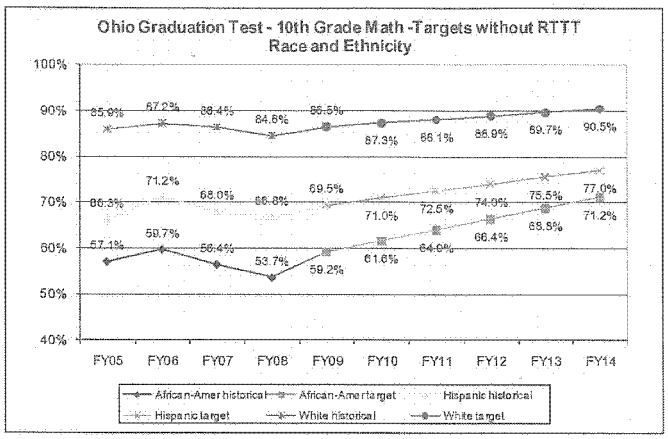

Ohio Graduation Test -10th Grade Math - RTTT Targets
Students With Disabilities and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
30%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

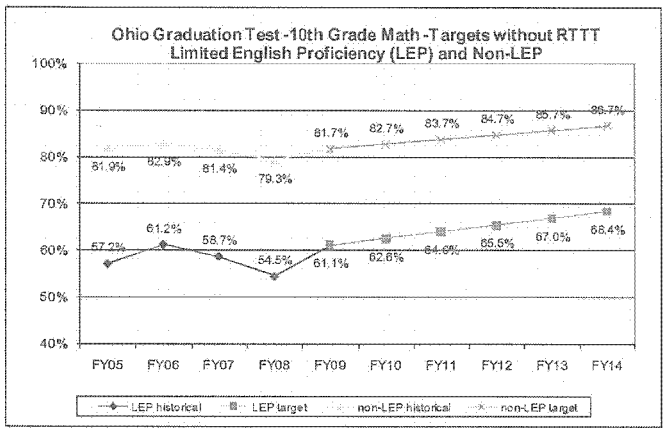

Ohio Graduation Test -10th Grade Math - RTTT Targets
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

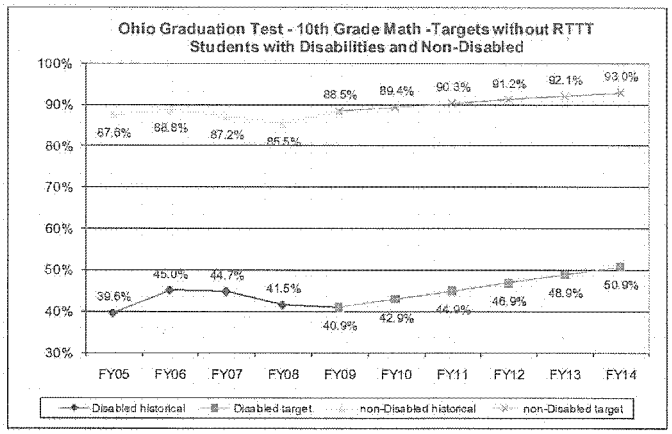
Targets Without RttT for the 10th Grade OGT Math Assessment
Percent of Students by Subgroup At Least Proficient

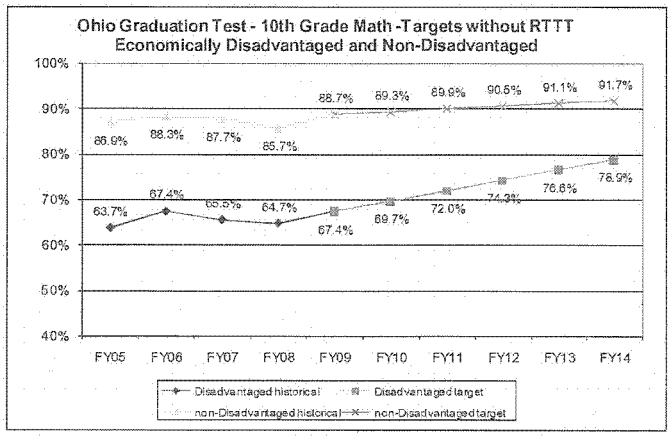
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	57.1%	59.7%	56.4%	53.7%	59.2%					
African-American	target					59.2%	61.6%	64.0%	66.4%	68.8%	71.2%
Hispanic	historical	66.3%	71.2%	68.0%	66.8%	69.5%					
Hispanic	target					69.5%	71.0%	72.5%	74.0%	75.5%	77.0%
White	historical	85.9%	87.2%	86.4%	84.6%	86.5%					
White	target					86.5%	87.3%	88.1%	88.9%	89.7%	90.5%
LEP	historical	57.2%	61.2%	58.7%	54.5%	61.1%					
LEP	target					61.1%	62.6%	64.0%	65.5%	67.0%	68.4%
Non-LEP	historical	81.9%	82.9%	81.4%	79.3%	81.7%					
Non-LEP	target					81.7%	82.7%	83.7%	84.7%	85.7%	86.7%
Disabled	historical	39.6%	45.0%	44.7%	41.5%	40.9%					
Disabled	target					40.9%	42.9%	44.9%	46.9%	48.9%	50.9%
Non-Disabled	historical	87.6%	88.8%	87.2%	85.5%	88.5%					
Non-Disabled	target					88.5%	89.4%	90.3%	91.2%	92.1%	93.0%
Disadvantaged	historical	63.7%	67.4%	65.5%	64.7%	67.4%					
Disadvantaged	target					67.4%	69.7%	72.0%	74.3%	76.6%	78.9%
Non-Disadvantaged	historical	86.9%	88.3%	87.7%	85.7%	88.7%					
Non-Disadvantaged	target					88.7%	89.3%	89.9%	90.5%	91.1%	91.7%
All Students	historical	81.6%	82.7%	81.2%	79.0%	81.4%					
All Students	target					81.4%	82.4%	83.4%	84.4%	85.4%	86.4%




Ohio Graduation Test - 10th Grade Math -Targets without RTTT
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
85.9% 87.2% 86.4% 84.6% 86.5% 87.3% 88.1% 88.9% 89.7% 90.5%
86.3% 71.2% 68.0% 66.8% 69.5% 71.0% 72.6% 74.0% 75.5% 77.0%
57.1% 59.7% 56.4% 53.7% 59.2% 61.6% 64.0% 66.4% 68.8% 71.2%
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target


Ohio Graduation Test -10th Grade Math -Targets without RTTT
Limited English Proficiency (LEP) and Non-LEP
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
81.9% 82.9% 81.4% 79.3% 81.7% 82.7% 83.7% 84.7% 85.7% 86.7%
57.2% 61.2% 58.7% 54.5% 61.1% 62.6% 64.0% 65.5% 67.0% 68.4%
LEP historical
LEP target
non-LEP historical
non-LEP target

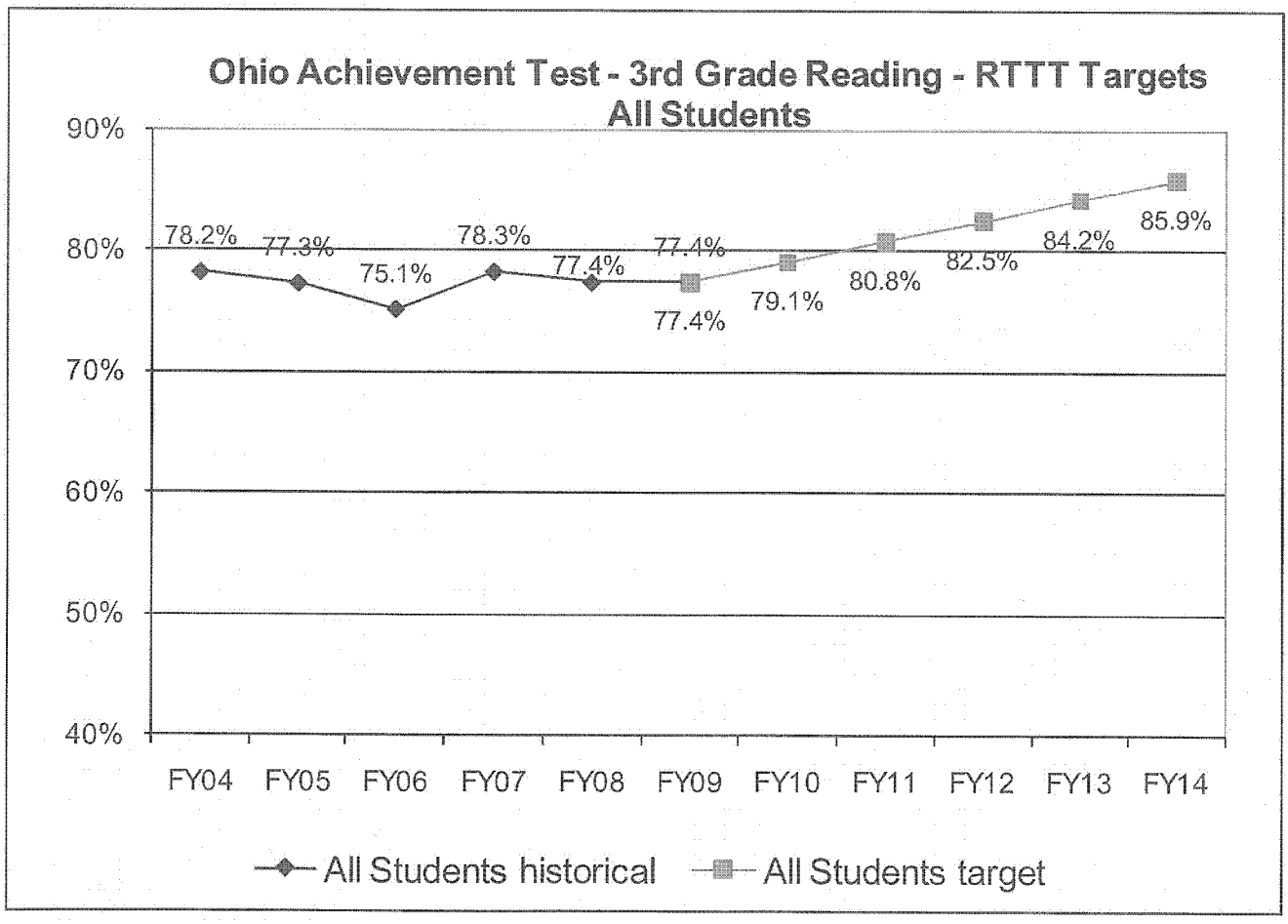

Ohio Graduation Test - 10th Grade Math -Targets without RTTT
Students with Disabilities and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
30%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
87.6% 88.8% 87.2% 85.5% 88.5% 89.4% 90.3% 91.2% 92.1% 93.0%
39.6% 45.0% 44.7% 41.5% 40.9% 42.9% 44.9% 46.9% 48.9% 50.9%
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

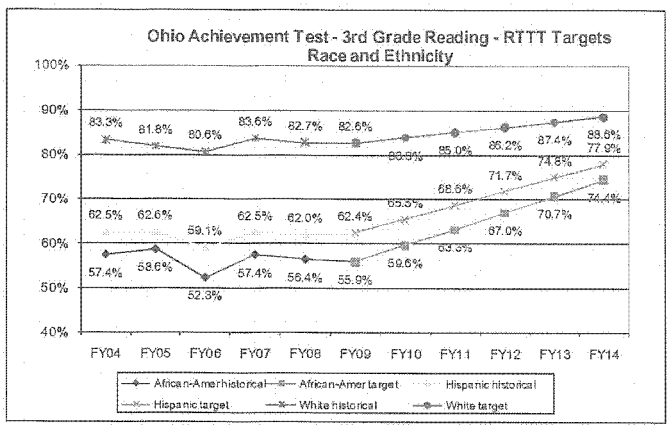

Ohio Graduation Test - 10th Grade Math -Targets without RTTT
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
86.9% 88.3% 87.7% 85.7% 88.7% 89.3% 89.9% 90.5% 91.1% 91.7%
63.7% 67.4% 65.5% 64.7% 67.4% 69.7% 72.0% 74.3% 76.6% 78.9%
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

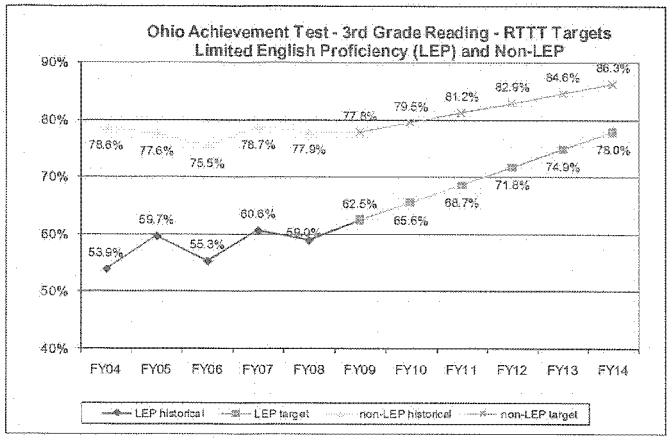
ESEA – OAT/OGT READING

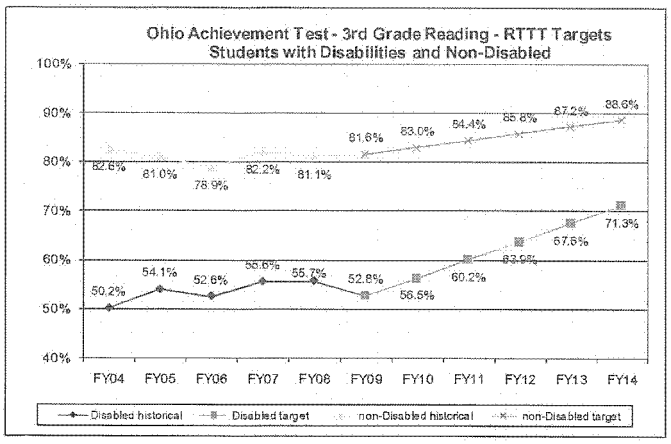
RttT Targets for the 3rd Grade OAT Reading Assessment
Percent of Students by Subgroup At Least Proficient

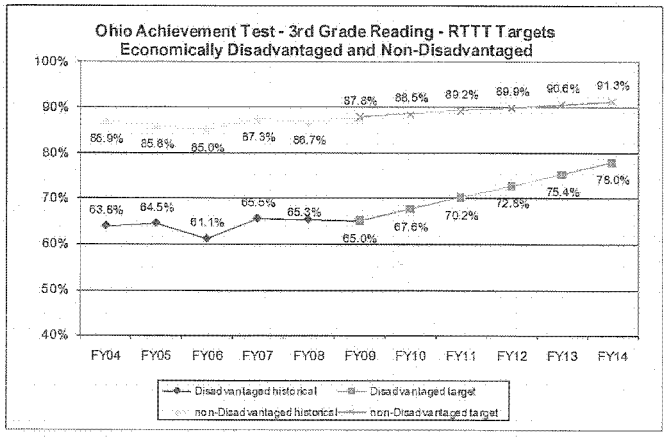
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	57.4%	58.6%	52.3%	57.4%	56.4%	55.9%					
African-American	target						55.9%	59.6%	63.3%	67.0%	70.7%	74.4%
Hispanic	historical	62.5%	62.6%	59.1%	62.5%	62.0%	62.4%					
Hispanic	target						62.4%	65.5%	68.6%	71.7%	74.8%	77.9%
White	historical	83.3%	81.8%	80.6%	83.6%	82.7%	82.6%					
White	target						82.6%	83.8%	85.0%	86.2%	87.4%	88.6%
LEP	historical	53.9%	59.7%	55.3%	60.6%	59.0%	62.5%					
LEP	target						62.5%	65.6%	68.7%	71.8%	74.9%	78.0%
Non-LEP	historical	78.6%	77.6%	75.5%	78.7%	77.9%	77.8%					
Non-LEP	target						77.8%	79.5%	81.2%	82.9%	84.6%	86.3%
Disabled	historical	50.2%	54.1%	52.6%	55.6%	55.7%	52.8%					
Disabled	target						52.8%	56.5%	60.2%	63.9%	67.6%	71.3%
Non-Disabled	historical	82.6%	81.0%	78.9%	82.2%	81.1%	81.6%					
Non-Disabled	target						81.6%	83.0%	84.4%	85.8%	87.2%	88.6%
Disadvantaged	historical	63.8%	64.5%	61.1%	65.5%	65.3%	65.0%					
Disadvantaged	target						65.0%	67.6%	70.2%	72.8%	75.4%	78.0%
Non-Disadvantaged	historical	86.9%	85.8%	85.0%	87.3%	86.7%	87.8%					
Non-Disadvantaged	target						87.8%	88.5%	89.2%	89.9%	90.6%	91.3%
All Students	historical	78.2%	77.3%	75.1%	78.3%	77.4%	77.4%					
All Students	target						77.4%	79.1%	80.8%	82.5%	84.2%	85.9%




Ohio Achievement Test - 3rd Grade Reading - RTTT Targets
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

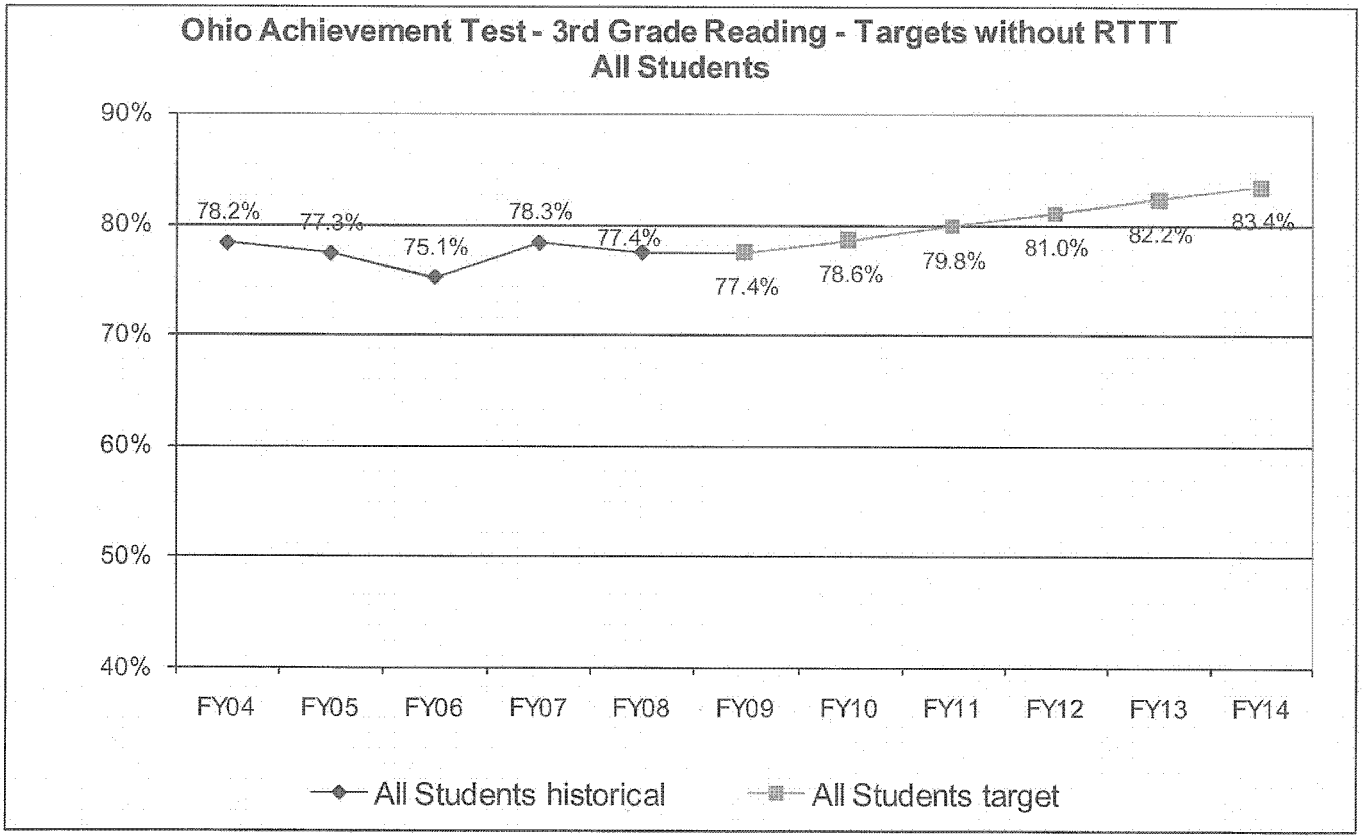

Ohio Achievement Test - 3rd Grade Reading - RTTT Targets
Limited English Proficiency (LEP) and Non-LEP
90%
80%
70%
60%
50%
40%
FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

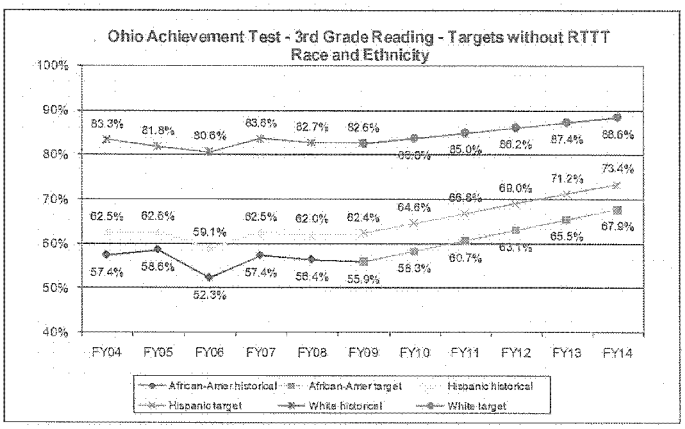

Ohio Achievement Test - 3rd Grade Reading - RTTT Targets
Students with Disabilities and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

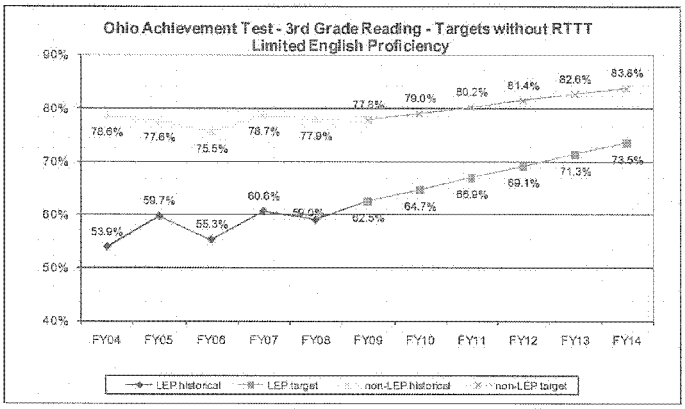

Ohio Achievement Test - 3rd Grade Reading - RTTT Targets
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

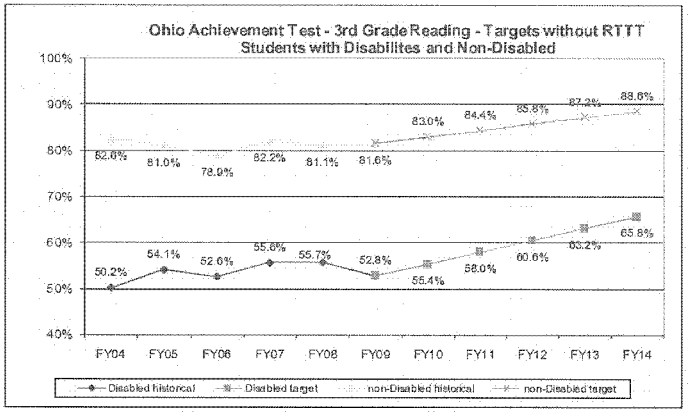
Targets Without RttT for the 3rd Grade OAT Math Assessment
Percent of Students by Subgroup At Least Proficient

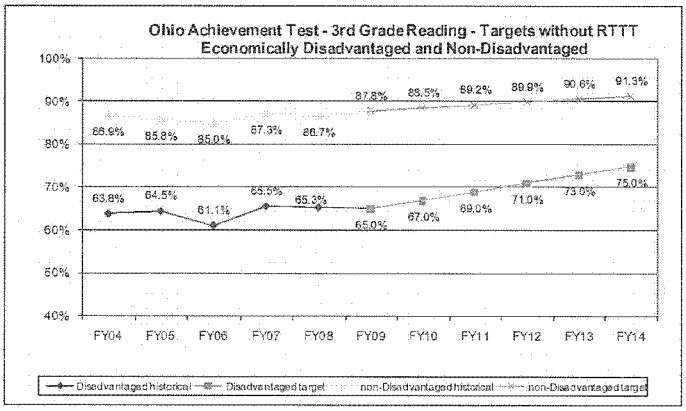
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	57.4%	58.6%	52.3%	57.4%	56.4%	55.9%					
African-American	target						55.9%	58.3%	60.7%	63.1%	65.5%	67.9%
Hispanic	historical	62.5%	62.6%	59.1%	62.5%	62.0%	62.4%					
Hispanic	target						62.4%	64.6%	66.8%	69.0%	71.2%	73.4%
White	historical	83.3%	81.8%	80.6%	83.6%	82.7%	82.6%					
White	target						82.6%	83.8%	85.0%	86.2%	87.4%	88.6%
LEP	historical	53.9%	59.7%	55.3%	60.6%	59.0%	62.5%					
LEP	target						62.5%	64.7%	66.9%	69.1%	71.3%	73.5%
Non-LEP	historical	78.6%	77.6%	75.5%	78.7%	77.9%	77.8%					
Non-LEP	target						77.8%	79.0%	80.2%	81.4%	82.6%	83.8%
Disabled	historical	50.2%	54.1%	52.6%	55.6%	55.7%	52.8%					
Disabled	target						52.8%	55.4%	58.0%	60.6%	63.2%	65.8%
Non-Disabled	historical	82.6%	81.0%	78.9%	82.2%	81.1%	81.6%					
Non-Disabled	target						81.6%	83.0%	84.4%	85.8%	87.2%	88.6%
Disadvantaged	historical	63.8%	64.5%	61.1%	65.5%	65.3%	65.0%					
Disadvantaged	target						65.0%	67.0%	69.0%	71.0%	73.0%	75.0%
Non-Disadvantaged	historical	86.9%	85.8%	85.0%	87.3%	86.7%	87.8%					
Non-Disadvantaged	target						87.8%	88.5%	89.2%	89.9%	90.6%	91.3%
All Students	historical	78.2%	77.3%	75.1%	78.3%	77.4%	77.4%					
All Students	target						77.4%	78.6%	79.8%	81.0%	82.2%	83.4%




Ohio Achievement Test - 3rd Grade Reading - Targets without RTTT
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

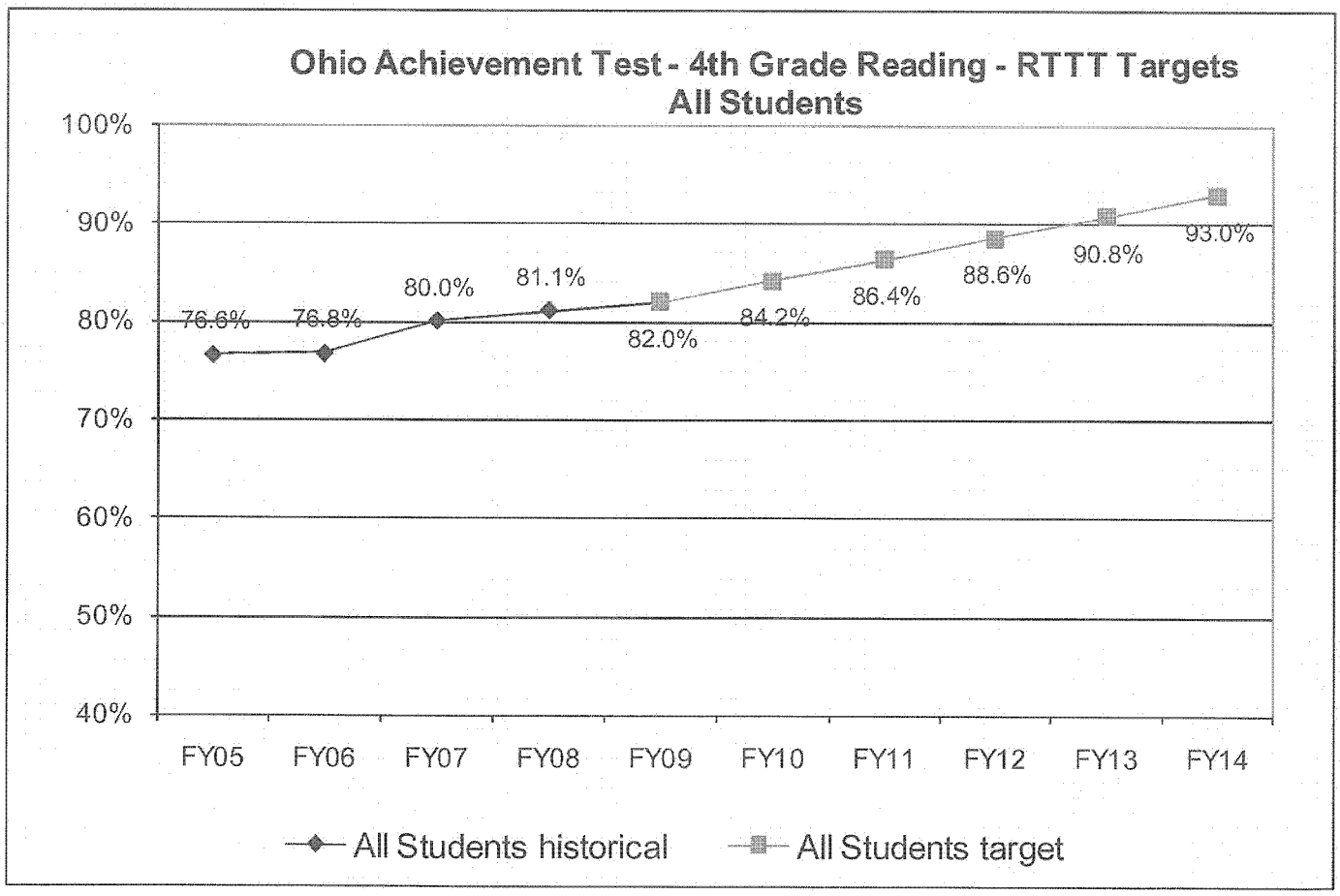

Ohio Achievement Test - 3rd Grade Reading - Targets without RTTT
Limited English Proficiency
90%
80%
70%
60%
50%
40%
FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

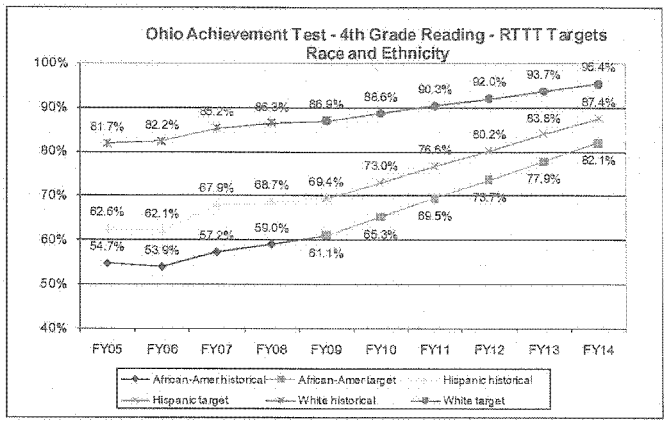

Ohio Achievement Test - 3rd Grade Reading - Targets without RTTT
Students with Disabilites and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

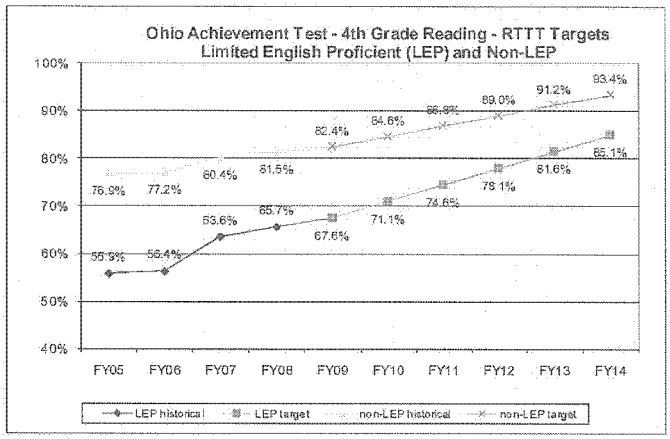

Ohio Achievement Test - 3rd Grade Reading - Targets without RTTT
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

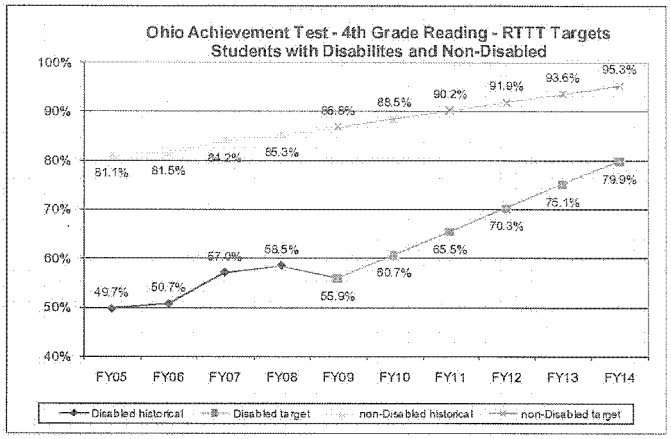
RttT Targets for the 4th Grade OAT Reading Assessment
Percent of Students by Subgroup At Least Proficient

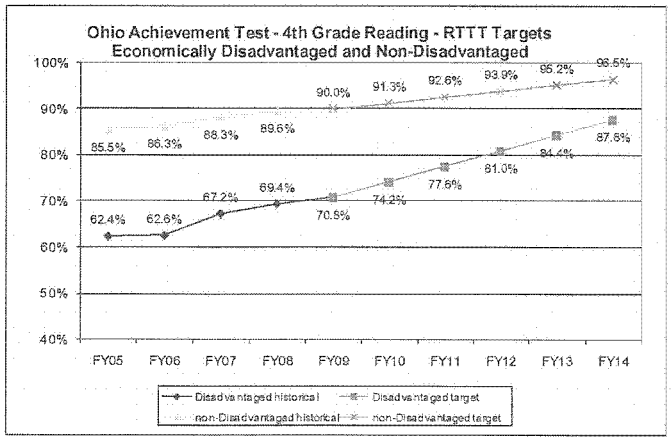
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical		54.7%	53.9%	57.2%	59.0%	61.1%					
African-American	target						61.1%	65.3%	69.5%	73.7%	77.9%	82.1%
Hispanic	historical		62.6%	62.1%	67.9%	68.7%	69.4%					
Hispanic	target						69.4%	73.0%	76.6%	80.2%	83.8%	87.4%
White	historical		81.7%	82.2%	85.2%	86.3%	86.9%					
White	target						86.9%	88.6%	90.3%	92.0%	93.7%	95.4%
LEP	historical		55.9%	56.4%	63.6%	65.7%	67.6%					
LEP	target						67.6%	71.1%	74.6%	78.1%	81.6%	85.1%
Non-LEP	historical		76.9%	77.2%	80.4%	81.5%	82.4%					
Non-LEP	target						82.4%	84.6%	86.8%	89.0%	91.2%	93.4%
Disabled	historical		49.7%	50.7%	57.0%	58.5%	55.9%					
Disabled	target						55.9%	60.7%	65.5%	70.3%	75.1%	79.9%
Non-Disabled	historical		81.1%	81.5%	84.2%	85.3%	86.8%					
Non-Disabled	target						86.8%	88.5%	90.2%	91.9%	93.6%	95.3%
Disadvantaged	historical		62.4%	62.6%	67.2%	69.4%	70.8%					
Disadvantaged	target						70.8%	74.2%	77.6%	81.0%	84.4%	87.8%
Non-Disadvantaged	historical		85.5%	86.3%	88.3%	89.6%	90.0%					
Non-Disadvantaged	target						90.0%	91.3%	92.6%	93.9%	95.2%	96.5%
All Students	historical		76.6%	76.8%	80.0%	81.1%	82.0%					
All Students	target						82.0%	84.2%	86.4%	88.6%	90.8%	93.0%




Ohio Achievement Test - 4th Grade Reading - RTTT Targets
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
81.7% 82.2% 85.2% 86.3% 86.9% 88.6% 90.3% 92.0% 93.7% 95.4%
82.6% 82.1% 87.4%
83.8%
80.2%
76.6%
73.0%
67.9% 68.7% 69.4%
82.1%
77.9%
73.7%
69.5%
65.3%
62.6% 62.1% 57.2% 59.0% 61.1%
54.7% 53.9%
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

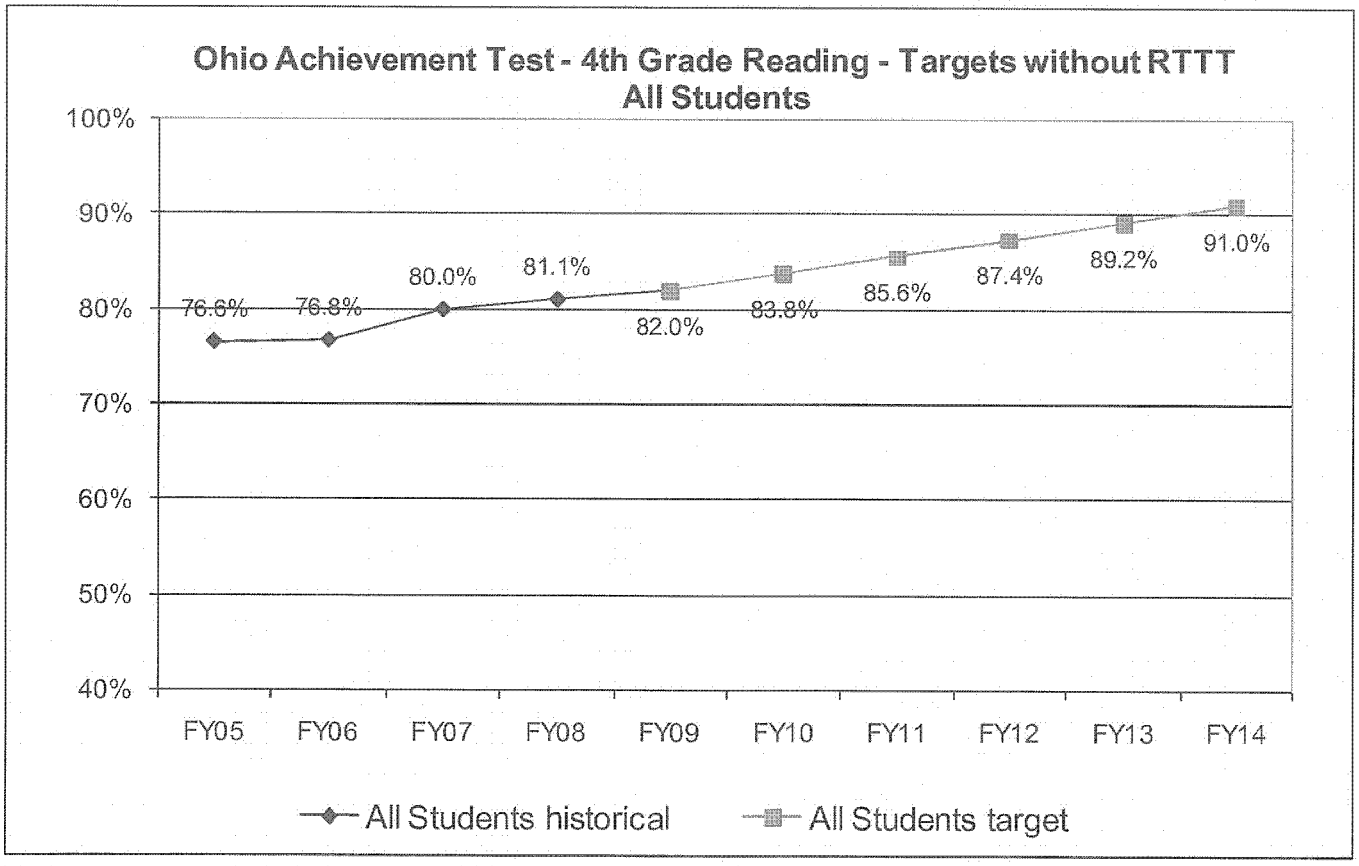

Ohio Achievement Test - 4th Grade Reading - RTTT Targets
Limited English Proficient (LEP) and Non-LEP
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
93.4%
91.2%
89.0%
86.9%
84.6%
82.4%
81.6%
78.1%
74.6%
71.1%
67.6%
65.7%
63.6%
81.5%
80.4%
77.2%
76.9%
65.1%
56.4%
55.9%
LEP historical
LEP target
non-LEP historical
non-LEP target

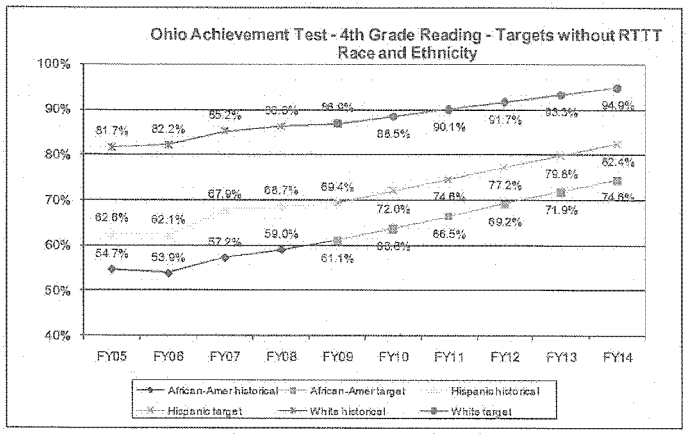

Ohio Achievement Test - 4th Grade Reading - RTTT Targets
Students with Disabilites and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
95.3%
93.6%
91.9%
90.2%
88.5%
86.8%
85.3%
84.2%
81.1% 81.5%
79.9%
75.1%
70.3%
65.5%
60.7%
58.5%
57.0%
55.9%
50.7%
49.7%
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

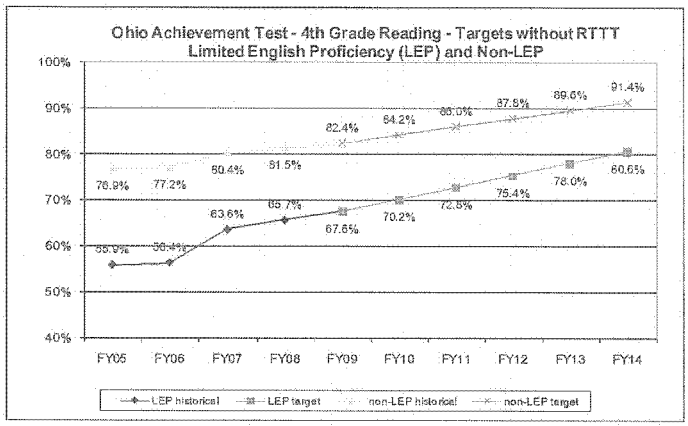

Ohio Achievement Test - 4th Grade Reading - RTTT Targets
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
96.5%
95.2%
93.9%
92.6%
91.3%
90.0%
89.6%
88.3%
86.3% 85.5%
87.6%
84.4%
81.0%
77.6%
74.2%
70.8%
69.4%
67.2%
62.6% 62.4%
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

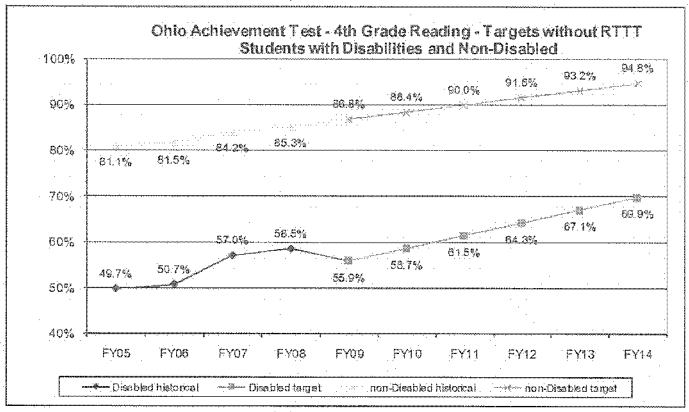
Targets Without RttT for the 4th Grade OAT Math Assessment
Percent of Students by Subgroup At Least Proficient

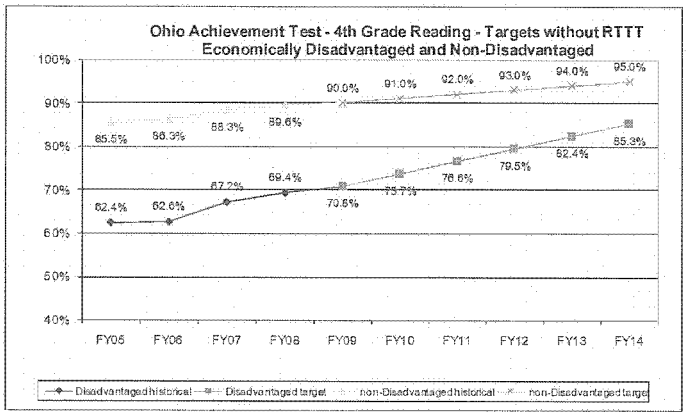
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical		54.7%	53.9%	57.2%	59.0%	61.1%					
African-American	target						61.1%	63.8%	66.5%	69.2%	71.9%	74.6%
Hispanic	historical		62.6%	62.1%	67.9%	68.7%	69.4%					
Hispanic	target						69.4%	72.0%	74.6%	77.2%	79.8%	82.4%
White	historical		81.7%	82.2%	85.2%	86.3%	86.9%					
White	target						86.9%	88.5%	90.1%	91.7%	93.3%	94.9%
LEP	historical		55.9%	56.4%	63.6%	65.7%	67.6%					
LEP	target						67.6%	70.2%	72.8%	75.4%	78.0%	80.6%
Non-LEP	historical		76.9%	77.2%	80.4%	81.5%	82.4%					
Non-LEP	target						82.4%	84.2%	86.0%	87.8%	89.6%	91.4%
Disabled	historical		49.7%	50.7%	57.0%	58.5%	55.9%					
Disabled	target						55.9%	58.7%	61.5%	64.3%	67.1%	69.9%
Non-Disabled	historical		81.1%	81.5%	84.2%	85.3%	86.8%					
Non-Disabled	target						86.8%	88.4%	90.0%	91.6%	93.2%	94.8%
Disadvantaged	historical		62.4%	62.6%	67.2%	69.4%	70.8%					
Disadvantaged	target						70.8%	73.7%	76.6%	79.5%	82.4%	85.3%
Non-Disadvantaged	historical		85.5%	86.3%	88.3%	89.6%	90.0%					
Non-Disadvantaged	target						90.0%	91.0%	92.0%	93.0%	94.0%	95.0%
All Students	historical		76.6%	76.8%	80.0%	81.1%	82.0%					
All Students	target						82.0%	83.8%	85.6%	87.4%	89.2%	91.0%




Ohio Achievement Test - 4th Grade Reading - Targets without RTTT
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

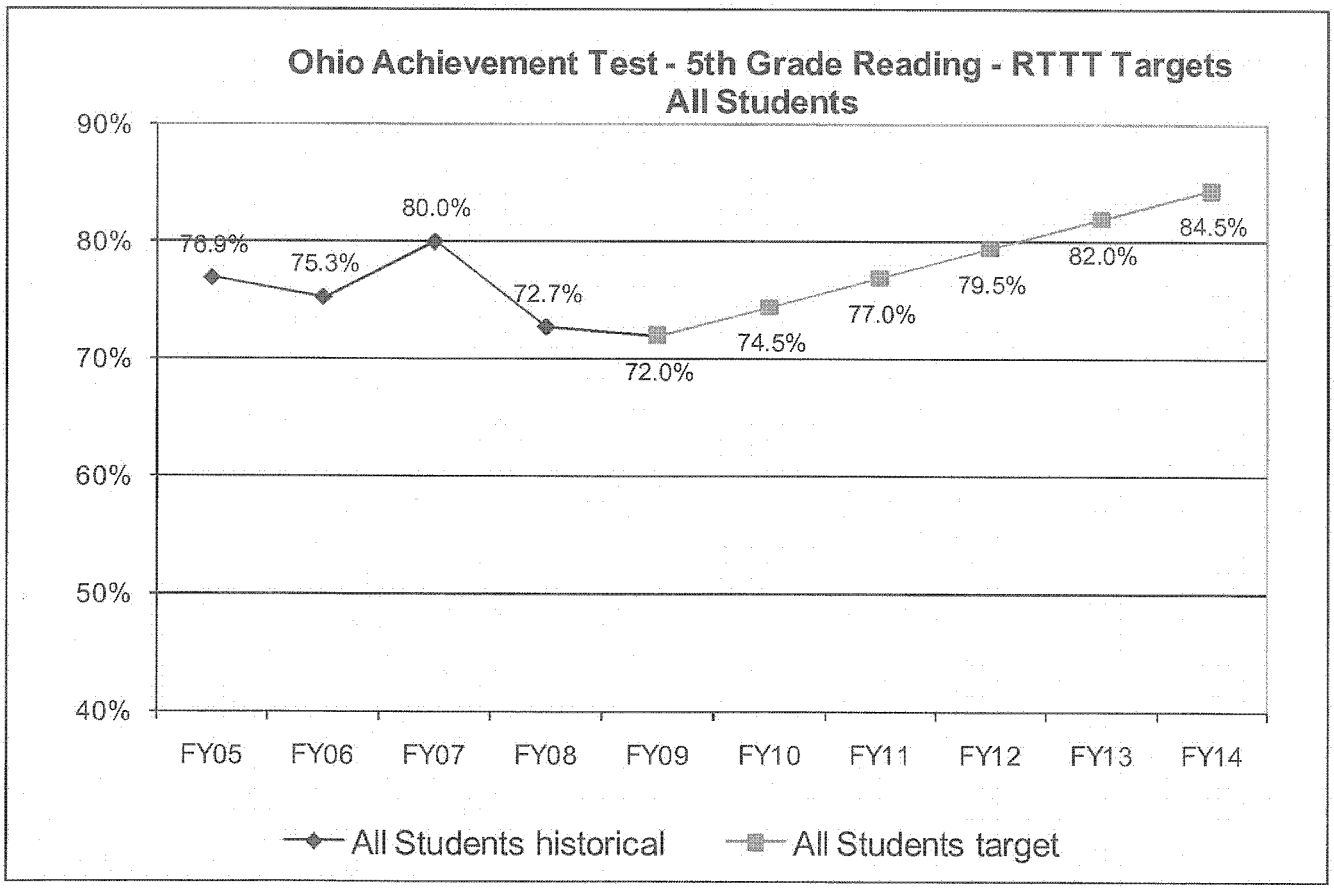

Ohio Achievement Test - 4th Grade Reading - Targets without RTTT
Limited English Proficiency (LEP) and Non-LEP
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

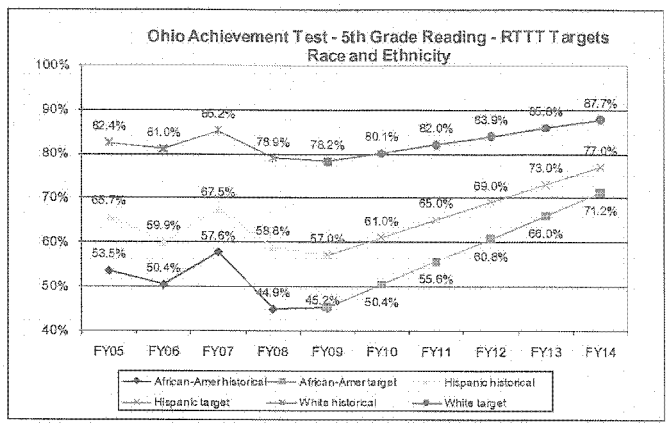

Ohio Achievement Test - 4th Grade Reading - Targets without RTTT
Students with Disabilities and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

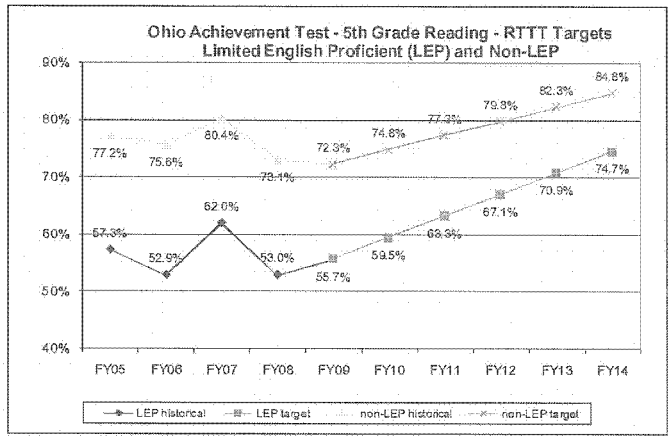

Ohio Achievement Test - 4th Grade Reading - Targets without RTTT
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

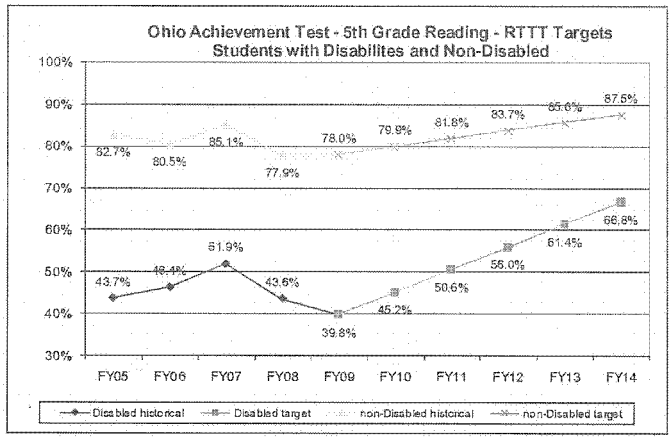
RttT Targets for the 5th Grade OAT Reading Assessment
Percent of Students by Subgroup At Least Proficient

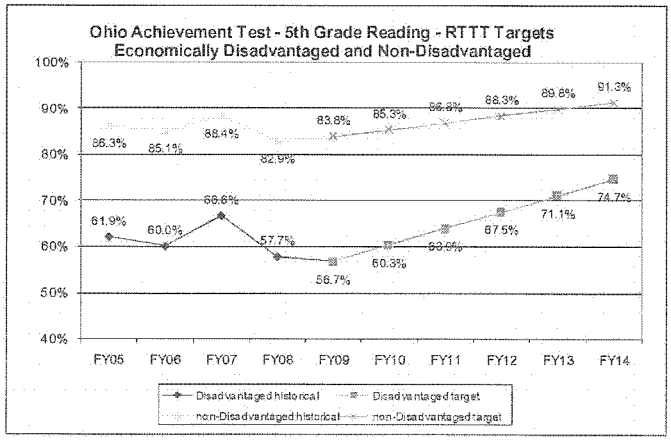
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical		53.5%	50.4%	57.6%	44.9%	45.2%					
African-American	target						45.2%	50.4%	55.6%	60.8%	66.0%	71.2%
Hispanic	historical		65.7%	59.9%	67.5%	58.8%	57.0%					
Hispanic	target						57.0%	61.0%	65.0%	69.0%	73.0%	77.0%
White	historical		82.4%	81.0%	85.2%	78.9%	78.2%					
White	target						78.2%	80.1%	82.0%	83.9%	85.8%	87.7%
LEP	historical		57.3%	52.9%	62.0%	53.0%	55.7%					
LEP	target						55.7%	59.5%	63.3%	67.1%	70.9%	74.7%
Non-LEP	historical		77.2%	75.6%	80.4%	73.1%	72.3%					
Non-LEP	target						72.3%	74.8%	77.3%	79.8%	82.3%	84.8%
Disabled	historical		43.7%	46.4%	51.9%	43.6%	39.8%					
Disabled	target						39.8%	45.2%	50.6%	56.0%	61.4%	66.8%
Non-Disabled	historical		82.7%	80.5%	85.1%	77.9%	78.0%					
Non-Disabled	target						78.0%	79.9%	81.8%	83.7%	85.6%	87.5%
Disadvantaged	historical		61.9%	60.0%	66.6%	57.7%	56.7%					
Disadvantaged	target						56.7%	60.3%	63.9%	67.5%	71.1%	74.7%
Non-Disadvantaged	historical		86.3%	85.1%	88.4%	82.9%	83.8%					
Non-Disadvantaged	target						83.8%	85.3%	86.8%	88.3%	89.8%	91.3%
All Students	historical		76.9%	75.3%	80.0%	72.7%	72.0%					
All Students	target						72.0%	74.5%	77.0%	79.5%	82.0%	84.5%




Ohio Achievement Test - 5th Grade Reading - RTTT Targets
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

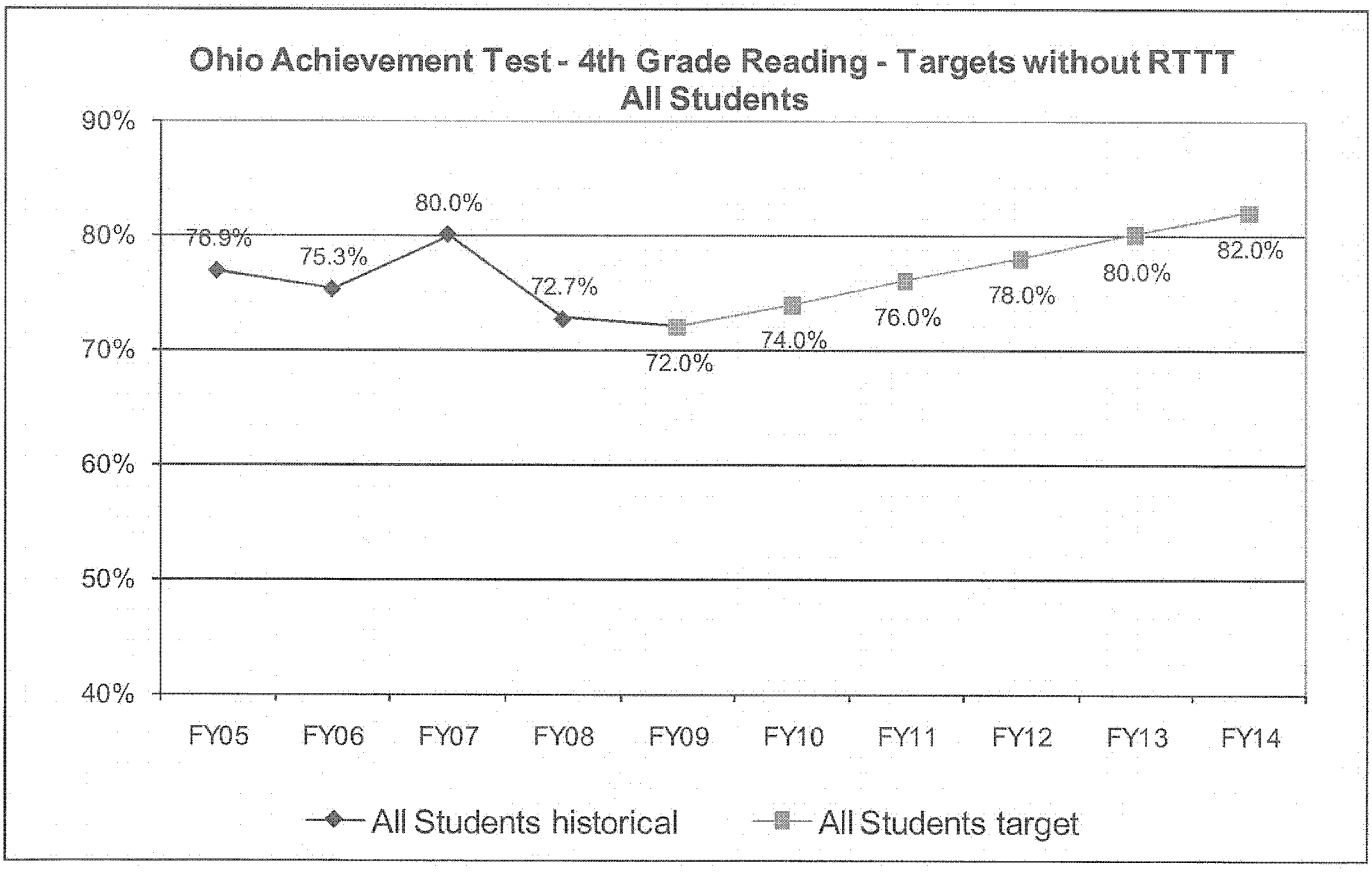

Ohio Achievement Test - 5th Grade Reading - RTTT Targets
Limited English Proficient (LEP) and Non-LEP
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

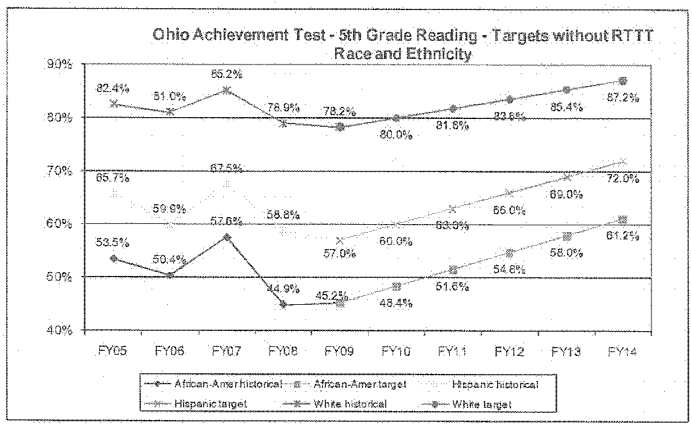

Ohio Achievement Test - 5th Grade Reading - RTTT Targets
Students with Disabilites and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
30%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

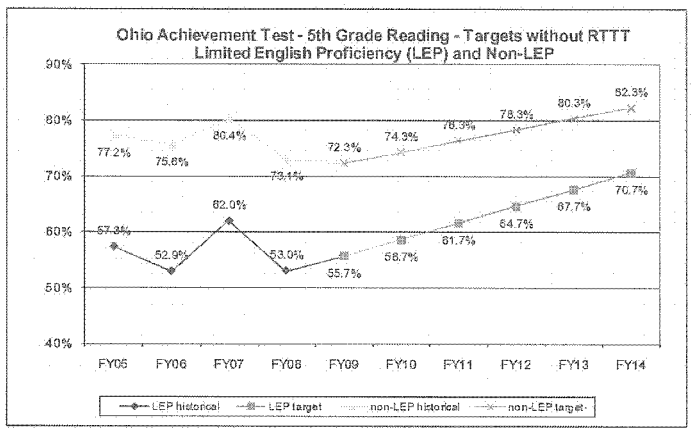

Ohio Achievement Test - 5th Grade Reading - RTTT Targets
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

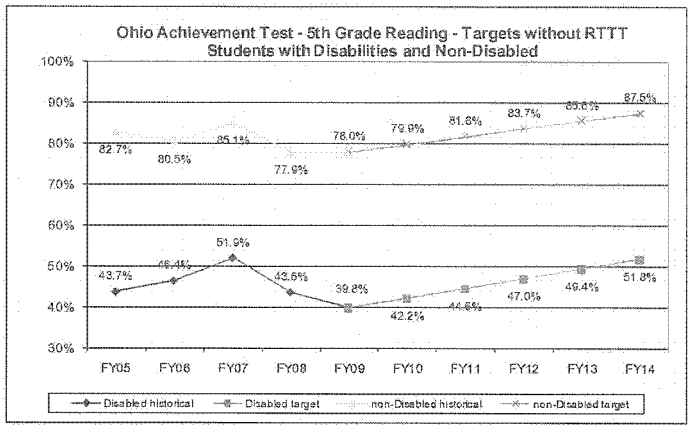
Targets Without RttT for the 5th Grade OAT Math Assessment
Percent of Students by Subgroup At Least Proficient

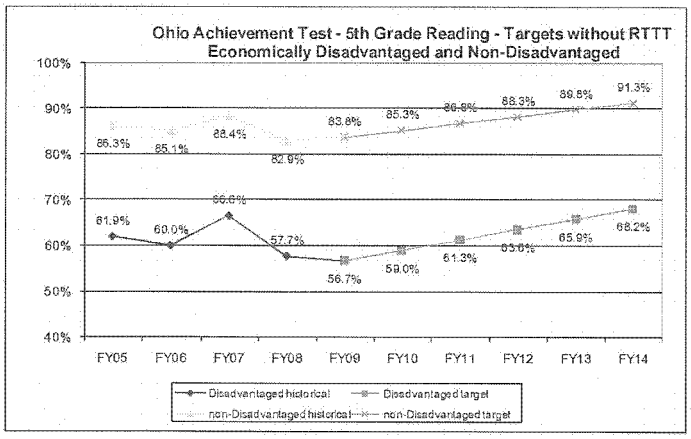
		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical		53.5%	50.4%	57.6%	44.9%	45.2%					
African-American	target						45.2%	48.4%	51.6%	54.8%	58.0%	61.2%
Hispanic	historical		65.7%	59.9%	67.5%	58.8%	57.0%					
Hispanic	target						57.0%	60.0%	63.0%	66.0%	69.0%	72.0%
White	historical		82.4%	81.0%	85.2%	78.9%	78.2%					
White	target						78.2%	80.0%	81.8%	83.6%	85.4%	87.2%
LEP	historical		57.3%	52.9%	62.0%	53.0%	55.7%					
LEP	target						55.7%	58.7%	61.7%	64.7%	67.7%	70.7%
Non-LEP	historical		77.2%	75.6%	80.4%	73.1%	72.3%					
Non-LEP	target						72.3%	74.3%	76.3%	78.3%	80.3%	82.3%
Disabled	historical		43.7%	46.4%	51.9%	43.6%	39.8%					
Disabled	target						39.8%	42.2%	44.6%	47.0%	49.4%	51.8%
Non-Disabled	historical		82.7%	80.5%	85.1%	77.9%	78.0%					
Non-Disabled	target						78.0%	79.9%	81.8%	83.7%	85.6%	87.5%
Disadvantaged	historical		61.9%	60.0%	66.6%	57.7%	56.7%					
Disadvantaged	target						56.7%	59.0%	61.3%	63.6%	65.9%	68.2%
Non-Disadvantaged	historical		86.3%	85.1%	88.4%	82.9%	83.8%					
Non-Disadvantaged	target						83.8%	85.3%	86.8%	88.3%	89.8%	91.3%
All Students	historical		76.9%	75.3%	80.0%	72.7%	72.0%					
All Students	target						72.0%	74.0%	76.0%	78.0%	80.0%	82.0%




Ohio Achievement Test - 5th Grade Reading - Targets without RTTT
Race and Ethnicity
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

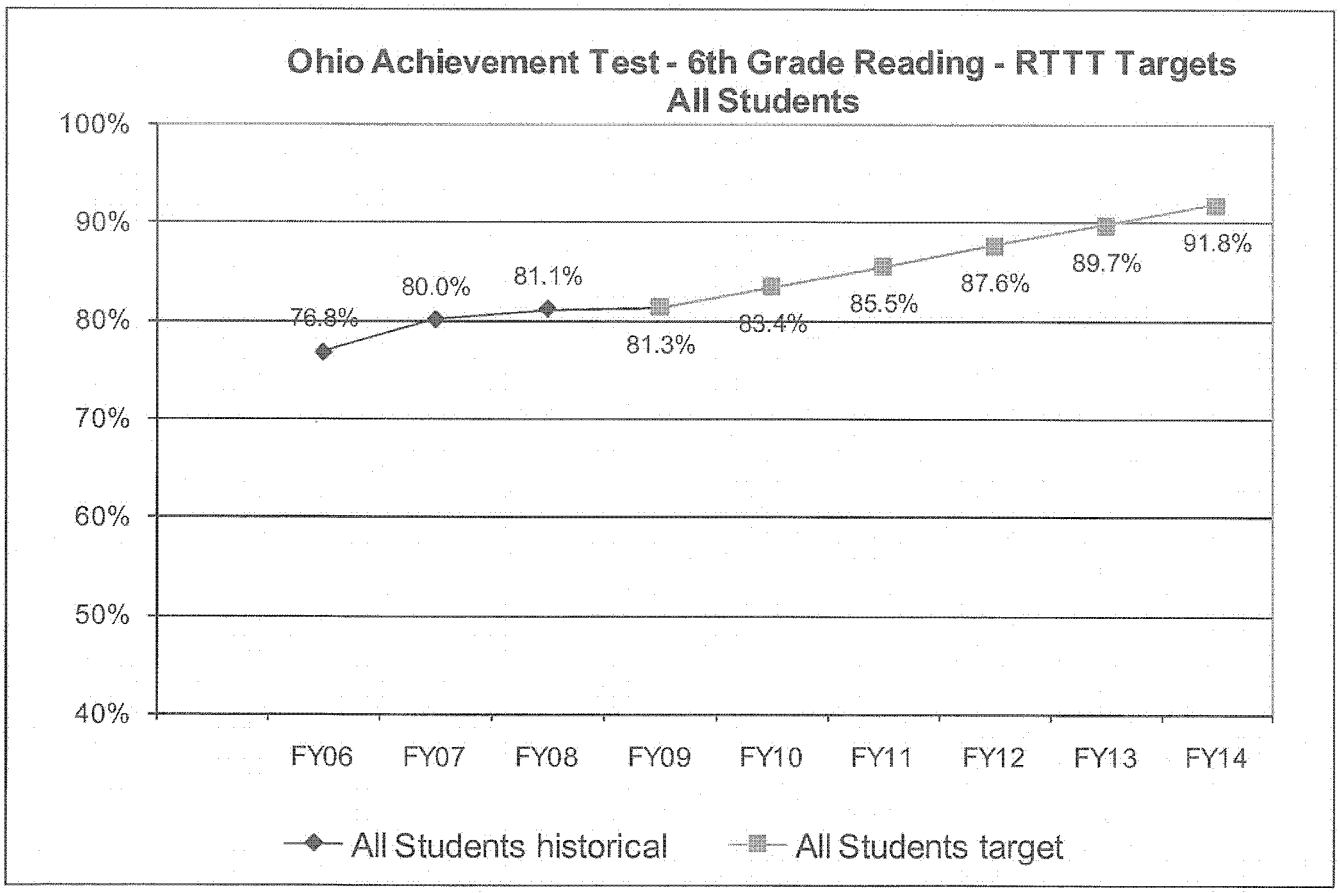

Ohio Achievement Test - 5th Grade Reading - Targets without RTTT
Limited English Proficiency (LEP) and Non-LEP
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

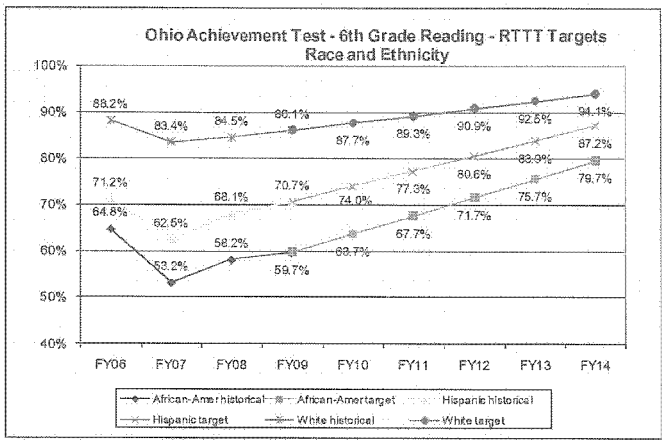

Ohio Achievement Test - 5th Grade Reading - Targets without RTTT
Students with Disabilities and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
30%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

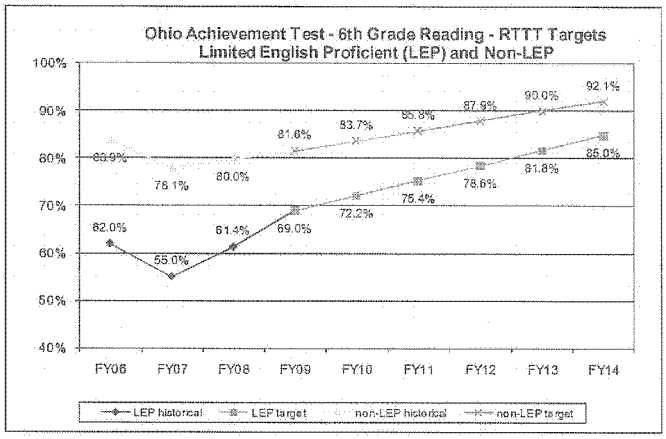

Ohio Achievement Test - 5th Grade Reading - Targets without RTTT
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

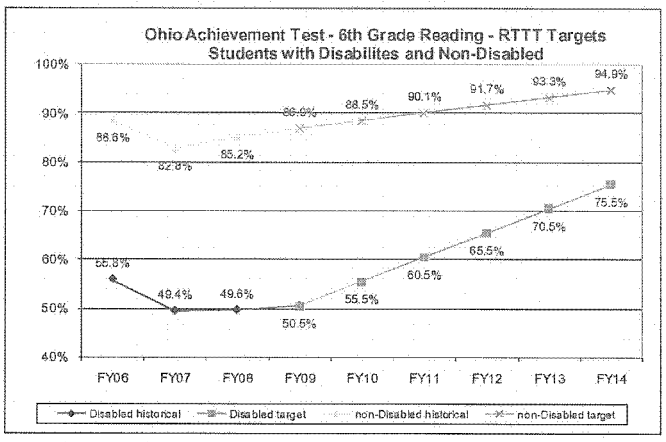
RttT Targets for the 6th Grade OAT Reading Assessment
Percent of Students by Subgroup At Least Proficient

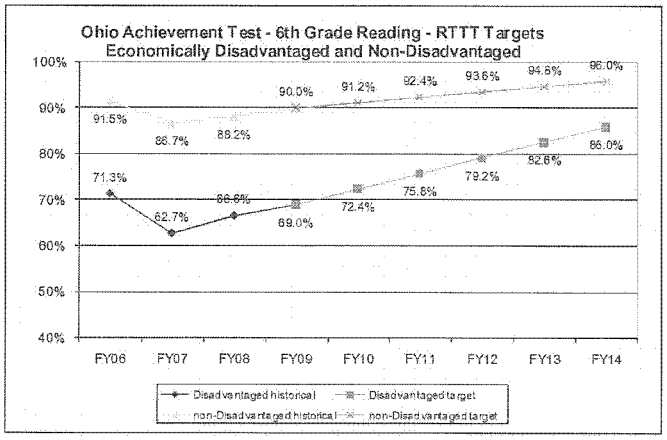
		2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	64.8%	53.2%	58.2%	59.7%					
African-American	target				59.7%	63.7%	67.7%	71.7%	75.7%	79.7%
Hispanic	historical	71.2%	62.5%	68.1%	70.7%					
Hispanic	target				70.7%	74.0%	77.3%	80.6%	83.9%	87.2%
White	historical	88.2%	83.4%	84.5%	86.1%					
White	target				86.1%	87.7%	89.3%	90.9%	92.5%	94.1%
LEP	historical	62.0%	55.0%	61.4%	69.0%					
LEP	target				69.0%	72.2%	75.4%	78.6%	81.8%	85.0%
Non-LEP	historical	83.9%	78.1%	80.0%	81.6%					
Non-LEP	target				81.6%	83.7%	85.8%	87.9%	90.0%	92.1%
Disabled	historical	55.8%	49.4%	49.6%	50.5%					
Disabled	target				50.5%	55.5%	60.5%	65.5%	70.5%	75.5%
Non-Disabled	historical	88.6%	82.8%	85.2%	86.9%					
Non-Disabled	target				86.9%	88.5%	90.1%	91.7%	93.3%	94.9%
Disadvantaged	historical	71.3%	62.7%	66.6%	69.0%					
Disadvantaged	target				69.0%	72.4%	75.8%	79.2%	82.6%	86.0%
Non-Disadvantaged	historical	91.5%	86.7%	88.2%	90.0%					
Non-Disadvantaged	target				90.0%	91.2%	92.4%	93.6%	94.8%	96.0%
All Students	historical	76.8%	80.0%	81.1%	81.3%					
All Students	target				81.3%	83.4%	85.5%	87.6%	89.7%	91.8%




Ohio Achievement Test - 6th Grade Reading - RTTT Targets
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
88.2%
83.4%
84.5%
86.1%
87.7%
89.3%
90.9%
92.5%
94.1%
71.2%
64.8%
62.5%
68.1%
53.2%
58.2%
59.7%
70.7%
74.0%
77.3%
80.6%
83.9%
87.2%
63.7%
67.7%
71.7%
75.7%
79.7%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

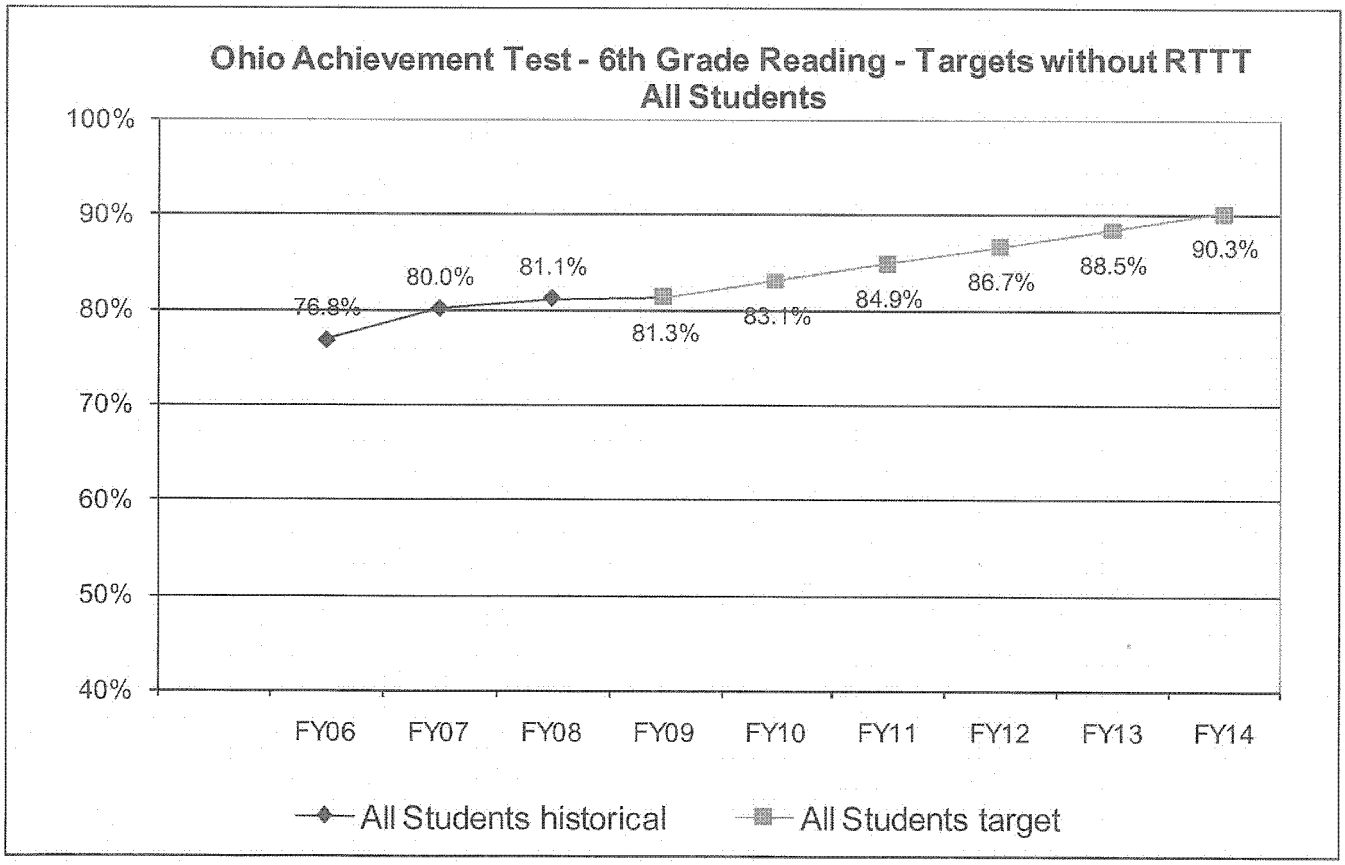

Ohio Achievement Test - 6th Grade Reading - RTTT Targets
Limited English Proficient (LEP) and Non-LEP
100%
90%
80%
70%
60%
50%
40%
83.9%
78.1%
80.0%
81.6%
83.7%
85.8%
87.9%
90.0%
92.1%
82.0%
55.0%
61.4%
69.0%
72.2%
75.4%
78.6%
81.8%
85.0%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

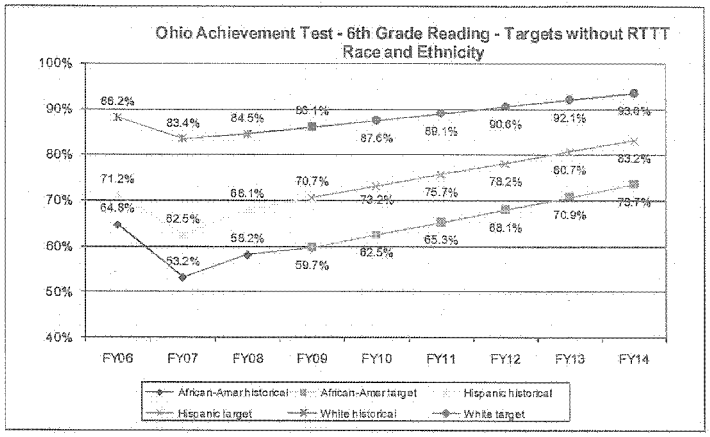

Ohio Achievement Test - 6th Grade Reading - RTTT Targets
Students with Disabilites and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
88.6%
82.8%
85.2%
86.9%
88.5%
90.1%
91.7%
93.3%
94.9%
55.8%
49.4%
49.6%
50.5%
55.5%
60.5%
65.5%
70.5%
75.5%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

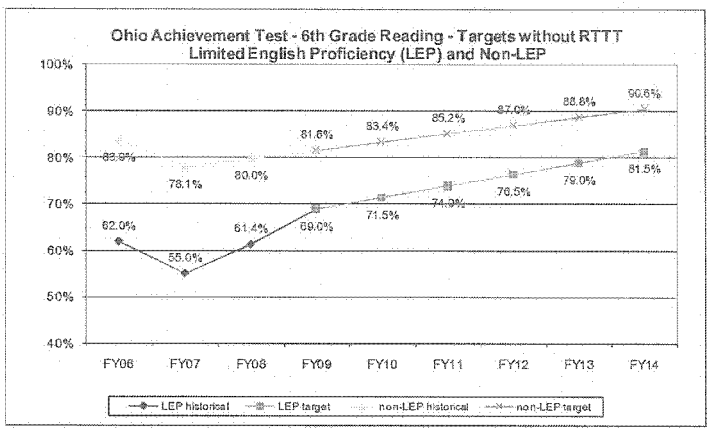

Ohio Achievement Test - 6th Grade Reading - RTTT Targets
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
91.5%
86.7%
88.2%
90.0%
91.2%
92.4%
93.6%
94.8%
96.0%
71.3%
62.7%
66.6%
69.0%
72.4%
75.8%
79.2%
82.6%
86.0%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

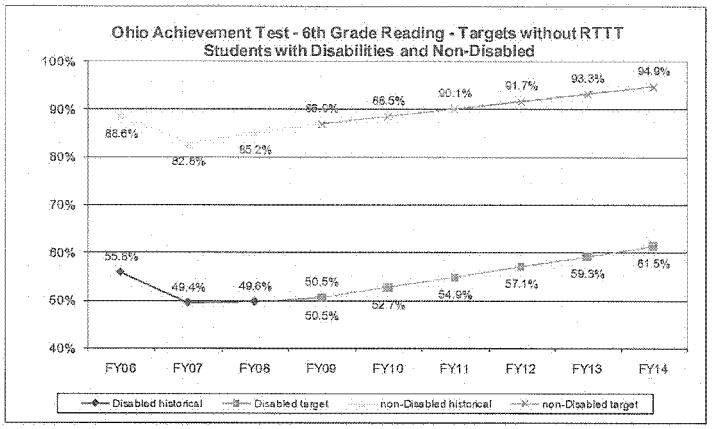
Targets Without RttT for the 6th Grade OAT Math Assessment
Percent of Students by Subgroup At Least Proficient

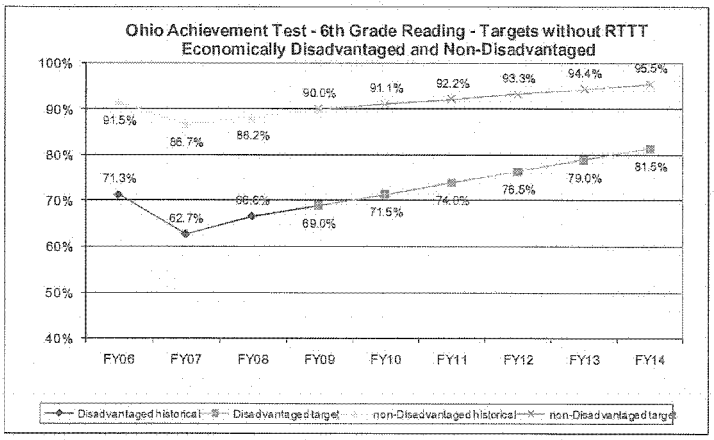
		2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	64.8%	53.2%	58.2%	59.7%					
African-American	target				59.7%	62.5%	65.3%	68.1%	70.9%	73.7%
Hispanic	historical	71.2%	62.5%	68.1%	70.7%					
Hispanic	target				70.7%	73.2%	75.7%	78.2%	80.7%	83.2%
White	historical	88.2%	83.4%	84.5%	86.1%					
White	target				86.1%	87.6%	89.1%	90.6%	92.1%	93.6%
LEP	historical	62.0%	55.0%	61.4%	69.0%					
LEP	target				69.0%	71.5%	74.0%	76.5%	79.0%	81.5%
Non-LEP	historical	83.9%	78.1%	80.0%	81.6%					
Non-LEP	target				81.6%	83.4%	85.2%	87.0%	88.8%	90.6%
Disabled	historical	55.8%	49.4%	49.6%	50.5%					
Disabled	target				50.5%	52.7%	54.9%	57.1%	59.3%	61.5%
Non-Disabled	historical	88.6%	82.8%	85.2%	86.9%					
Non-Disabled	target				86.9%	88.5%	90.1%	91.7%	93.3%	94.9%
Disadvantaged	historical	71.3%	62.7%	66.6%	69.0%					
Disadvantaged	target				69.0%	71.5%	74.0%	76.5%	79.0%	81.5%
Non-Disadvantaged	historical	91.5%	86.7%	88.2%	90.0%					
Non-Disadvantaged	target				90.0%	91.1%	92.2%	93.3%	94.4%	95.5%
All Students	historical	76.8%	80.0%	81.1%	81.3%					
All Students	target				81.3%	83.1%	84.9%	86.7%	88.5%	90.3%




Ohio Achievement Test - 6th Grade Reading - Targets without RTTT
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

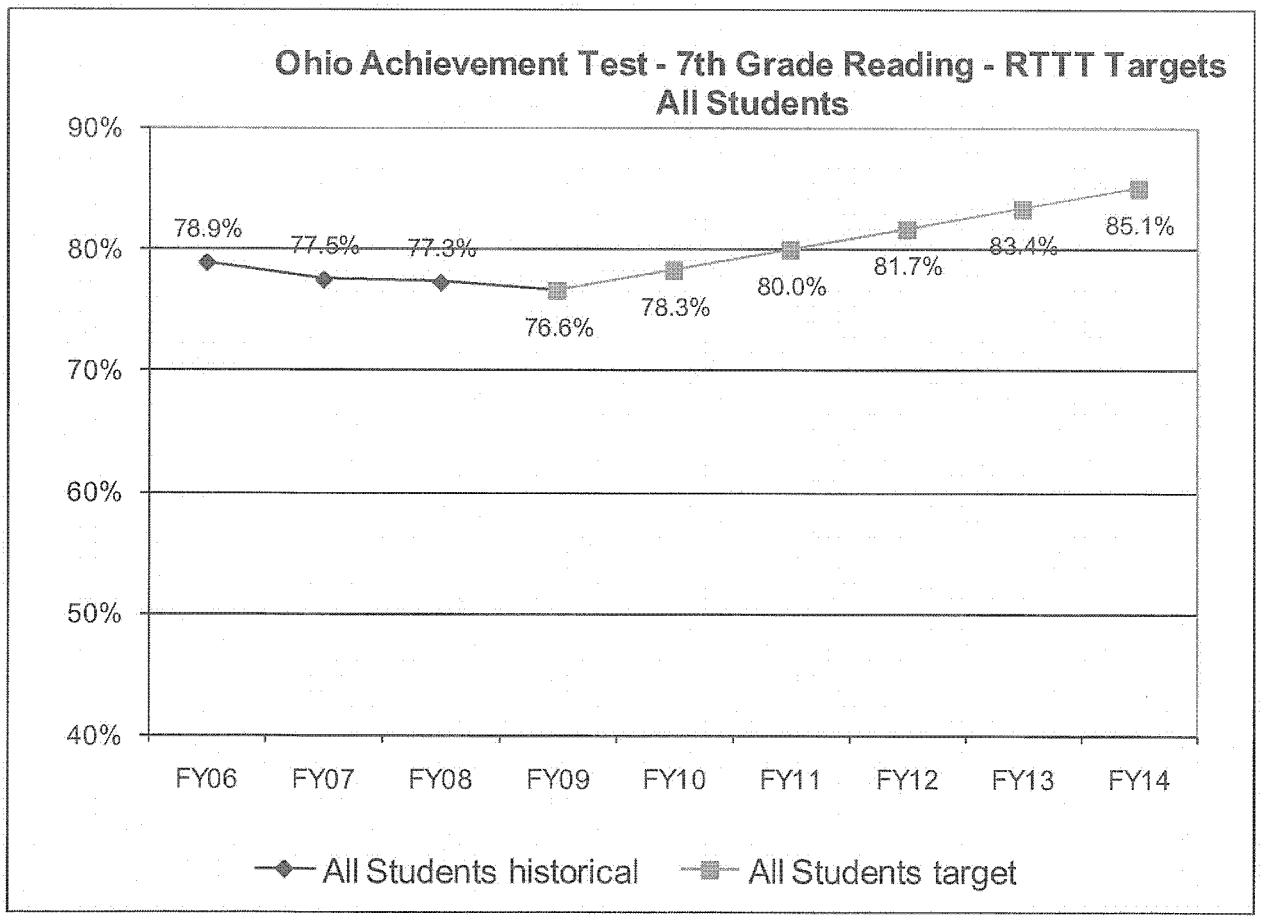

Ohio Achievement Test - 6th Grade Reading - Targets without RTTT
Limited English Proficiency (LEP) and Non-LEP
100%
90%
80%
70%
60%
50%
40%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

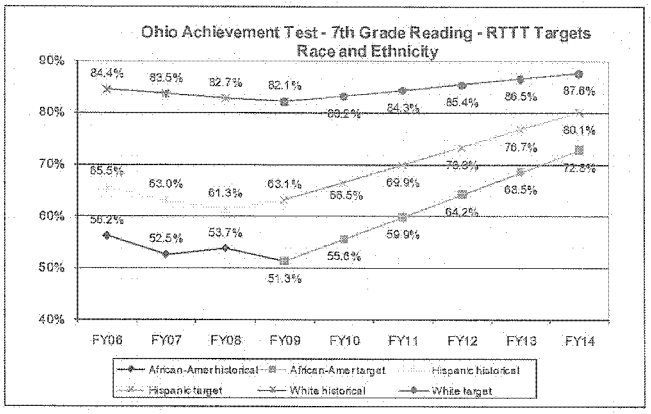

Ohio Achievement Test - 6th Grade Reading - Targets without RTTT
Students with Disabilities and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

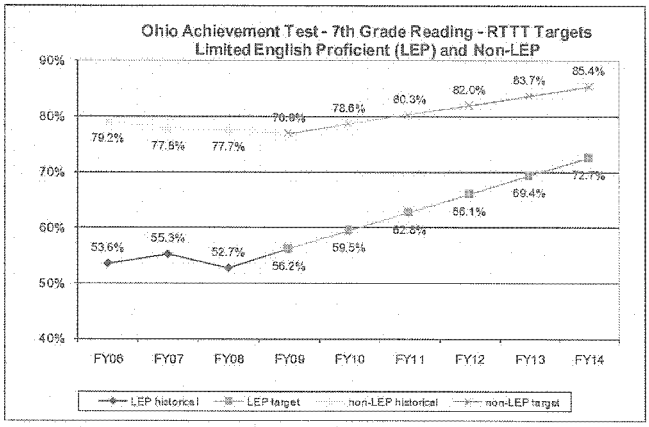

Ohio Achievement Test - 6th Grade Reading - Targets without RTTT
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

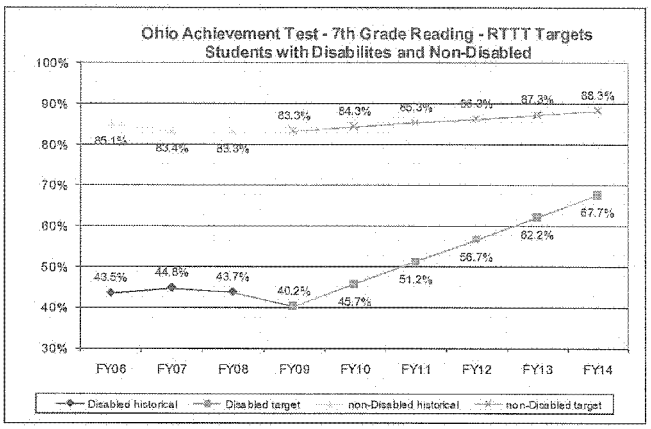
RttT Targets for the 7th Grade OAT Reading Assessment
Percent of Students by Subgroup At Least Proficient

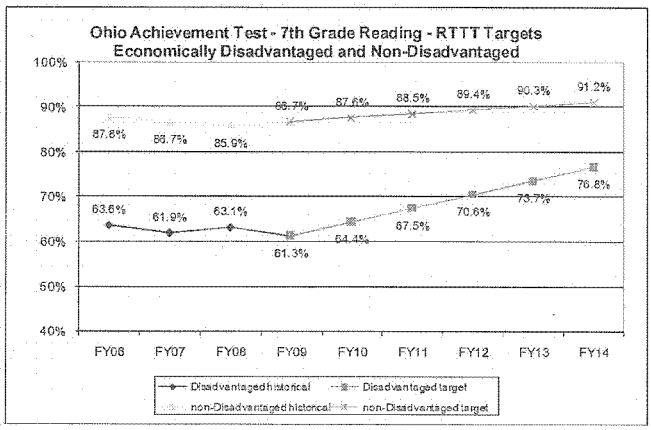
		2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	56.2%	52.5%	53.7%	51.3%					
African-American	target				51.3%	55.6%	59.9%	64.2%	68.5%	72.8%
Hispanic	historical	65.5%	63.0%	61.3%	63.1%					
Hispanic	target				63.1%	66.5%	69.9%	73.3%	76.7%	80.1%
White	historical	84.4%	83.5%	82.7%	82.1%					
White	target				82.1%	83.2%	84.3%	85.4%	86.5%	87.6%
LEP	historical	53.6%	55.3%	52.7%	56.2%					
LEP	target				56.2%	59.5%	62.8%	66.1%	69.4%	72.7%
Non-LEP	historical	79.2%	77.8%	77.7%	76.9%					
Non-LEP	target				76.9%	78.6%	80.3%	82.0%	83.7%	85.4%
Disabled	historical	43.5%	44.8%	43.7%	40.2%					
Disabled	target				40.2%	45.7%	51.2%	56.7%	62.2%	67.7%
Non-Disabled	historical	85.1%	83.4%	83.3%	83.3%					
Non-Disabled	target				83.3%	84.3%	85.3%	86.3%	87.3%	88.3%
Disadvantaged	historical	63.6%	61.9%	63.1%	61.3%					
Disadvantaged	target				61.3%	64.4%	67.5%	70.6%	73.7%	76.8%
Non-Disadvantaged	historical	87.8%	86.7%	85.9%	86.7%					
Non-Disadvantaged	target				86.7%	87.6%	88.5%	89.4%	90.3%	91.2%
All Students	historical	78.9%	77.5%	77.3%	76.6%					
All Students	target				76.6%	78.3%	80.0%	81.7%	83.4%	85.1%




Ohio Achievement Test - 7th Grade Reading - RTTT Targets
Race and Ethnicity
90%
80%
70%
60%
50%
40%
84.4%
83.5%
82.7%
82.1%
83.2%
84.3%
85.4%
86.5%
87.6%
65.5%
63.0%
61.3%
63.1%
66.5%
69.9%
73.9%
76.7%
80.1%
56.2%
52.5%
53.7%
51.3%
55.6%
59.9%
64.2%
68.5%
72.8%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

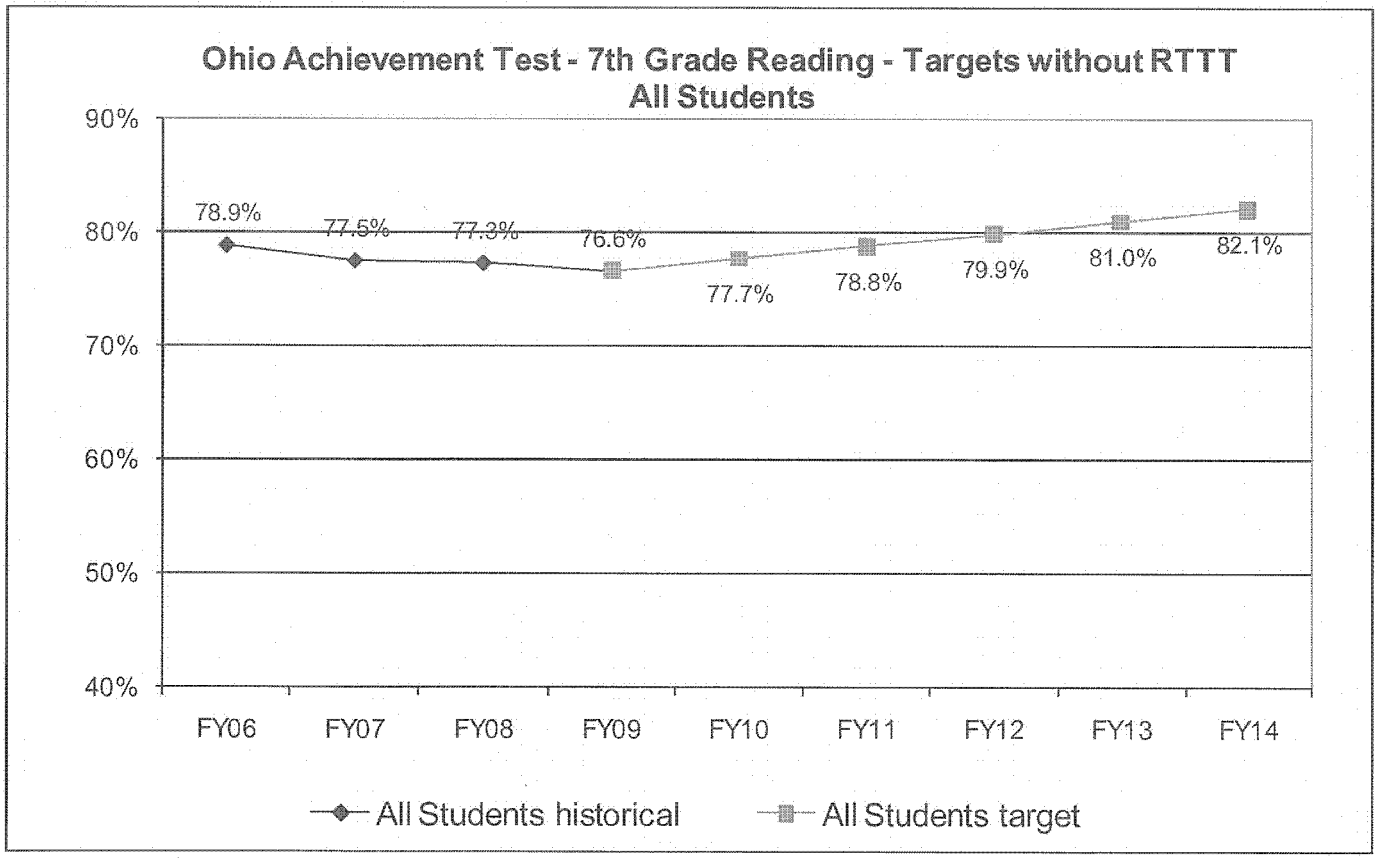

Ohio Achievement Test - 7th Grade Reading - RTTT Targets
Limited English Proficient (LEP) and Non-LEP
90%
80%
70%
60%
50%
40%
79.2%
77.5%
77.7%
78.8%
80.3%
82.0%
83.7%
85.4%
53.6%
55.3%
52.7%
56.2%
59.5%
62.8%
66.1%
69.4%
72.7%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

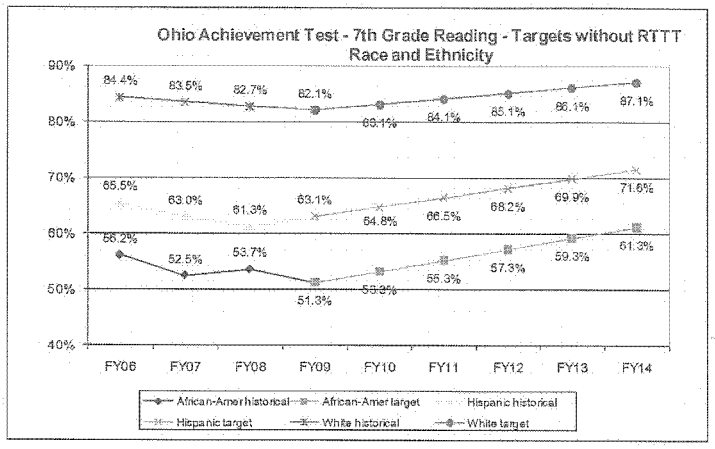

Ohio Achievement Test - 7th Grade Reading - RTTT Targets
Students with Disabilites and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
30%
85.1%
83.4%
83.3%
83.3%
84.3%
85.3%
86.3%
87.3%
88.3%
43.5%
44.8%
43.7%
40.2%
45.7%
51.2%
56.7%
62.2%
67.7%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

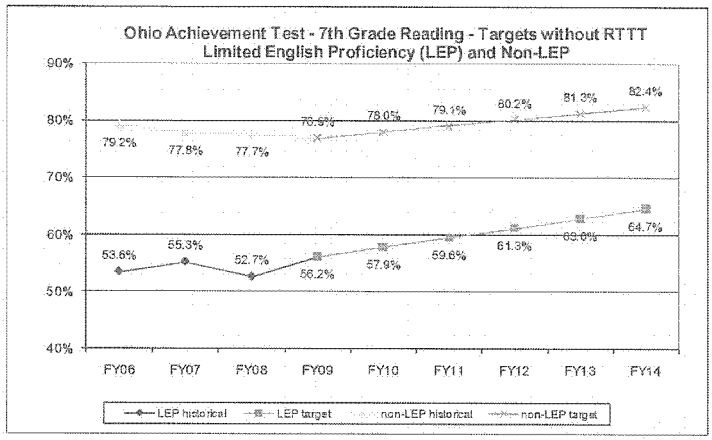

Ohio Achievement Test - 7th Grade Reading - RTTT Targets
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
87.8%
86.7%
85.9%
86.7%
87.6%
88.5%
89.4%
90.3%
91.2%
63.6%
61.9%
63.1%
61.3%
64.4%
67.5%
70.6%
73.7%
76.8%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

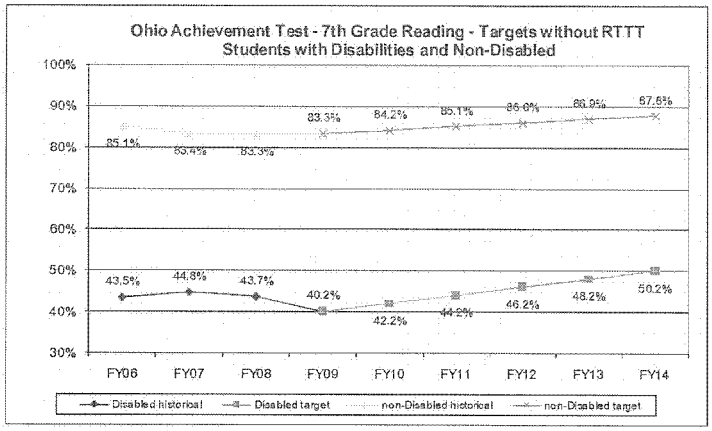
Targets Without RttT for the 7th Grade OAT Math Assessment
Percent of Students by Subgroup At Least Proficient

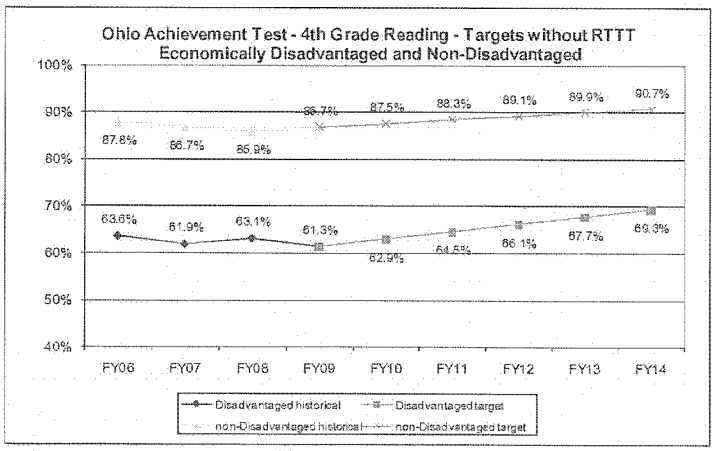
		2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	56.2%	52.5%	53.7%	51.3%					
African-American	target				51.3%	53.3%	55.3%	57.3%	59.3%	61.3%
Hispanic	historical	65.5%	63.0%	61.3%	63.1%					
Hispanic	target				63.1%	64.8%	66.5%	68.2%	69.9%	71.6%
White	historical	84.4%	83.5%	82.7%	82.1%					
White	target				82.1%	83.1%	84.1%	85.1%	86.1%	87.1%
LEP	historical	53.6%	55.3%	52.7%	56.2%					
LEP	target				56.2%	57.9%	59.6%	61.3%	63.0%	64.7%
Non-LEP	historical	79.2%	77.8%	77.7%	76.9%					
Non-LEP	target				76.9%	78.0%	79.1%	80.2%	81.3%	82.4%
Disabled	historical	43.5%	44.8%	43.7%	40.2%					
Disabled	target				40.2%	42.2%	44.2%	46.2%	48.2%	50.2%
Non-Disabled	historical	85.1%	83.4%	83.3%	83.3%					
Non-Disabled	target				83.3%	84.2%	85.1%	86.0%	86.9%	87.8%
Disadvantaged	historical	63.6%	61.9%	63.1%	61.3%					
Disadvantaged	target				61.3%	62.9%	64.5%	66.1%	67.7%	69.3%
Non-Disadvantaged	historical	87.8%	86.7%	85.9%	86.7%					
Non-Disadvantaged	target				86.7%	87.5%	88.3%	89.1%	89.9%	90.7%
All Students	historical	78.9%	77.5%	77.3%	76.6%					
All Students	target				76.6%	77.7%	78.8%	79.9%	81.0%	82.1%




Ohio Achievement Test - 7th Grade Reading - Targets without RTTT
Race and Ethnicity
90%
80%
70%
60%
50%
40%
84.4%
83.5%
82.7%
82.1%
83.1%
84.1%
85.1%
86.1%
87.1%
65.5%
63.0%
61.3%
63.1%
64.8%
66.5%
68.2%
69.9%
71.6%
56.2%
52.5%
53.7%
51.3%
53.3%
55.3%
57.3%
59.3%
61.3%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

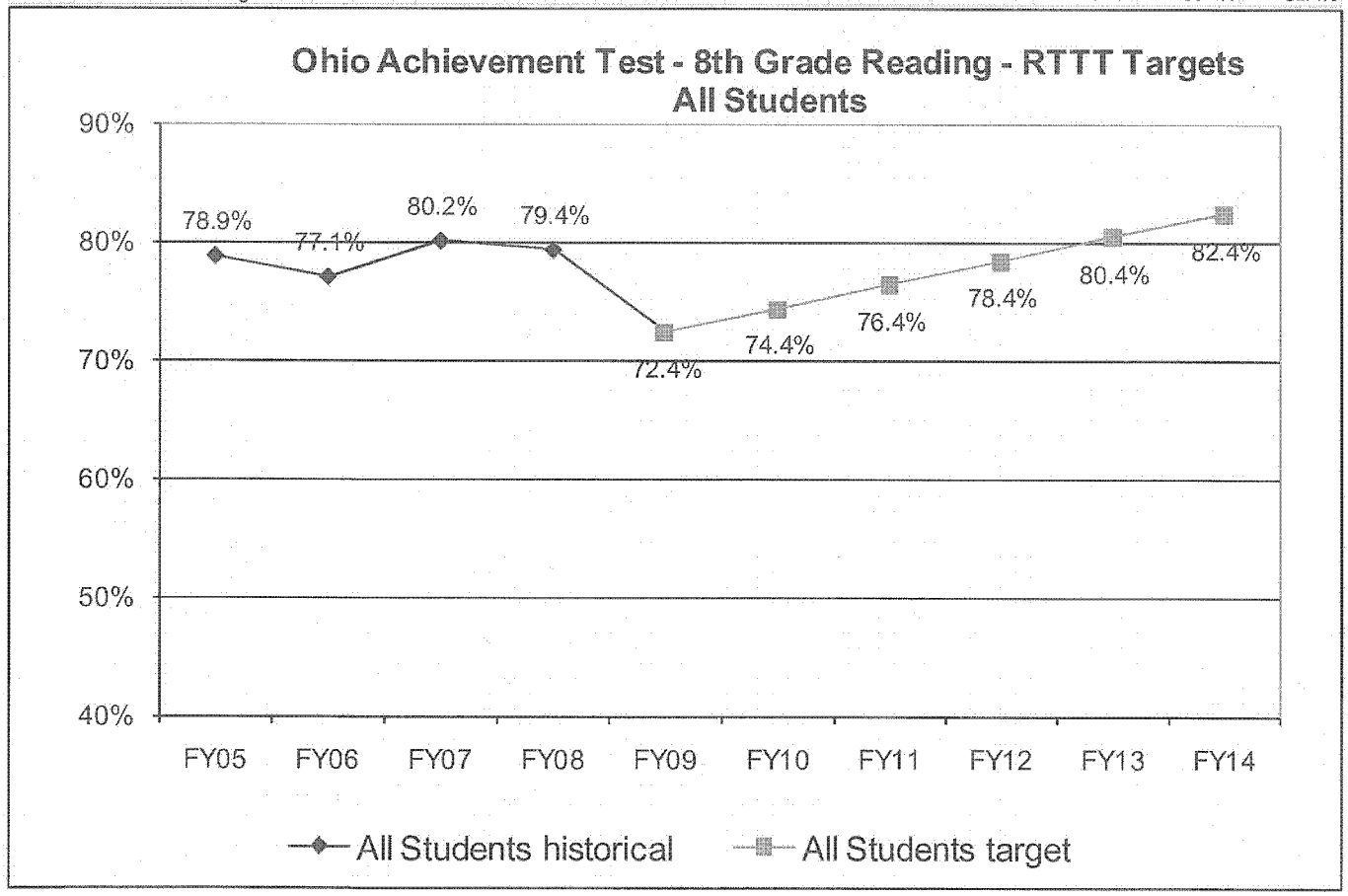

Ohio Achievement Test - 7th Grade Reading - Targets without RTTT
Limited English Proficiency (LEP) and Non-LEP
90%
80%
70%
60%
50%
40%
79.2%
77.8%
77.7%
78.6%
78.0%
79.1%
80.2%
81.3%
82.4%
53.6%
55.3%
52.7%
56.2%
57.9%
59.6%
61.3%
63.0%
64.7%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

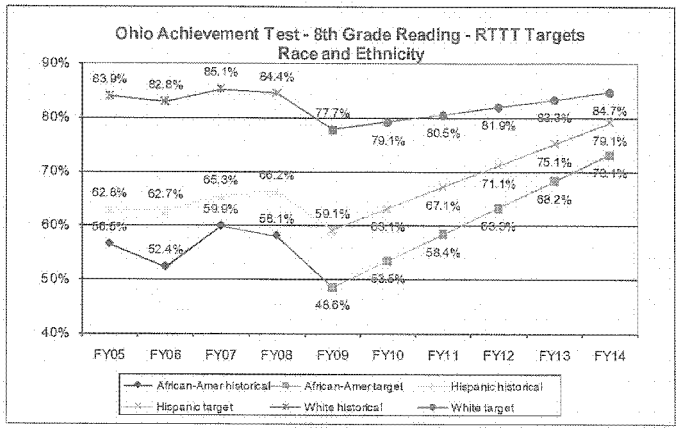

Ohio Achievement Test - 7th Grade Reading - Targets without RTTT
Students with Disabilities and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
30%
85.1%
83.4%
83.3%
83.3%
84.2%
85.1%
86.0%
86.9%
87.6%
43.5%
44.8%
43.7%
40.2%
42.2%
44.2%
46.2%
48.2%
50.2%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

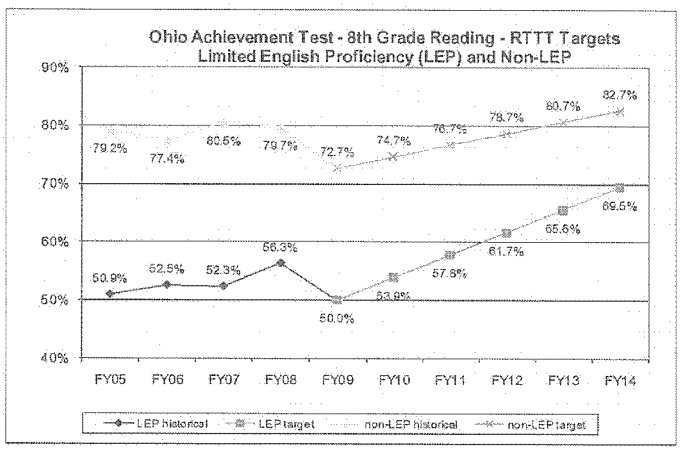

Ohio Achievement Test - 4th Grade Reading - Targets without RTTT
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
87.8%
86.7%
85.9%
86.7%
87.5%
88.3%
89.1%
89.9%
90.7%
63.6%
61.9%
63.1%
61.3%
62.9%
64.5%
66.1%
67.7%
69.3%
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

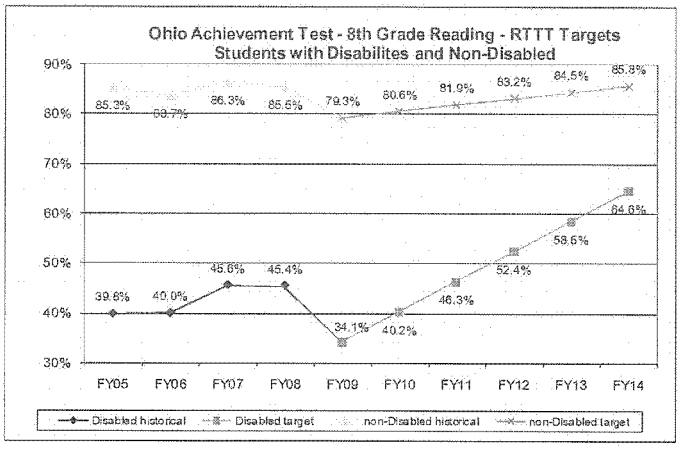
RttT Targets for the 8th Grade OAT Reading Assessment
Percent of Students by Subgroup At Least Proficient

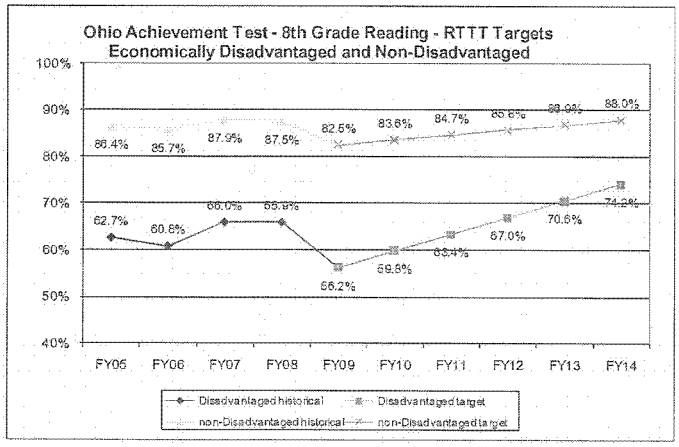
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	56.5%	52.4%	59.9%	58.1%	48.6%					
African-American	target					48.6%	53.5%	58.4%	63.3%	68.2%	73.1%
Hispanic	historical	62.8%	62.7%	65.3%	66.2%	59.1%					
Hispanic	target					59.1%	63.1%	67.1%	71.1%	75.1%	79.1%
White	historical	83.9%	82.8%	85.1%	84.4%	77.7%					
White	target					77.7%	79.1%	80.5%	81.9%	83.3%	84.7%
LEP	historical	50.9%	52.5%	52.3%	56.3%	50.0%					
LEP	target					50.0%	53.9%	57.8%	61.7%	65.6%	69.5%
Non-LEP	historical	79.2%	77.4%	80.5%	79.7%	72.7%					
Non-LEP	target					72.7%	74.7%	76.7%	78.7%	80.7%	82.7%
Disabled	historical	39.8%	40.0%	45.6%	45.4%	34.1%					
Disabled	target					34.1%	40.2%	46.3%	52.4%	58.5%	64.6%
Non-Disabled	historical	85.3%	83.7%	86.3%	85.5%	79.3%					
Non-Disabled	target					79.3%	80.6%	81.9%	83.2%	84.5%	85.8%
Disadvantaged	historical	62.7%	60.8%	66.0%	65.9%	56.2%					
Disadvantaged	target					56.2%	59.8%	63.4%	67.0%	70.6%	74.2%
Non-Disadvantaged	historical	86.4%	85.7%	87.9%	87.5%	82.5%					
Non-Disadvantaged	target					82.5%	83.6%	84.7%	85.8%	86.9%	88.0%
All Students	historical	78.9%	77.1%	80.2%	79.4%	72.4%					
All Students	target					72.4%	74.4%	76.4%	78.4%	80.4%	82.4%




Ohio Achievement Test - 8th Grade Reading - RTTT Targets
Race and Ethnicity
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

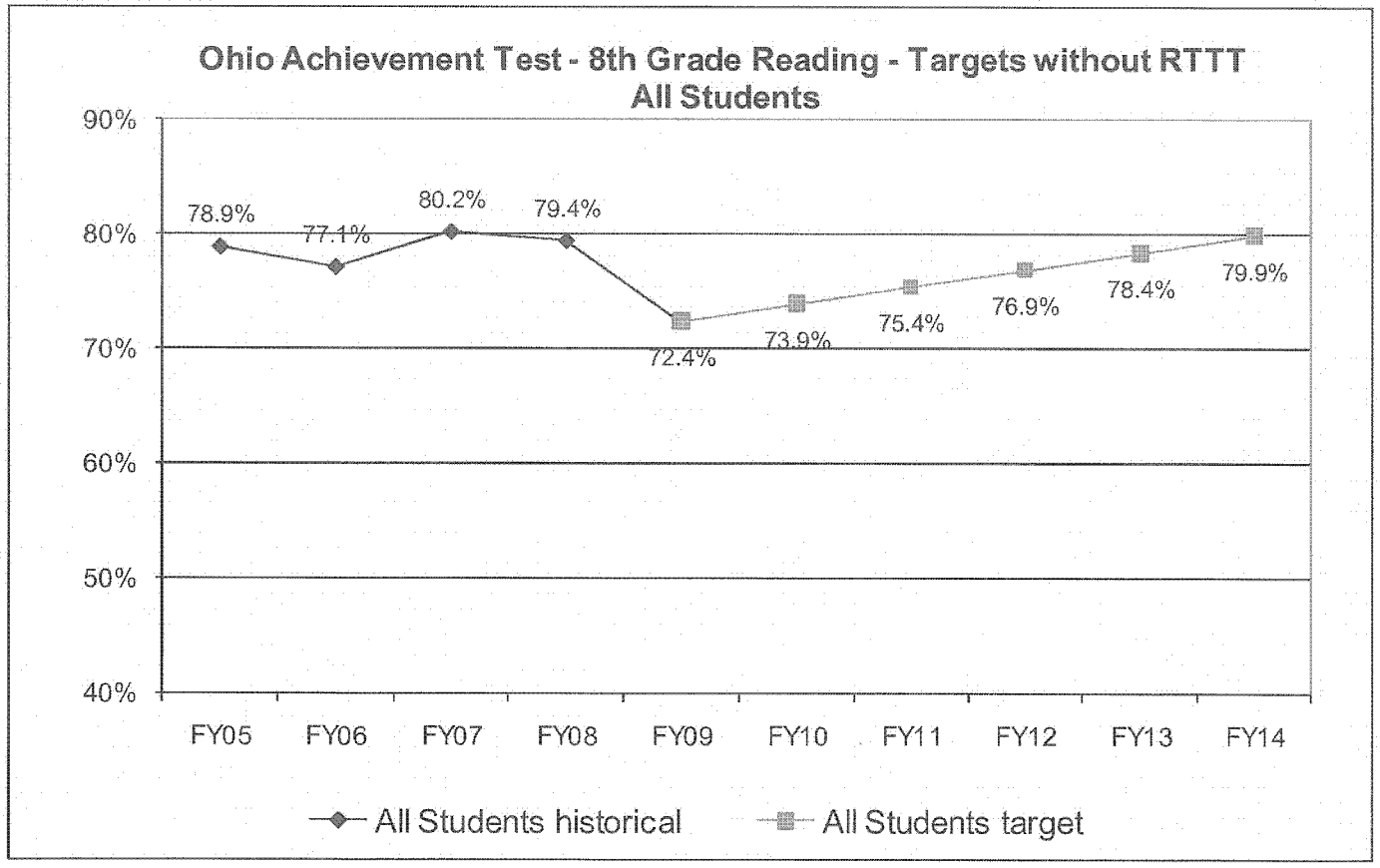

Ohio Achievement Test - 8th Grade Reading - RTTT Targets
Limited English Proficiency (LEP) and Non-LEP
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

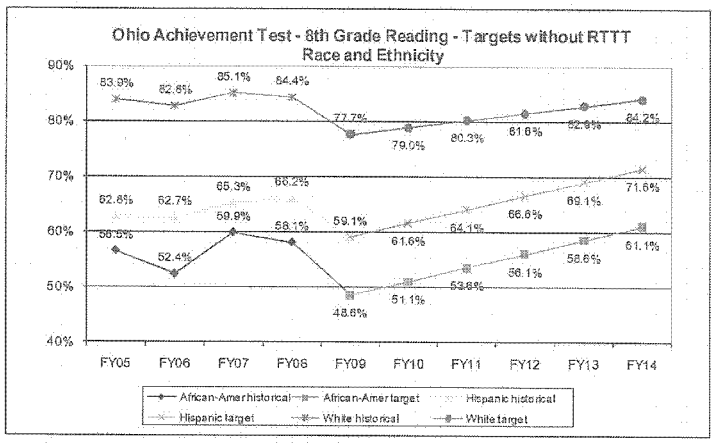

Ohio Achievement Test - 8th Grade Reading - RTTT Targets
Students with Disabilites and Non-Disabled
90%
80%
70%
60%
50%
40%
30%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

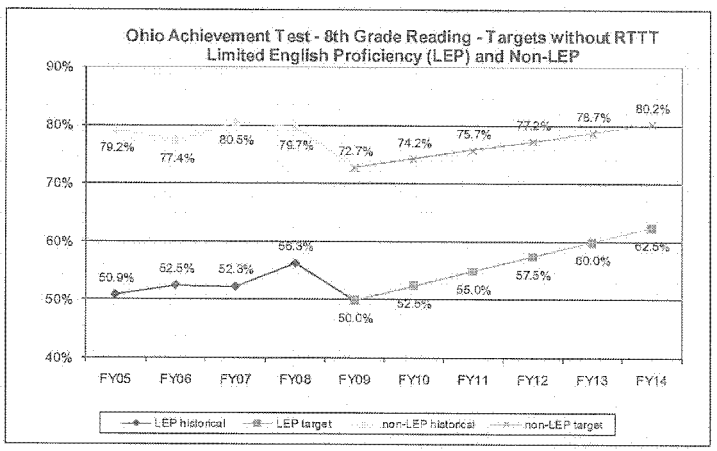

Ohio Achievement Test - 8th Grade Reading - RTTT Targets
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

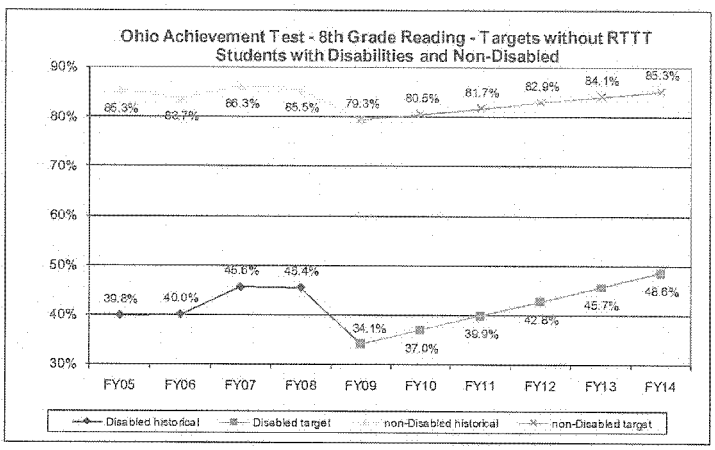
Targets Without RttT for the 8th Grade OAT Math Assessment
Percent of Students by Subgroup At Least Proficient

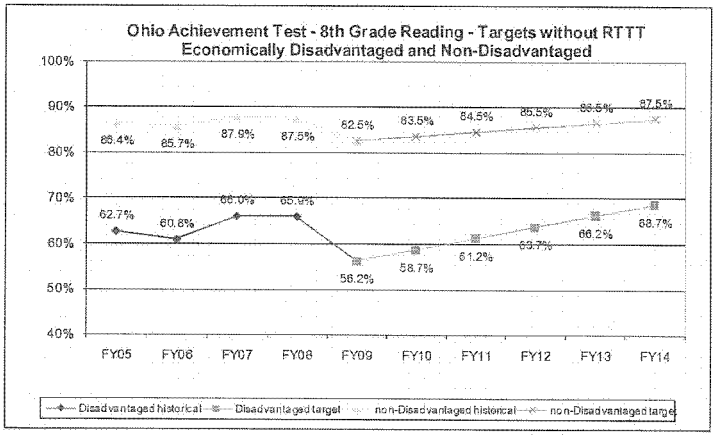
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	56.5%	52.4%	59.9%	58.1%	48.6%					
African-American	target					48.6%	51.1%	53.6%	56.1%	58.6%	61.1%
Hispanic	historical	62.8%	62.7%	65.3%	66.2%	59.1%					
Hispanic	target					59.1%	61.6%	64.1%	66.6%	69.1%	71.6%
White	historical	83.9%	82.8%	85.1%	84.4%	77.7%					
White	target					77.7%	79.0%	80.3%	81.6%	82.9%	84.2%
LEP	historical	50.9%	52.5%	52.3%	56.3%	50.0%					
LEP	target					50.0%	52.5%	55.0%	57.5%	60.0%	62.5%
Non-LEP	historical	79.2%	77.4%	80.5%	79.7%	72.7%					
Non-LEP	target					72.7%	74.2%	75.7%	77.2%	78.7%	80.2%
Disabled	historical	39.8%	40.0%	45.6%	45.4%	34.1%					
Disabled	target					34.1%	37.0%	39.9%	42.8%	45.7%	48.6%
Non-Disabled	historical	85.3%	83.7%	86.3%	85.5%	79.3%					
Non-Disabled	target					79.3%	80.5%	81.7%	82.9%	84.1%	85.3%
Disadvantaged	historical	62.7%	60.8%	66.0%	65.9%	56.2%					
Disadvantaged	target					56.2%	58.7%	61.2%	63.7%	66.2%	68.7%
Non-Disadvantaged	historical	86.4%	85.7%	87.9%	87.5%	82.5%					
Non-Disadvantaged	target					82.5%	83.5%	84.5%	85.5%	86.5%	87.5%
All Students	historical	78.9%	77.1%	80.2%	79.4%	72.4%					
All Students	target					72.4%	73.9%	75.4%	76.9%	78.4%	79.9%




Ohio Achievement Test - 8th Grade Reading - Targets without RTTT
Race and Ethnicity
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

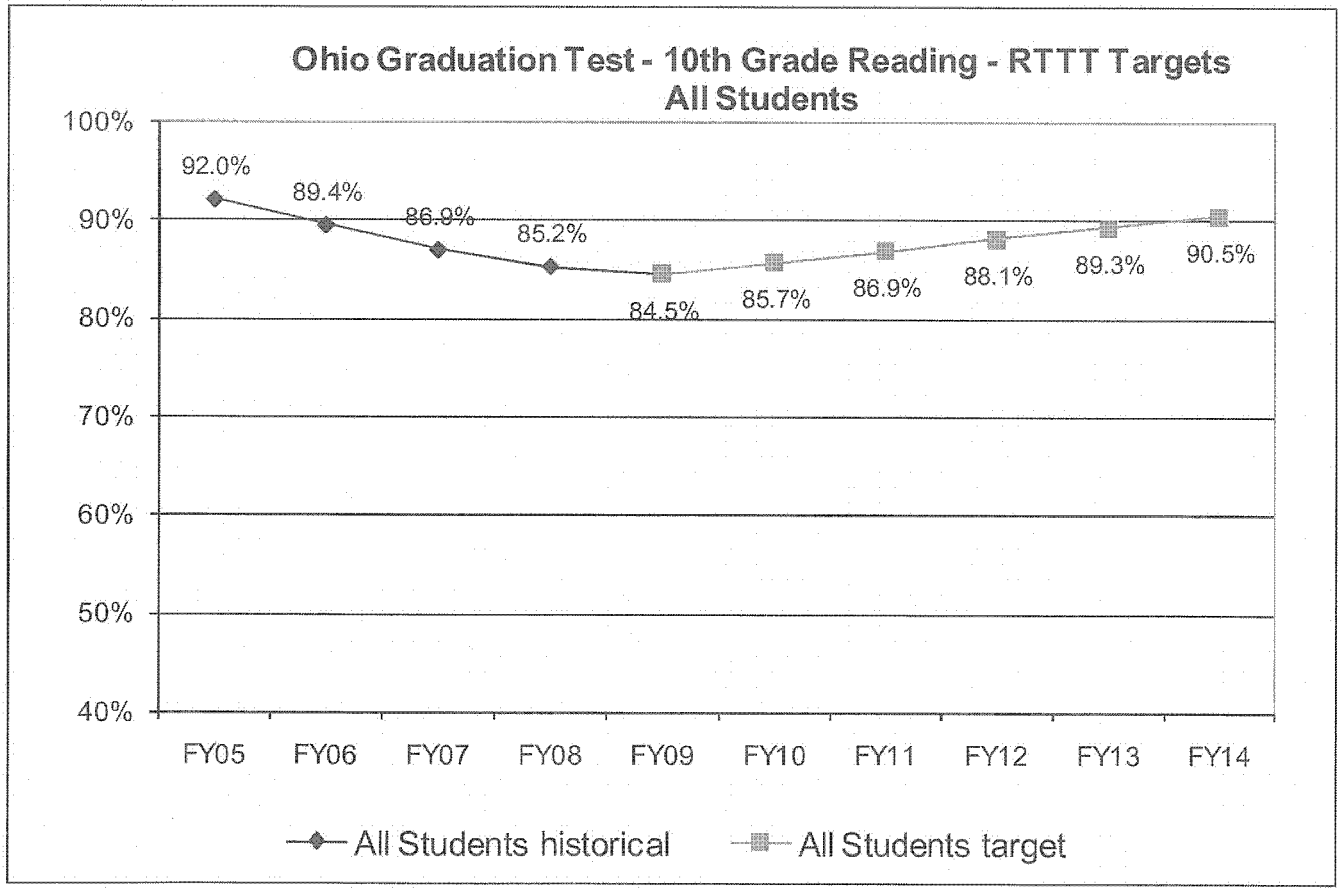

Ohio Achievement Test - 8th Grade Reading - Targets without RTTT
Limited English Proficiency (LEP) and Non-LEP
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
LEP historical
LEP target
non-LEP historical
non-LEP target

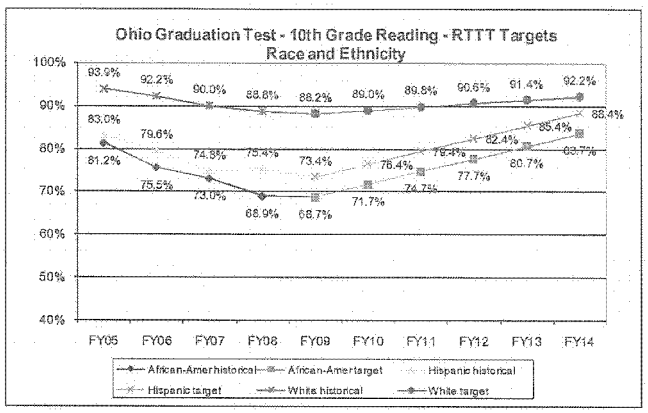

Ohio Achievement Test - 8th Grade Reading - Targets without RTTT
Students with Disabilities and Non-Disabled
90%
80%
70%
60%
50%
40%
30%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

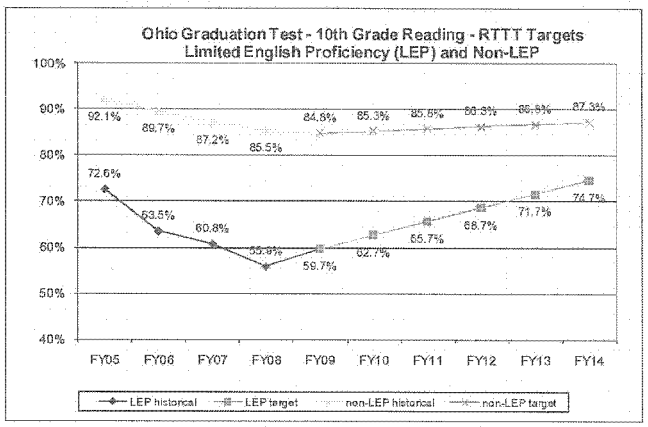

Ohio Achievement Test - 8th Grade Reading - Targets without RTTT
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

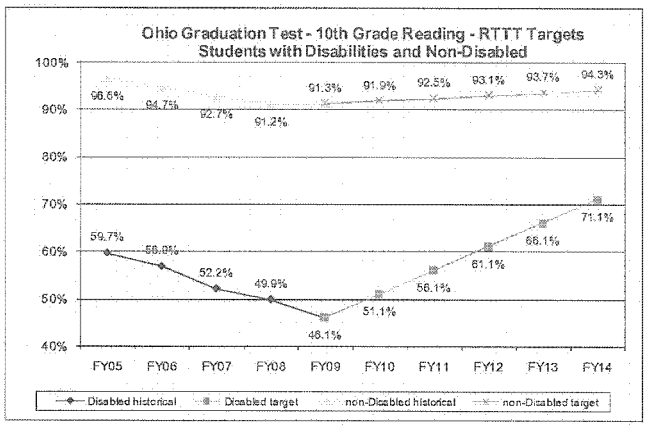
RttT Targets for the 10th Grade OGT Reading Assessment
Percent of Students by Subgroup At Least Proficient

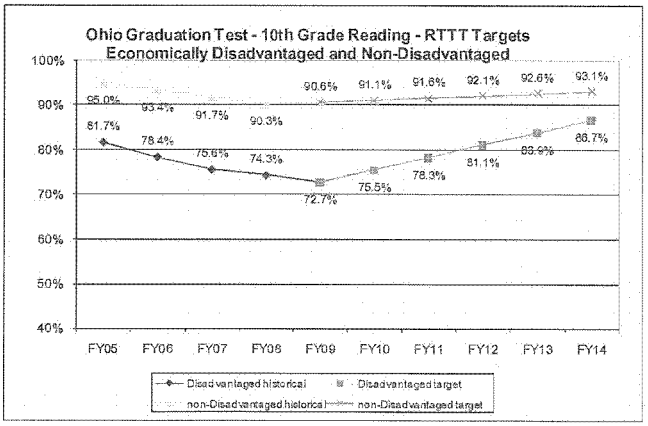
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	81.2%	75.5%	73.0%	68.9%	68.7%					
African-American	target					68.7%	71.7%	74.7%	77.7%	80.7%	83.7%
Hispanic	historical	83.0%	79.6%	74.8%	75.4%	73.4%					
Hispanic	target					73.4%	76.4%	79.4%	82.4%	85.4%	88.4%
White	historical	93.9%	92.2%	90.0%	88.8%	88.2%					
White	target					88.2%	89.0%	89.8%	90.6%	91.4%	92.2%
LEP	historical	72.6%	63.5%	60.8%	55.9%	59.7%					
LEP	target					59.7%	62.7%	65.7%	68.7%	71.7%	74.7%
Non-LEP	historical	92.1%	89.7%	87.2%	85.5%	84.8%					
Non-LEP	target					84.8%	85.3%	85.8%	86.3%	86.8%	87.3%
Disabled	historical	59.7%	56.9%	52.2%	49.9%	46.1%					
Disabled	target					46.1%	51.1%	56.1%	61.1%	66.1%	71.1%
Non-Disabled	historical	96.6%	94.7%	92.7%	91.2%	91.3%					
Non-Disabled	target					91.3%	91.9%	92.5%	93.1%	93.7%	94.3%
Disadvantaged	historical	81.7%	78.4%	75.6%	74.3%	72.7%					
Disadvantaged	target					72.7%	75.5%	78.3%	81.1%	83.9%	86.7%
Non-Disadvantaged	historical	95.0%	93.4%	91.7%	90.3%	90.6%					
Non-Disadvantaged	target					90.6%	91.1%	91.6%	92.1%	92.6%	93.1%
All Students	historical	92.0%	89.4%	86.9%	85.2%	84.5%					
All Students	target					84.5%	85.7%	86.9%	88.1%	89.3%	90.5%




Ohio Graduation Test - 10th Grade Reading - RTTT Targets
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
93.9% 92.2% 90.0% 88.8% 88.2% 89.0% 89.8% 90.6% 91.4% 92.2%
83.0% 79.6% 74.8% 73.4% 76.4% 79.4% 82.4% 85.4% 88.4%
81.2% 75.5% 73.0% 68.9% 68.7% 71.7% 74.7% 77.7% 80.7% 83.7%
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

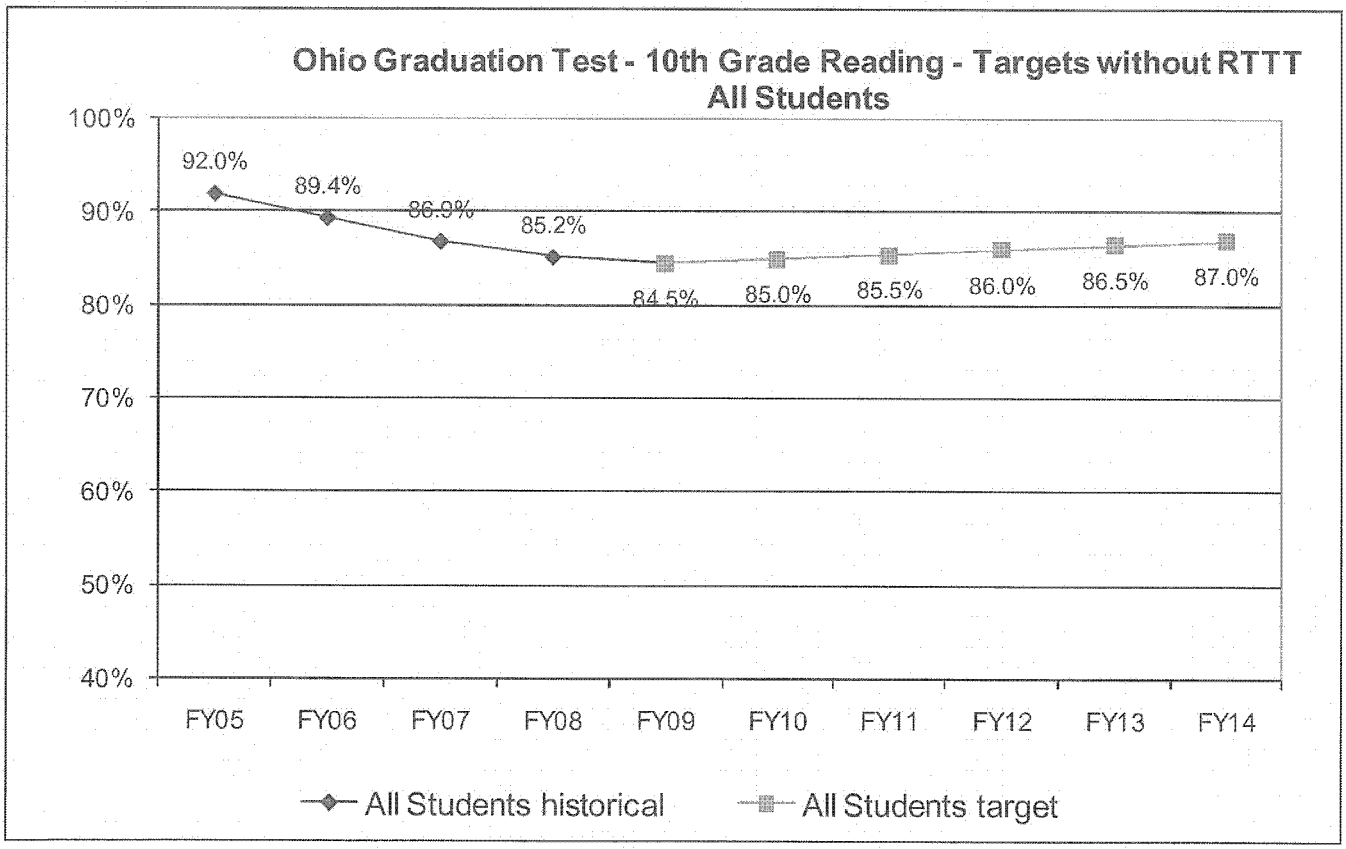

Ohio Graduation Test - 10th Grade Reading - RTTT Targets
Limited English Proficiency (LEP) and Non-LEP
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
92.1% 89.7% 87.2% 85.5% 84.6% 85.3% 85.5% 86.3% 86.8% 87.3%
72.6% 63.5% 60.8% 55.8% 59.7% 62.7% 65.7% 68.7% 71.7% 74.7%
LEP historical
LEP target
non-LEP historical
non-LEP target

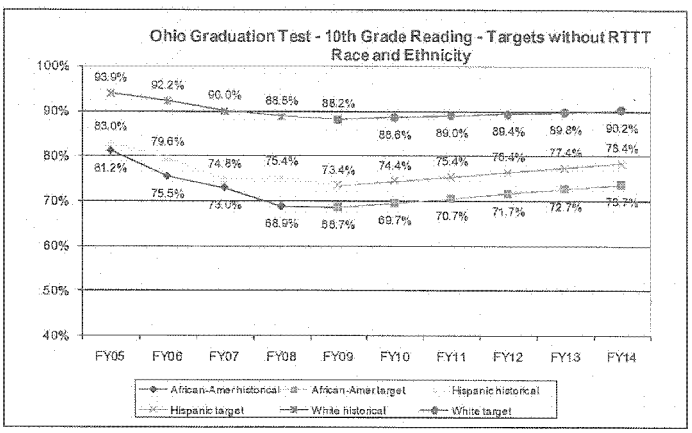

Ohio Graduation Test - 10th Grade Reading - RTTT Targets
Students with Disabilities and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
96.6% 94.7% 92.7% 91.2% 91.3% 91.9% 92.5% 93.1% 93.7% 94.3%
59.7% 56.8% 52.2% 49.9% 46.1% 51.1% 56.1% 61.1% 66.1% 71.1%
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

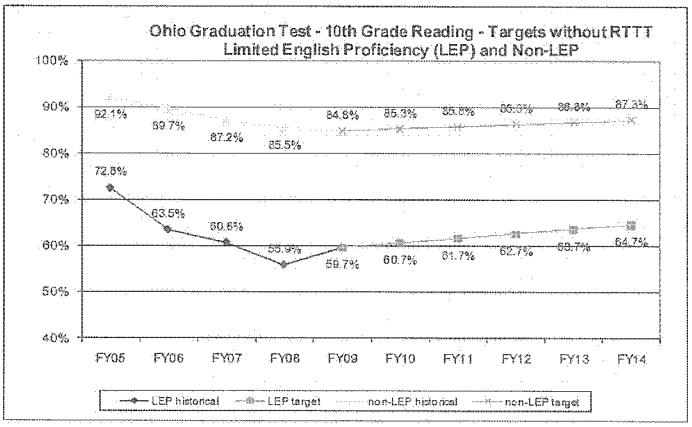

Ohio Graduation Test - 10th Grade Reading - RTTT Targets
Economically Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
95.0% 93.4% 91.7% 90.3% 90.6% 91.1% 91.6% 92.1% 92.6% 93.1%
81.7% 78.4% 75.6% 74.3% 72.7% 75.5% 78.3% 81.1% 83.9% 86.7%
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

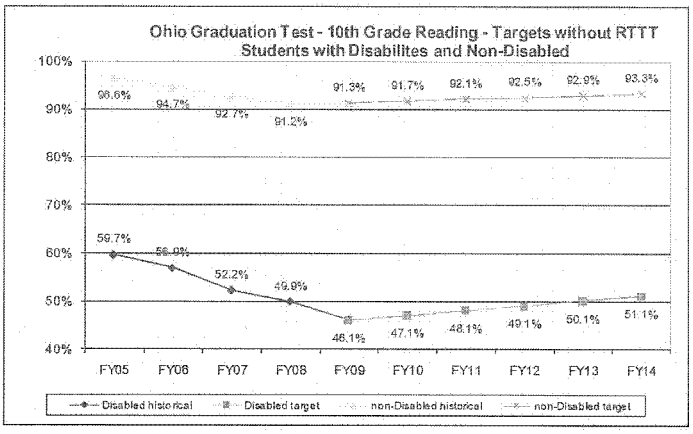
Targets Without RttT for the 10th Grade OGT Math Assessment
Percent of Students by Subgroup At Least Proficient

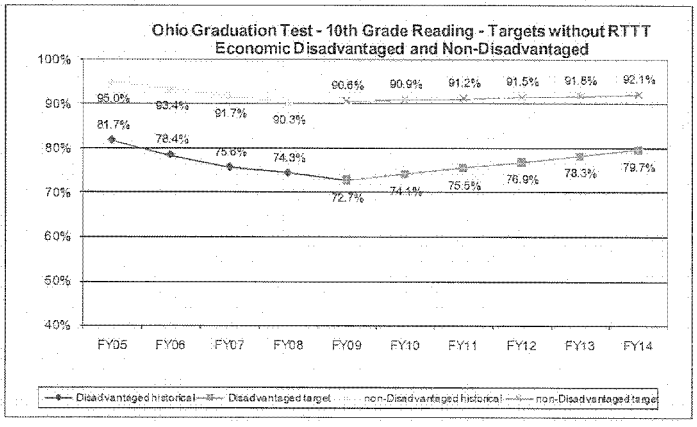
		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	81.2%	75.5%	73.0%	68.9%	68.7%					
African-American	target					68.7%	69.7%	70.7%	71.7%	72.7%	73.7%
Hispanic	historical	83.0%	79.6%	74.8%	75.4%	73.4%					
Hispanic	target					73.4%	74.4%	75.4%	76.4%	77.4%	78.4%
White	historical	93.9%	92.2%	90.0%	88.8%	88.2%					
White	target					88.2%	88.6%	89.0%	89.4%	89.8%	90.2%
LEP	historical	72.6%	63.5%	60.8%	55.9%	59.7%					
LEP	target					59.7%	60.7%	61.7%	62.7%	63.7%	64.7%
Non-LEP	historical	92.1%	89.7%	87.2%	85.5%	84.8%					
Non-LEP	target					84.8%	85.3%	85.8%	86.3%	86.8%	87.3%
Disabled	historical	59.7%	56.9%	52.2%	49.9%	46.1%					
Disabled	target					46.1%	47.1%	48.1%	49.1%	50.1%	51.1%
Non-Disabled	historical	96.6%	94.7%	92.7%	91.2%	91.3%					
Non-Disabled	target					91.3%	91.7%	92.1%	92.5%	92.9%	93.3%
Disadvantaged	historical	81.7%	78.4%	75.6%	74.3%	72.7%					
Disadvantaged	target					72.7%	74.1%	75.5%	76.9%	78.3%	79.7%
Non-Disadvantaged	historical	95.0%	93.4%	91.7%	90.3%	90.6%					
Non-Disadvantaged	target					90.6%	90.9%	91.2%	91.5%	91.8%	92.1%
All Students	historical	92.0%	89.4%	86.9%	85.2%	84.5%					
All Students	target					84.5%	85.0%	85.5%	86.0%	86.5%	87.0%




Ohio Graduation Test - 10th Grade Reading - Targets without RTTT
Race and Ethnicity
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
93.9% 92.2% 90.0% 88.5% 88.2%
83.0% 79.6% 74.8% 75.4% 73.4% 74.4% 75.4% 76.4% 77.4% 78.4%
81.2% 75.5% 73.0% 68.9% 68.7% 69.7% 70.7% 71.7% 72.7% 73.7%
88.6% 89.0% 89.4% 89.8% 90.2%
African-Amer historical
African-Amer target
Hispanic historical
Hispanic target
White historical
White target

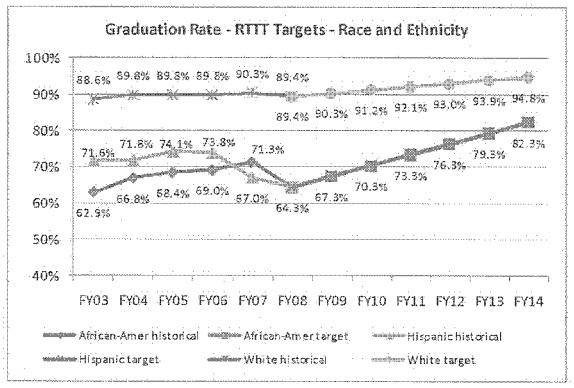

Ohio Graduation Test - 10th Grade Reading - Targets without RTTT
Limited English Proficiency (LEP) and Non-LEP
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
92.1% 89.7% 87.2% 85.5% 84.6% 85.3% 85.8% 86.3% 86.8% 87.3%
72.8% 63.5% 60.6% 55.9% 59.7% 60.7% 61.7% 62.7% 63.7% 64.7%
LEP historical
LEP target
non-LEP historical
non-LEP target

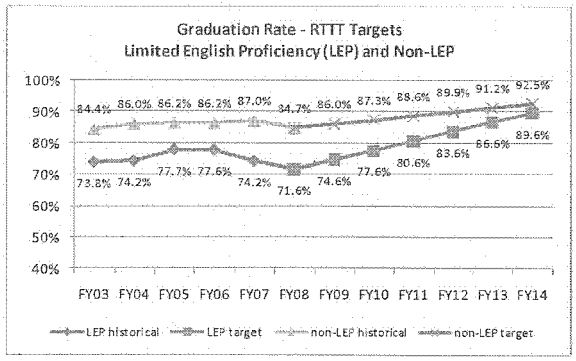

Ohio Graduation Test - 10th Grade Reading - Targets without RTTT
Students with Disabilites and Non-Disabled
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
96.6% 94.7% 92.7% 91.2% 91.3% 91.7% 92.1% 92.5% 92.9% 93.3%
59.7% 56.9% 52.2% 49.9% 46.1% 47.1% 48.1% 49.1% 50.1% 51.1%
Disabled historical
Disabled target
non-Disabled historical
non-Disabled target

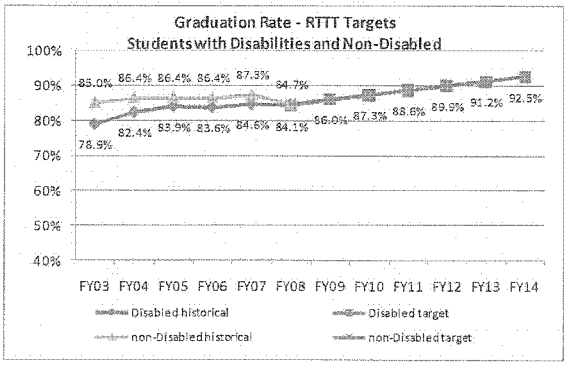

Ohio Graduation Test - 10th Grade Reading - Targets without RTTT
Economic Disadvantaged and Non-Disadvantaged
100%
90%
80%
70%
60%
50%
40%
FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14
95.0% 93.4% 91.7% 90.3% 90.6% 90.9% 91.2% 91.5% 91.8% 92.1%
81.7% 78.4% 75.8% 74.3% 72.7% 74.1% 75.5% 76.9% 78.3% 79.7%
Disadvantaged historical
Disadvantaged target
non-Disadvantaged historical
non-Disadvantaged target

GRADUATION RATES

Subgroup		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	62.9%	66.8%	68.4%	69.0%	71.3%	64.3%						
African-American	target						64.3%	67.3%	70.3%	73.3%	76.3%	79.3%	82.3%
Hispanic	historical	71.6%	71.8%	74.1%	73.8%	67.0%	64.5%						
Hispanic	target						64.5%	67.5%	70.5%	73.5%	76.5%	79.5%	82.5%
White	historical	88.6%	89.8%	89.8%	89.8%	90.3%	89.4%						
White	target						89.4%	90.3%	91.2%	92.1%	93.0%	93.9%	94.8%
LEP	historical	73.8%	74.2%	77.7%	77.6%	74.2%	71.6%						
LEP	target						71.6%	74.6%	77.6%	80.6%	83.6%	86.6%	89.6%
Non-LEP	historical	84.4%	86.0%	86.2%	86.2%	87.0%	84.7%						
Non-LEP	target						84.7%	86.0%	87.3%	88.6%	89.9%	91.2%	92.5%
Disabled	historical	78.9%	82.4%	83.9%	83.6%	84.6%	84.1%						
Disabled	target						84.1%	86.0%	87.3%	88.6%	89.9%	91.2%	92.5%
Non-Disabled	historical	85.0%	86.4%	86.4%	86.4%	87.3%	84.7%						
Non-Disabled	target						84.7%	86.0%	87.3%	88.6%	89.9%	91.2%	92.5%
Disadvantaged	historical	81.0%	82.9%	79.7%	75.0%	74.5%	72.7%						
Disadvantaged	target						72.7%	75.2%	77.7%	80.2%	82.7%	85.2%	87.7%
Non-Disadvantage	historical	84.8%	86.4%	87.4%	89.1%	90.4%	88.7%						
Non-Disadvantage	target						88.7%	89.8%	90.9%	92.0%	93.1%	94.2%	95.3%
All Students	historical	84.30%	85.9%	86.2%	86.1%	86.9%	84.6%						
All Students	target						84.6%	85.9%	87.2%	88.5%	89.8%	91.1%	92.4%

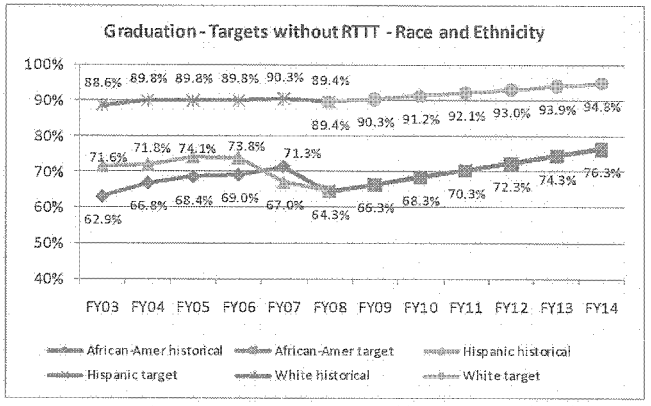


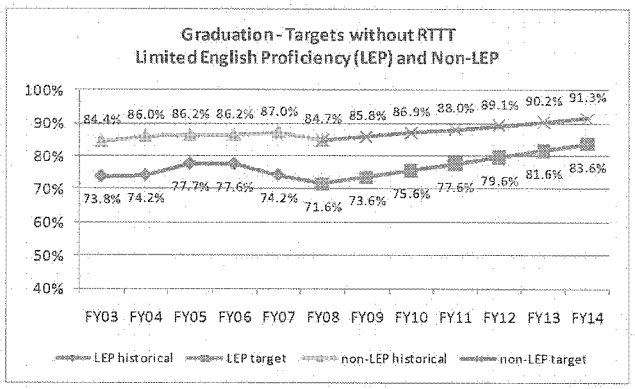


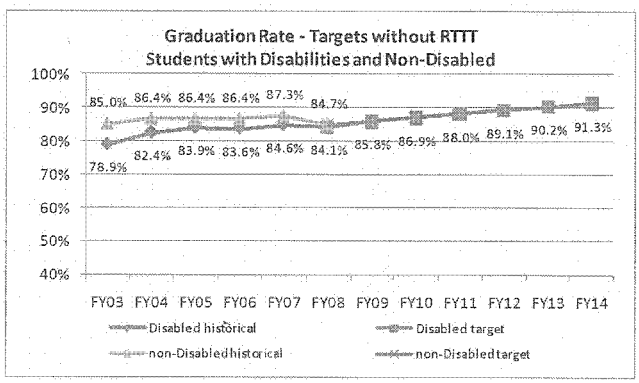


Targets Without RttT for Graduation Rates

Subgroup		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
African-American	historical	62.9%	66.8%	68.4%	69.0%	71.3%	64.3%						
African-American	target						64.3%	66.3%	68.3%	70.3%	72.3%	74.3%	76.3%
Hispanic	historical	71.6%	71.8%	74.1%	73.8%	67.0%	64.5%						
Hispanic	target						64.5%	66.5%	68.5%	70.5%	72.5%	74.5%	76.5%
White	historical	88.6%	89.8%	89.8%	89.8%	90.3%	89.4%						
White	target						89.4%	90.3%	91.2%	92.1%	93.0%	93.9%	94.8%
LEP	historical	73.8%	74.2%	77.7%	77.6%	74.2%	71.6%						
LEP	target						71.6%	73.6%	75.6%	77.6%	79.6%	81.6%	83.6%
Non-LEP	historical	84.4%	86.0%	86.2%	86.2%	87.0%	84.7%						
Non-LEP	target						84.7%	85.8%	86.9%	88.0%	89.1%	90.2%	91.3%
Disabled	historical	78.9%	82.4%	83.9%	83.6%	84.6%	84.1%						
Disabled	target						84.1%	85.8%	86.9%	88.0%	89.1%	90.2%	91.3%
Non-Disabled	historical	85.0%	86.4%	86.4%	86.4%	87.3%	84.7%						
Non-Disabled	target						84.7%	85.8%	86.9%	88.0%	89.1%	90.2%	91.3%
Disadvantaged	historical	81.0%	82.9%	79.7%	75.0%	74.5%	72.7%						
Disadvantaged	target						72.7%	75.0%	77.3%	79.6%	81.9%	84.2%	86.5%
Non-Disadvantage	historical	84.8%	86.4%	87.4%	89.1%	90.4%	88.7%						
Non-Disadvantage	target						88.7%	89.6%	90.5%	91.4%	92.3%	93.2%	94.1%
All Students	historical	84.30%	85.9%	86.2%	86.1%	86.9%	84.6%						
All Students	target						84.6%	85.7%	86.8%	87.9%	89.0%	90.1%	91.2%





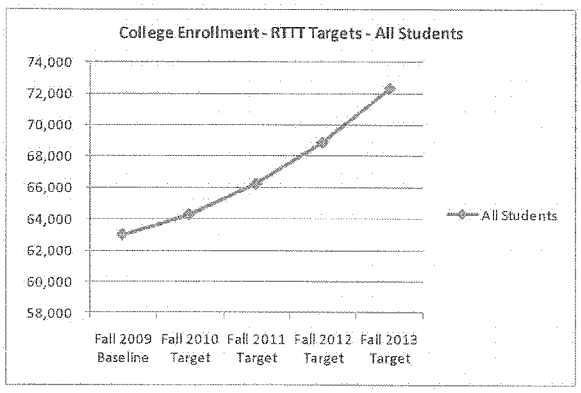


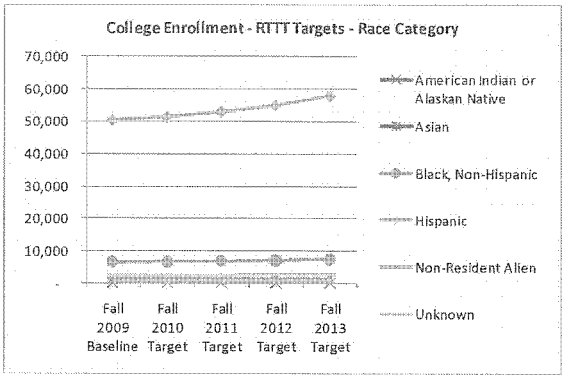
College Enrollment

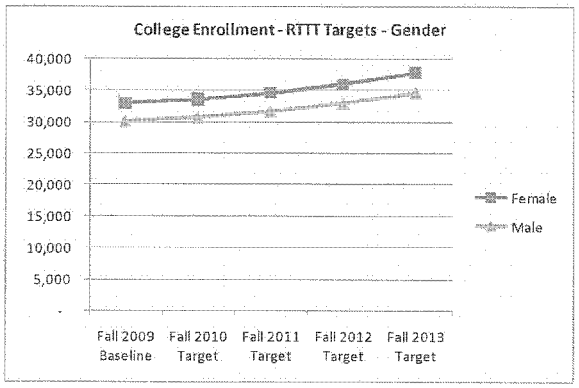
RttT Targets for College Enrollment

Student Subgroup	Fall 2009 Baseline	Fall 2010 Target	Fall 2011 Target	Fall 2012 Target	Fall 2013 Target
All Students	62,993	64,253	66,180	68,827	72,269
Female	32,900	33,558	34,565	35,947	37,745
Male	30,093	30,695	31,616	32,880	34,524
American Indian or Alaskan Native	250	255	263	273	287
Asian	1,362	1,389	1,430	1,488	1,562
Black, Non-Hispanic	6,669	6,802	7,007	7,287	7,651
Hispanic	1,381	1,409	1,451	1,509	1,585
Non-Resident Alien	423	432	445	463	486
Unknown	2,543	2,594	2,672	2,779	2,918
White, Non-Hispanic	50,364	51,371	52,912	55,028	57,780

Note: Shows Fall term enrollment of undergraduate students age 19 and younger



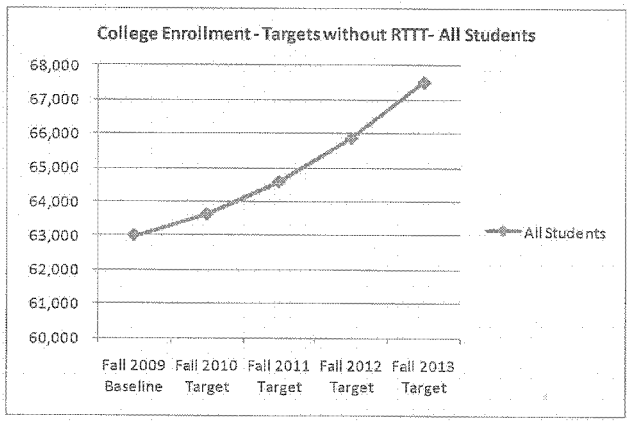


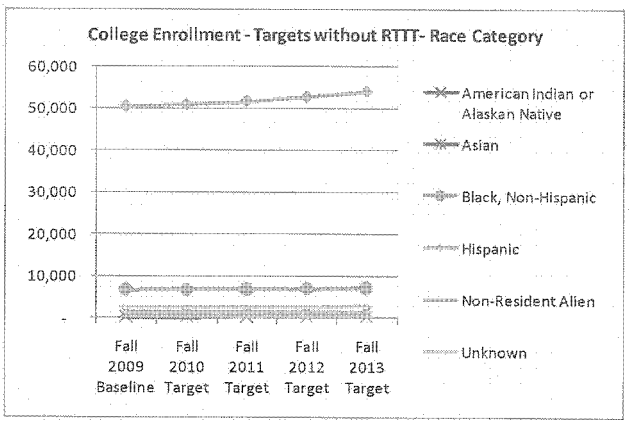


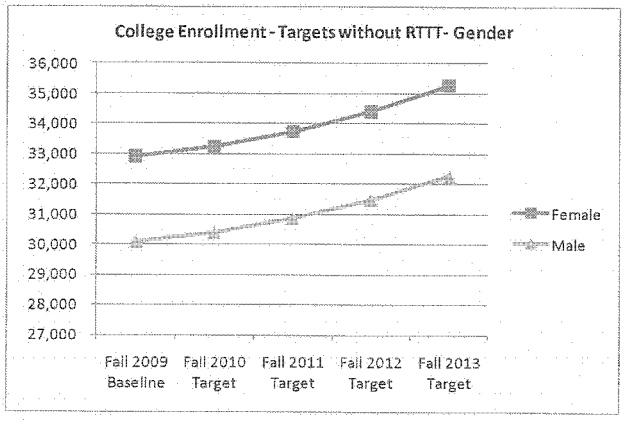
Targets Without RttT for College Enrollment

Student Subgroup	Fall 2009 Baseline	Fall 2010 Target	Fall 2011 Target	Fall 2012 Target	Fall 2013 Target
All Students	62,993	63,623	64,577	65,868	67,515
Female	32,900	33,229	33,727	34,402	35,262
Male	30,093	30,394	30,850	31,467	32,253
American Indian or Alaskan Native	250	253	257	262	268
Asian	1,362	1,375	1,396	1,424	1,459
Black, Non-Hispanic	6,669	6,736	6,837	6,974	7,148
Hispanic	1,381	1,395	1,416	1,445	1,481
Non-Resident Alien	423	428	434	443	454
Unknown	2,543	2,569	2,607	2,660	2,726
White, Non-Hispanic	50,364	50,867	51,630	52,663	53,979

Note: Shows Fall term enrollment of undergraduate students age 19 and younger





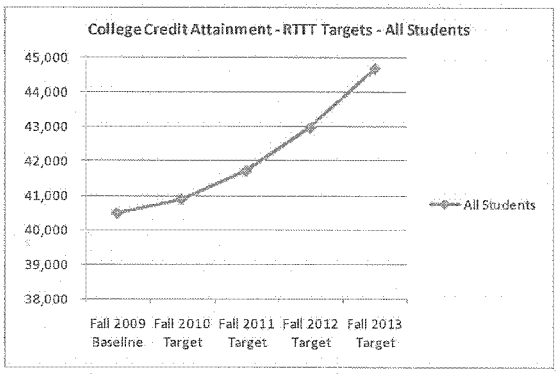


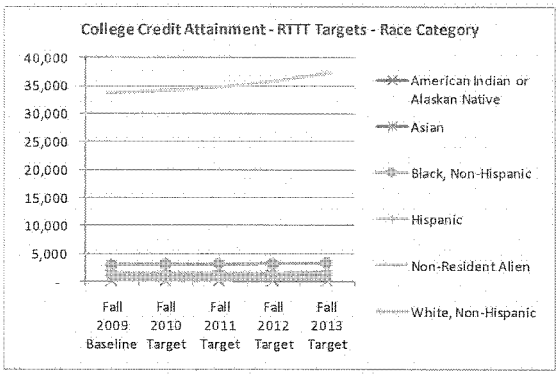
College Credit Attainment

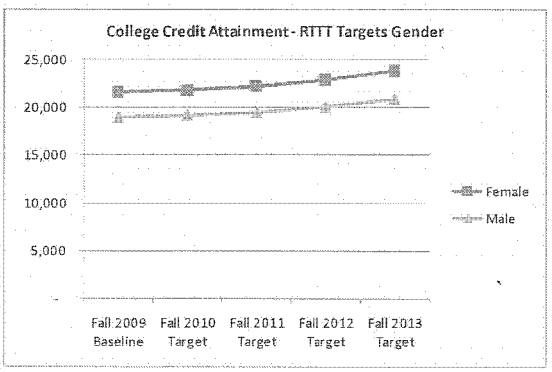
RttT Targets for College Credit Attainment

Student Subgroup	Fall 2009 Baseline	Fall 2010 Target	Fall 2011 Target	Fall 2012 Target	Fall 2013 Target
All Students	40,485	40,890	41,708	42,959	44,677
Female	21,564	21,780	22,215	22,882	23,797
Male	18,921	19,110	19,492	20,077	20,880
American Indian or Alaskan Native	148	149	152	157	163
Asian	1,027	1,037	1,058	1,090	1,133
Black, Non-Hispanic	3,058	3,089	3,150	3,245	3,375
Hispanic	809	817	833	858	893
Non-Resident Alien	315	318	325	334	348
White, Non-Hispanic	33,687	34,024	34,704	35,745	37,175
Unknown	1,441	1,455	1,485	1,529	1,590

Note: Shows percent of students completing at least 30 hours of non-developmental credits within two years. Includes undergraduate students age 19 and younger who were first-time ever in college and enrolled full-time.



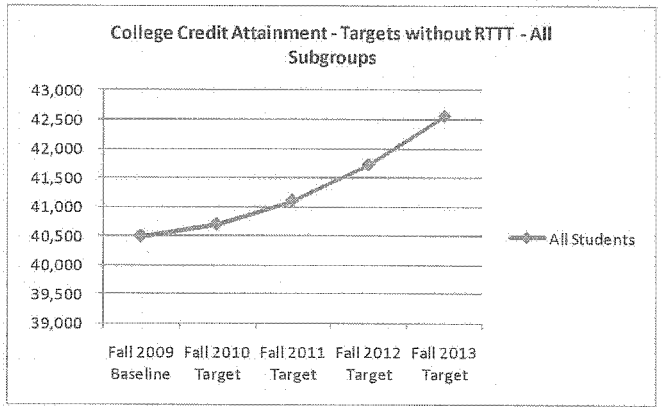


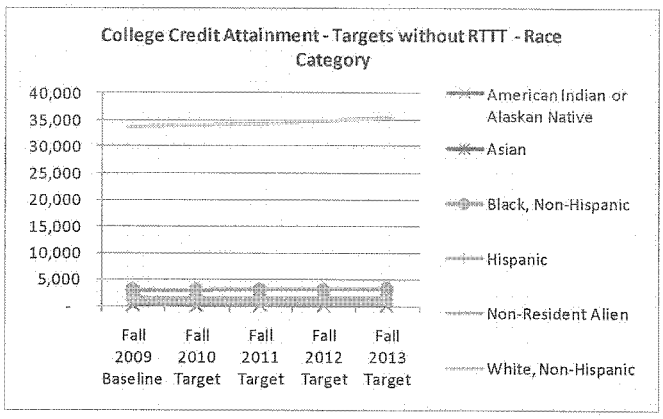


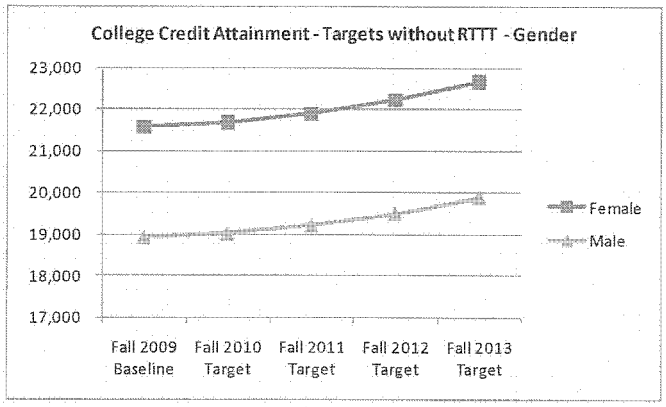
Targets Without RttT for College Credit Attainment

Student Subgroup	Fall 2009 Baseline	Fall 2010 Target	Fall 2011 Target	Fall 2012 Target	Fall 2013 Target
All Students	40,485	40,687	41,094	41,711	42,545
Female	21,564	21,672	21,889	22,217	22,661
Male	18,921	19,016	19,206	19,494	19,884
American Indian or Alaskan Native	148	149	150	152	156
Asian	1,027	1,032	1,042	1,058	1,079
Black, Non-Hispanic	3,058	3,073	3,104	3,151	3,214
Hispanic	809	813	821	833	850
Non-Resident Alien	315	317	320	325	331
White, Non-Hispanic	33,687	33,855	34,194	34,707	35,401
Unknown	1,441	1,448	1,463	1,485	1,514

Note: Shows percent of students completing at least 30 hours of non-developmental credits within two years. Includes undergraduate students age 19 and younger who were first-time ever in college and enrolled full-time.







APPENDIX A.1.5

DETAILED TABLE FOR (A)(1) – PARTICIPATING LEA SUMMARY TABLE

RATIONALE: REQUIRED EVIDENCE FOR (A)(1).

REFERENCED IN:
(A)(1)

October K-12 Data Participating LEAs	# of Schools	ADM Total Count	ADM Economically Disadvantaged	LEA Superintendent	School Board President	Teachers' Union President	Uses Std Terms & Conds	(B)(3)	(C)(3)(i)	(C)(3)(ii)	(C)(3)(iii)	(D)(2)(i)	(D)(2)(ii)	(D)(2)(iii)	(D)(2)(iv)(a)	(D)(2)(iv)(b)	(D)(2)(iv)(c)	(D)(2)(iv)(d)	(D)(3)(i)	(D)(3)(ii)	(D)(5)(i)	(D)(5)(ii)	(E)(2)
A+ Arts Acad	1	138	103	Y	NA	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Academic Acceleration Acad	1	175	102	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Acad of Arts & Humanities	1	270	240	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Acad of Arts and Sciences	1	113	105	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Acad Of Business & Tech	1	176	155	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Acad Of Dayton	1	91	90	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	Y
Achieve Career Preparatory Acad	1	223	223	Y	Y	NA	Yes	Y	Y	Y	Y	NA	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Adams County/Ohio Valley Local	6	3,740	2,224	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Adena Local SD	3	1,157	395	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Akron City SD	67	22,096	9,613	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Akron Digital Acad	1	535	426	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Allen East Local SD	2	974	236	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Alliance Acad of Cincinnati	1	412	402	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Alternative Education Acad	1	1,548	676	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	N	Y	Y	Y
Amanda-Clearcreek Local SD	4	1,586	501	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Amherst Ex Vill SD	6	3,992	710	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Ansonia Local SD	3	630	203	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Anthony Wayne Local SD	6	4,308	364	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Antwerp Local SD	3	609	151	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Apex Acad	1	632	601	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Archbold-Area Local SD	3	1,219	286	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Arts & College Preparatory Aca	1	241	152	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Arts and Science Prep Acad	1	170	151	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
AuglaINAe County Educational	1	87	55	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Avon Lake City SD	7	3,423	301	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Batavia Local SD	3	1,831	678	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Beachwood City SD	5	1,372	86	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Bella Acad of Excellence	1	186	160	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Bellefontaine City SD	5	2,506	987	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Bellevue City SD	5	1,986	656	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Belpre City SD	2	1,026	496	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Bennett Venture Acad	1	602	498	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Benton Carroll Salem Local SD	6	1,773	484	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Berea City SD	10	6,711	2,710	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Bethel Local SD	3	874	69	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Bethel-Tate Local SD	4	1,823	571	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Bexley City SD	5	1,949	104	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Big Walnut Local SD	5	2,661	436	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Black River Local SD	3	1,530	465	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Bloom-Vernon Local SD	2	871	403	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Bluffton Ex Vill SD	3	1,019	158	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Botkins Local SD	2	507	73	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Bradford Ex Vill SD	2	571	193	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Bridge Acad of Ohio	1	52	45	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Bridges Community Acad	1	151	52	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Bright Local SD	3	720	332	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Brooklyn City SD	3	1,357	575	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Brown Local SD	3	662	306	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Brunswick City SD	11	6,984	1,336	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Buckeye Central Local SD	3	749	237	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Buckeye Local SD	4	2,186	443	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Buckeye On-Line School	1	1,702	858	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
C.M. Grant Leadership Acad	1	53	43	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Cambridge City SD	5	2,260	1,297	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Campbell City SD	3	1,216	912	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Canton Local SD	7	2,232	970	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Cardinal Local SD	5	1,205	291	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	Y
Cardington-Lincoln Local SD	5	1,111	425	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Carlisle Local SD	4	1,642	387	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA

October K-12 Data Participating LEAs	# of Schools	ADM Total Count	ADM Economically Disadvantaged	LEA Superintendent	School Board President	Teachers' Union President	Uses Std Terms & Conds	(B)(3)	(C)(3)(i)	(C)(3)(ii)	(C)(3)(iii)	(D)(2)(i)	(D)(2)(ii)	(D)(2)(iii)	(D)(2)(iv)(a)	(D)(2)(iv)(b)	(D)(2)(iv)(c)	(D)(2)(iv)(d)	(D)(3)(i)	(D)(3)(ii)	(D)(5)(i)	(D)(5)(ii)	(E)(2)
Centerville City SD	12	7,588	489	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Central Acad of Ohio	1	66	58	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Central Local SD	3	1,049	333	Y	Y	Y	Yes	Y	Y	Y	Y	NA	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Cesar ChaveNA College Prep	1	<10	<10	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Chardon Local SD	6	2,944	365	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Charles School	1	170	111	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Cincinnati College Prep Acad	1	605	572	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Cincinnati Leadership Acad	1	98	93	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Cincinnati Public Schools City	82	30,464	20,007	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Cincinnati Speech & Reading	1	105	53	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Circleville City SD	6	2,139	1,102	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
CitiNAens Acad	1	308	273	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
City Day Community School	1	145	121	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Clark-Shawnee Local SD	5	2,276	618	Y	Y	Y	Yes	Y	Y	Y	Y	NA	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Clay Avenue Community School	1	182	168	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Clay Local SD	3	533	286	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Claymont City SD	6	1,969	1,072	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Clear Fork Valley Local SD	4	1,693	533	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Clearview Local SD	3	1,570	760	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Clermont Northeastern Local SD	4	1,669	449	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	Y
Cleveland Art & Social Science	1	137	128	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Cleveland Community School	1	151	129	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Cleveland Entrepreneurship	1	272	235	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Cleveland Heights-University Heights City SD	13	5,538	2,837	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Cleveland Municipal SD	157	44,985	44,953	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Columbia Local SD	3	1,073	245	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	Y
Columbus Arts & Tech Acad	1	437	388	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Columbus Bilingual Acad	1	48	32	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Columbus City SD	181	47,951	38,366	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Columbus Collegiate Acad	1	58	30	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Columbus Grove Local SD	3	847	186	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Columbus Humanities Arts	1	310	267	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Columbus Preparatory Acad	1	490	367	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Constellation Schools: Elyria Elem	1	210	85	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Constellation Schools: Lorain Elementary	1	152	109	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Constellation Schools: Madison	1	199	0	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Constellation Schools: Mansfield Elementary	1	163	150	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Constellation Schools: Old Brooklyn Elem	1	189	95	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Constellation Schools: Parma	1	578	229	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Constellation Schools: Puritas Elem	1	159	87	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Constellation Schools: Stockyard Elem	1	211	187	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Constellation Schools: Westpark Comm Elem	1	216	69	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Constellation Schools: Lorain Middle	1	108	64	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Constellation Schools: Mansfield Visual & Perf Arts	1	18	18	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Constellation Schools: Outreach Acad	1	44	0	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Constellation Schools: Puritas Middle	1	99	68	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Constellation Schools: Westpark Middle	1	132	<10	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Constellation Schools: Westside School of Arts	1	98	70	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Continental Local SD	3	543	170	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Cornerstone Acad Community	1	98	42	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Cory-Rawson Local SD	3	573	99	Y	Y	Y	Yes	Y	Y	Y	Y	NA	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Coshocton City SD	5	1,626	926	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Covington EVSD Ex Vill SD	3	817	116	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Crestview Local SD	2	868	142	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Crestview Local SD	3	1,208	454	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Crestview Local SD	3	1,055	353	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Crittenton Community School	1	67	37	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Crooksville Ex Vill SD	3	1,065	620	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Dalton Local SD	4	871	223	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y

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Danville Local SD	3	661	298	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Dayton Early College Acad	1	289	128	Y	NA	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Dayton Leadership Academies	1	540	198	Y	Y	NA	Yes	Y	Y	Y	Y	NA	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Dayton Regional STEM School	1	81	22	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Delaware City SD	8	4,377	1,398	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Delphos City SD	4	994	297	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Dixon Early Learning Center Co	1	148	51	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Dublin City SD	19	12,570	1,324	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Eagle Acad	1	122	112	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Eagle Heights Acad	1	702	510	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	N	Y	Y	Y
East Cleveland City Schools	9	3,204	2,884	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
East Knox Local SD	3	1,194	441	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
East Muskingum Local SD	6	2,039	604	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Eastern Local SD	2	809	314	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Eastwood Local SD	5	1,602	288	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Edge Acad	1	213	150	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Edgewood City SD	5	3,406	944	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Edison Local SD	5	1,945	865	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Educational Acad at Linden	1	119	74	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Educational Acad for Boys &	1	26	25	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Electronic Classrm Of Tomorrow	1	7,208	5,021	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Elida Local SD	4	2,256	717	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Elite Acad of the Arts	1	170	162	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Emerson Acad of Dayton	1	464	437	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Englewood Peace Acad	1	182	136	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Euclid City SD	13	5,501	2,791	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Evergreen Local SD	3	1,204	341	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Fairborn Digital Acad	1	92	38	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Fairfield City SD	10	9,298	1,700	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Fairfield Local SD	3	821	298	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Fairlawn Local SD	2	544	154	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Fayette Local SD	2	417	148	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Fayetteville-Perry Local SD	3	921	265	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Felicity-Franklin Schools Loca	3	1,072	510	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Findlay Digital Acad	1	74	37	Y	Y	NA	Yes	Y	Y	Y	Y	NA	Y	Y	Y	Y	NA	Y	NA	N	NA	Y	NA
Focus Learning/N Columbus	1	150	137	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Focus Learning/Se Columbus	1	212	167	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Focus Learning/Sw Columbus	1	191	88	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Fort Loramie Local SD	2	756	52	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Fort Recovery Local SD	3	879	96	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Foundation Acad	1	140	115	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Foxfire Center For Student	1	226	168	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Franklin Local Community School	1	67	34	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Franklin Local SD	6	2,189	1,065	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Fredericktown Local SD	3	1,063	301	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Fremont City City SD	9	3,856	1,787	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Frontier Local SD	5	755	396	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Galion City SD	4	1,885	857	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Gallia County Local SD	8	2,233	1,212	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Genoa Area Local SD	4	1,425	415	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
George A. Phillips Acad	1	70	46	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
George Washington Carver Prep	1	117	85	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Georgetown Ex Vill SD	2	1,002	414	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Gibsonburg Ex Vill SD	3	1,039	317	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Girard City SD	4	1,561	762	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Goal Digital Acad	1	333	207	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Graham Local SD	5	2,029	493	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Grandview Heights City SD	4	1,050	165	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Granville Ex Vill SD	4	2,364	35	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA

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Great Lakes Environment Acdy	1	62	31	Y	Y	NA	Yes	Y	Y	Y	Y	NA	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Greater Summit County Early Learning Center	1	31	13	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Green Local SD	3	563	323	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Greenfield Ex Vill SD	5	2,040	928	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Greenon Local SD	4	1,861	486	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Greenville City SD	5	2,722	920	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Groveport Community School	1	770	281	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	NA	N	Y	Y	Y
Hamilton City SD	14	8,332	4,566	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Hamilton Cnty Math & Science	1	322	190	Y	Y	NA	Yes	Y	Y	Y	Y	NA	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Harrison Hills City SD	6	1,633	834	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Harvard Avenue Comm Sch	1	524	438	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Heir Force Community School	1	157	79	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Hicksville Ex Vill SD	2	930	277	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Highland Local SD	5	1,719	555	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Hilliard City SD	23	13,703	2,365	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Hope Acad Broadway Campus	1	424	421	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	N	Y	Y	Y
Hope Acad Brown St Campus	1	231	231	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	N	Y	Y	NA
Hope Acad Canton Campus	1	301	264	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	N	Y	Y	Y
Hope Acad Cathedral Campus	1	463	321	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	N	Y	Y	NA
Hope Acad Chapelside Campus	1	404	257	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	N	Y	Y	Y
Hope Acad Cuyahoga Campus	1	435	263	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	N	Y	Y	Y
Hope Acad East Campus	1	327	233	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	N	Y	Y	Y
Hope Acad Lincoln Park	1	131	131	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	N	Y	Y	Y
Hope Acad Northcoast Campus	1	237	211	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	N	Y	Y	Y
Hope Acad Northwest Campus	1	329	275	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	N	Y	Y	Y
Hope Acad University	1	314	287	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	N	Y	Y	NA
HoriNAon Science Acad Cleve Elemen	1	122	117	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
HoriNAon Science Acad Cleve Mid	1	153	153	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
HoriNAon Science Acad Cleveland	1	505	274	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
HoriNAon Science Acad Columbus	1	327	226	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
HoriNAon Science Acad Dayton	1	204	150	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
HoriNAon Science Acad Dayton High	1	274	214	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
HoriNAon Science Acad Denison Elemen	1	94	94	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
HoriNAon Science Acad Lorain	1	129	115	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
HoriNAon Science Acad Spring	1	179	142	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
HoriNAon Science Acad. Cincini	1	118	49	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
HoriNAon Science Acad. Columbus Middle	1	197	79	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
HoriNAon Science Acad.-Denison	1	234	234	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
HoriNAon Science Acad Elemen	1	141	128	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
HoriNAon Science Acad Toledo	1	242	171	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Howland Local SD	6	2,918	694	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Huber Heights City SD	10	5,879	1,879	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Hudson City SD	6	4,684	159	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Imani Learning Acad	1	111	35	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Indian Creek Local Local SD	6	2,059	871	Y	Y	Y	Yes	Y	Y	Y	Y	NA	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Indian Valley Local SD	4	1,743	652	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Intergenerational School, The	1	142	<10	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
ISUS Construction Technology	1	205	205	Y	Y	NA	Yes	Y	Y	Y	Y	NA	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
ISUS Health Care	1	45	45	Y	Y	NA	Yes	Y	Y	Y	Y	NA	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
ISUS Manufacturing	1	30	30	Y	Y	NA	Yes	Y	Y	Y	Y	NA	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Jackson Center Local SD	2	466	145	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Jackson City SD	6	2,322	1,056	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Jackson-Milton Local SD	3	810	269	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Jefferson Area Local SD	4	1,895	686	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Jefferson Local SD	3	1,140	378	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Johnstown-Monroe Local SD	4	1,498	170	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Jonathan Alder Local SD	5	1,904	279	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Kent City SD	8	3,347	1,190	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Kettering City SD	12	6,840	2,402	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA

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Keystone Local SD	3	1,617	341	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
King Acad Community Sch	1	115	115	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
KIPP: Journey Acad	1	72	55	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Knight Acad	1	79	38	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
L. Hollingworth School for Talented and Gifted	1	93	70	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
L.E.A.R.N. (Liberty Early Academic Resource Nest)	1	129	77	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Lake Erie Acad	1	152	129	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Lancaster Digital Acad	1	70	32	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Lebanon City SD	6	5,080	888	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Leetonia Schools Ex Vill SD	3	730	361	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Leipsic Local SD	2	612	287	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Lexington Local SD	5	2,479	485	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Liberty Center Local SD	4	1,135	285	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Liberty Exemplary Academic Design (LEAD)	1			Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Liberty Local SD	5	1,446	728	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Liberty Union-Thurston Local SD	3	1,303	368	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Liberty-Benton Local SD	3	1,155	95	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Life Skills Center Canton	1	160	159	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Life Skills Center of Col Nort	1	205	203	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Life Skills Center of Col SE	1	215	215	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Life Skills Center of Dayton	1	271	271	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Life Skills Center of Elyria	1	172	172	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Life Skills Center of North Ak	1	130	130	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Life Skills Center Of Toledo	1	223	223	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Life Skills Center-Middletown	1	215	215	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Life Skills Center-Springfield	1	230	230	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Life Skills Ctr Of Akron	1	140	140	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Life Skills Ctr Of Cincinnati	1	113	113	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Life Skills Ctr Of Cleveland	1	196	196	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Life Skills Ctr Of Hamilton Co	1	188	188	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Life Skills Ctr Of Lake Erie	1	264	264	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Life Skills Ctr Of Summit Co	1	140	140	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Life Skills Ctr Of Youngstown	1	227	227	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Life Skills Of Northeast Ohio	1	244	243	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Life Skills Of Trumbull County	1	325	324	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Lighthouse Acad	1	114	74	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	NA	Y	Y	N	Y	Y	Y
Lincolnview Local SD	2	846	226	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Lion of Judah Acad	1	145	97	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Lisbon Ex Vill SD	2	962	453	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Logan Elm Local SD	6	2,130	1,149	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Logan-Hocking Local SD	7	3,691	1,842	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
London City SD	4	1,900	691	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Lorain City SD	27	7,727	6,320	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Loudonville-Perrysville Ex Vil	4	1,178	535	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Lucas Local Local SD	3	525	113	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Lynchburg-Clay Local SD	3	1,229	383	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Mad River Local SD	7	3,404	1,952	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Madison Avenue School of Arts	1	203	68	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Madison Local SD	5	3,161	1,039	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Madison Local SD	6	2,857	459	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Mahoning County High School	1	38	34	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Mahoning Unlimited Classroom	1	152	99	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Manchester Local SD	2	735	473	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Manchester Local SD	3	1,454	295	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Mansfield Preparatory Acad	1	165	135	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Maple Heights City SD	6	3,378	1,919	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Mapleton Local SD	2	940	283	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Marcus Garvey Acad	1	107	107	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Margaretta Local SD	2	1,252	356	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA

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Marietta City SD	6	2,742	993	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Marlington Local SD	5	2,322	705	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Marysville Ex Vill SD	8	4,851	1,051	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Maumee City SD	7	2,617	449	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Maysville Local SD	4	2,048	957	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
McComb Local Local SD	3	710	257	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Mechanicsburg Ex Vill SD	2	848	193	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Medina City SD	11	7,035	912	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Meigs Local SD	4	1,814	1,153	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Miami East Local SD	3	1,206	155	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Miami Trace Local SD	3	2,321	756	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Miamisburg City SD	11	5,139	1,346	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Miamisburg Secondary Digital	1	82	18	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Midnimo Cross Cultural CS	1	126	117	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Milford Ex Vill SD	8	5,680	988	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Millennium Community School	1	503	284	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Milton-Union Ex Vill SD	3	1,524	529	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Mississinawa Valley Local SD	2	654	284	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Mollie Kessler	1	61	48	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Monroeville Local SD	2	619	131	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Morgan Local SD	5	1,924	967	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Mound St. Military Career Acad	3	58	58	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Mound Street Health Careers Ac	1	116	114	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Mound Street II Careers Academ	1	86	86	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Mount Auburn International Aca	1	331	288	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Mount Gilead Schools Ex Vill Schools	5	1,161	439	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Mount Vernon City SD	8	3,819	1,348	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
New Boston Local SD	3	366	277	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
New Day Acad Boarding	1	149	66	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
New Knoxville Local SD	2	428	36	Y	Y	Y	Yes	Y	Y	Y	Y	NA	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
New Lebanon Local SD	3	1,105	416	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
New Miami Local SD	3	749	460	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
New Philadelphia City SD	8	2,667	840	Y	Y	Y	Yes	Y	Y	Y	Y	NA	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Newcomerstown Ex Vill SD	4	1,020	570	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Newton Falls Ex Vill SD	4	1,426	557	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Newton Local SD	2	520	98	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Noble Acad-Cleveland	1	189	181	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Noble Acad-Columbus	1	97	43	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Nordonia Hills City SD	6	3,777	646	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
North Central Local SD	2	610	248	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
North Dayton School of Discovery	1	550	496	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Northeastern Local SD	7	3,541	672	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Northmor Local SD	3	1,135	357	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Northwestern Local SD	3	1,743	365	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Norwalk City SD	6	2,756	1,089	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Nu Bethel Center of Excellence	1	40	34	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Oak Hill Union Local SD	2	1,190	661	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Oakwood City SD	5	2,040	46	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Ohio Connections Acad	1	1,318	448	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Ohio Virtual Acad	1	6,709	3,159	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Old Brooklyn Community Middle	1	141	48	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Olentangy Local SD	23	12,716	851	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Ontario Local SD	4	1,664	20	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	Y
Orange City SD	5	2,091	271	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Oregon City SD	9	3,604	1,294	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Orion Acad	1	507	502	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Osnaburg Local SD	3	792	181	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Ottawa Hills Local SD	2	940	0	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Ottawa-Glandorf Local SD	4	1,363	223	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA

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Ottoville Local SD	2	471	36	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
P.A.C.E. High School	1	336	129	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Painesville City Local SD	6	2,711	1,959	Y	Y	Y	Yes	Y	Y	Y	Y	NA	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Par Excellence Acad	1	116	75	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Parkway Local SD	3	999	203	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Parma City SD	21	11,809	4,539	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Pathway School of Discovery	1	636	496	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Patrick Henry Local SD	4	993	334	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Paul Laurence Dunbar Acad	1	126	117	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Paulding Ex Vill SD	4	1,451	597	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Perry Local SD	4	1,736	305	Y	Y	Y	Yes	Y	Y	Y	Y	NA	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Perrysburg Ex Vill SD	6	4,121	357	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Pettisville School Local SD	2	527	127	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Pheonix Village Acad P-2	1	52	52	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Pheonix Village Acad S-1	1	13	13	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Phoenix Community Learning Ctr	1	331	139	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Pickerington Local SD	14	9,750	1,560	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Pinnacle Acad	1	598	539	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Piqua City SD	9	3,395	1,114	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Pleasant Local SD	5	1,318	243	Y	Y	Y	Yes	Y	Y	Y	Y	NA	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Port Clinton City SD	4	1,632	643	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Premier Acad of Ohio	1	251	202	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Providence Acad for Student Success	1	295	264	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Pschlecin Public School	1	73	26	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Reynoldsburg City SD	13	6,028	1,776	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Richard Allen Acad	1	153	95	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Richard Allen Acad II	1	365	110	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Richard Allen Acad III	1	171	108	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Richard Allen Preparatory	1	49	0	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Richmond Heights Local SD	2	908	356	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
River View Local SD	6	2,063	687	Y	Y	Y	Yes	Y	Y	Y	Y	NA	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Riverside Acad	1	538	396	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	N	Y	Y	Y
Rolling Hills Local SD	5	1,807	1,004	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Romig Road Community School	1	347	223	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Russia Local SD	2	464	19	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Schnee	1	174	<10	Y	Y	NA	Yes	Y	Y	Y	Y	NA	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Scholarls Preparatory and Care	1	93	84	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Scioto Valley Local SD	3	1,446	576	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Sciotoville Community School DBA East High School	1	367	262	Y	Y	NA	Yes	Y	Y	Y	Y	NA	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Sciotoville Elementary Acad	1	99	84	Y	Y	NA	Yes	Y	Y	Y	Y	NA	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Sebring Local SD	2	606	302	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Shaker Heights City SD	8	5,069	1,342	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Shawnee Local SD	4	2,477	504	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Shelby City SD	5	2,075	595	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Sidney City SD	7	3,586	1,579	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
South Central Local SD	3	835	331	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	Y
South Euclid-Lyndhurst City SD	6	3,944	1,643	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
South Scioto Acad	1	145	140	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Southeast Local SD	6	1,491	534	Y	Y	Y	Yes	Y	Y	Y	Y	NA	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Southern Local SD	2	660	439	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Southern Local SD	2	792	475	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Southwest Local SD	7	3,386	1,039	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
South-Western City SD	30	19,203	9,142	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Spencerville Local SD	3	943	253	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	Y
Springfield Acad Of Excellence	1	165	139	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Springfield City SD	19	6,877	4,529	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Springfield Local SD	6	2,289	1,067	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Springfield Local SD	6	3,632	1,151	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Stambaugh Charter Acad	1	451	432	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y

October K-12 Data Participating LEAs	# of Schools	ADM Total Count	ADM Economically Disadvantaged	LEA Superintendent	School Board President	Teachers' Union President	Uses Std Terms & Conds	(B)(3)	(C)(3)(i)	(C)(3)(ii)	(C)(3)(iii)	(D)(2)(i)	(D)(2)(ii)	(D)(2)(iii)	(D)(2)(iv)(a)	(D)(2)(iv)(b)	(D)(2)(iv)(c)	(D)(2)(iv)(d)	(D)(3)(i)	(D)(3)(ii)	(D)(5)(i)	(D)(5)(ii)	(E)(2)
Star Acad of Toledo	1	225	220	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Steubenville City SD	5	2,050	1,179	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Stow-Munroe Falls City SD	9	5,272	780	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Struthers City SD	3	1,924	1,165	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Sugarcreek Local Schools Local	5	2,495	304	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Talawanda City SD	5	2,836	440	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Tallmadge City SD	5	2,482	370	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Tech Con Institute	1	85	<10	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Tecumseh Local SD	6	3,145	1,321	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
The Arts Acad	1	151	0	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
The Arts Acad West	1	18	0	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
The Five R'S Acad	1	30	0	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
The Graham School	1	228	57	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
The Maritime Acad of Toledo	1	134	62	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Tipp City Ex Vill SD	5	2,485	375	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Toledo City SD	97	23,836	15,605	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Toledo Preparatory Acad	1	109	71	Y	Y	NA	Yes	Y	Y	Y	Y	NA	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Tomorrow Center	1	35	25	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Toronto City SD	3	710	228	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
TRECA Digital Acad	1	1,347	634	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Trimble Local SD	3	837	522	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Tri-Village Local SD	2	700	252	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Tuscarawas Valley Local SD	4	1,487	432	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Upper Arlington City SD	10	4,751	62	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
V L T Acad	1	488	127	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Van Wert City SD	7	1,899	678	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Vanlue Local SD	2	236	24	Y	Y	Y	Yes	Y	Y	Y	Y	NA	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Village Preparatory School	1	78	65	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Villaview Lighthouse	1	75	73	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Vinton County Local SD	5	2,164	1,460	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Virtual Community Sch Of Ohio	1	1,431	965	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
W C Cupe Community School	1	66	58	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Walnut Township Local SD	2	640	243	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Warren County Virtual Commun.	1	200	53	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Warren Local SD	4	2,448	660	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Washington Court House City SD	4	2,065	876	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Washington-Nile Local SD	3	1,408	1,073	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA
Wauseon Ex Vill SD	4	1,870	548	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Wayne Local SD	4	1,342	75	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Wayne Trace Local SD	3	903	296	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
WCLA West Central Learning Acad II	1	90	27	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Weathersfield Local SD	3	947	380	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Wellston City SD	4	1,458	813	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
West Branch Local SD	5	2,302	693	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
West Holmes Local SD	7	2,359	942	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
West Liberty-Salem Local SD	2	1,143	0	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
West Muskingum Local SD	4	1,545	506	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Western Reserve Local SD	4	718	120	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Wheelersburg Local SD	3	1,403	497	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Whitehall City SD	6	2,581	1,882	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Wickliffe City SD	3	1,329	315	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Wickliffe Progressive Communit	1	371	16	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Wildwood Environmental Acad	1	134	63	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Willard City SD	6	1,822	965	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Wilmington City SD	5	3,006	1,207	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Winterfield Venture Acad	1	491	433	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Winton Woods City SD	6	3,396	1,450	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
WinWin Acad	1			Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Wolf Creek Local SD	2	605	204	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA

October K-12 Data

Participating LEAs	# of Schools	ADM Total Count	ADM Economically Disadvantaged	LEA Superintendent	School Board President	Teachers' Union President	Uses Std Terms & Conds	(B)(3)	(C)(3)(i)	(C)(3)(ii)	(C)(3)(iii)	(D)(2)(i)	(D)(2)(ii)	(D)(2)(iii)	(D)(2)(iv)(a)	(D)(2)(iv)(b)	(D)(2)(iv)(c)	(D)(2)(iv)(d)	(D)(3)(i)	(D)(3)(ii)	(D)(5)(i)	(D)(5)(ii)	(E)(2)
Woodridge Local SD	4	1,805	554	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	N	Y	Y	NA
Worthington City SD	19	8,699	1,445	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA	N	Y	Y	NA
Xenia Community City SD	11	4,476	1,880	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	NA
Youngstown Acad of Excellence	1	192	174	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Youngstown Community School	1	279	224	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Youthbuild Columbus Community	1	160	152	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
NAenith Acad	1	326	320	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	NA

Note: Y = Yes; N = No; NA = Not Applicable

APPENDIX A.1.6

EXAMPLE OF OHIO'S STANDARD PARTICIPATING LEA MOU

RATIONALE: REQUIRED EVIDENCE FOR SECTION (A)(1)(II)

REFERENCED IN:
(A)(1)

Race to the Top

ODE/LEA Memorandum of Understanding

This Memorandum of Understanding ("MOU") is entered into by and between The Ohio Department of Education and _____ ("Participating LEA"). The purpose of this agreement is to establish a framework of Collaboration, as well as articulate specific roles and responsibilities in support of the State in its implementation of an approved Race to the Top grant project.

I. SCOPE OF WORK

Exhibit I, the Preliminary Scope of Work, indicates which portions of the State's proposed reform plans ("State Plan") the Participating LEA is agreeing to implement. (Note that, in order to participate, the LEA must agree to implement all or significant portions of the State Plan.) A Final Scope of Work will be completed and implemented by the LEA pursuant to Section III, Paragraph 4 of this MOU.

II. PROJECT ADMINISTRATION

A. PARTICIPATING LEA RESPONSIBILITIES

In assisting the State in implementing the tasks and activities described in the State's Race to the Top application, the Participating LEA subgrantee will:

1) Implement the LEA plan as identified in Exhibit I of the agreement and in the Final Scope of Work as described in Section III, Paragraph 4 of this MOU;
2) Actively participate in all relevant convenings, communities of practice, or other practice-sharing events that are organized or sponsored by the State or by the U.S. Department of Education ("ED");
3) Post to any website specified by the State or ED, in a timely manner, all non-proprietary products developed using funds associated with the Race to the Top grant;
4) Participate, as required, in any evaluations of this grant conducted by State or ED;
5) Be responsive to State or ED requests for information including on the status of the project, project implementation, outcomes, and any problems anticipated or encountered;
6) Participate in meetings and telephone conferences with the State to discuss (a) progress of the project, (b) potential dissemination of resulting non-proprietary products and lessons learned, (c) plans for subsequent years of the Race to the Top grant period, and (d) other matters related to the Race to the Top grant and associated plans.

B. STATE RESPONSIBILITIES

In assisting Participating LEAs in implementing their tasks and activities described in the State's Race to the Top application, the State grantee will:

1) Review and determine approval of the Preliminary Scope of Work and Final Scope of Work prior to including the LEA in the Race to the Top programs;
2) Work collaboratively with, and support the Participating LEA in carrying out the LEA Plan as identified in Exhibit I of this agreement and in the Final Scope of Work;
3) Timely distribute the LEA's portion of Race to the Top grant funds during the course of the project period and in accordance with the LEA Plan identified in the Final Scope of Work;
4) Provide feedback on the LEA's status updates, annual reports, any interim reports, and project plans and products; and
5) Identify sources of technical assistance for the project.

C. JOINT RESPONSIBILITIES

1) The State and the Participating LEA will each appoint a key contact person for the Race to the Top grant.
2) These key contacts from the State and the Participating LEA will maintain frequent communication to facilitate cooperation under this MOU.
3) State and Participating LEA grant personnel will work together to determine appropriate timelines for project updates and status reports throughout the whole grant period.
4) State and Participating LEA grant personnel will negotiate in good faith to continue to achieve the overall goals of the State's Race to the Top grant, even when the State Plan requires modifications that affect the Participating LEA, or when the LEA Plan requires modification.

D. STATE RECOURSE FOR LEA NON-PERFORMANCE

If the State determines that the LEA is not meeting its goals, timelines, budget, or annual targets or is not fulfilling other applicable requirements, the State grantee will take appropriate enforcement action, which could include a collaborative process between the State and the LEA, or any of the enforcement measures that are detailed in 34 CFR section 80.43 including putting the LEA on reimbursement payment status, temporarily withholding funds, or disallowing costs.

III. Assurances

The Participating LEA hereby certifies and represents that it:

1) Has all requisite power and authority to execute this MOU;
2) Is familiar with the State's Race to the Top plan and is supportive of and committed to working on all or significant portions of the State Plan;
3) Agrees to be a Participating LEA and will implement those portions of the State Plan indicated in Exhibit I, if the State application is funded,
4) Will provide a Final Scope of Work to be reviewed and approved by the State and attached to this MOU as Exhibit II only if the State's application is funded; will do so in a timely fashion but no later than 90 days after a grant is awarded to the State; and will describe in Exhibit II the LEA's specific goals, activities, timelines, budgets, key personnel, and annual

targets for key performance measures ("LEA Plan") in a manner that is consistent with the Preliminary Scope of Work (Exhibit I) and with the State Plan; and

5) Will comply with all of the terms of the Grant, the State's subgrant, and all applicable Federal and State laws and regulations, including laws and regulations applicable to the Program, and the applicable provisions of EDGAR (34 CFR Parts 75, 77, 79, 80, 82, 84, 85, 86, 97, 98 and 99).

IV. MODIFICATIONS

This Memorandum of Understanding may be amended only by written agreement signed by each of the parties involved, and in consultation with ED.

V. DURATION/TERMINATION

This Memorandum of Understanding shall be effective, beginning with the date of the last signature hereon and, if a grant is received, ending upon the expiration of the grant project period, or upon mutual agreement of the parties, whichever occurs first. This Memorandum of Understanding is applicable for the Phase 1 competition of Race to the Top. If the State needs to reapply under Phase 2, the State may require a revised Memorandum of Understanding.

VI. SIGNATURES

LEA SUPERINTENDENT (or equivalent authorized signatory) – required:

Signature/Date

Print Name/Title

President of Local School Board (or equivalent, if applicable);

Signature/Date

Print Name/Title

Local Teachers' Union Leader (if applicable):

Signature/Date

Print Name/Title

Authorized State Official – required:

By its signature below, the State hereby accepts the LEA as a Participating LEA.

Signature/Date

Print Name/Title

A. EXHIBIT 1 – PRELIMINARY SCOPE OF WORK

LEA hereby agrees to participate in implementing the state plan in each of the areas identified below. The LEA should enter a response for each item in the column labeled "Indication of LEA Participation." NA (not applicable) may be used only when the LEA meets the criteria specified in the "Definition of NA" column.

Elements of State Reform Plan	Specific Ohio Requirement	Required or Optional Element	Definition of N/A	LEA Funding Expectation	Indication of LEA Participation (Yes/No/NA)	LEA Comments
(B)(3) Supporting the transition to enhanced standards and high-quality assessments	LEAs will commit to participating in the professional development program provided by the state and will contribute teacher and principal time to participate	Required		LEAs contribute release time		
(B)(3) Supporting the transition to enhanced standards and high-quality assessments	LEAS will commit to revising existing local curricula in order to align with new state standards	Required		LEAs contribute release time		
C)(3) Using data to improve instruction:						
(i) Use of local instructional improvement systems	LEAs with a functioning instructional improvement system (as defined by Race to the Top) commit to encouraging its active use at the classroom level	Optional		LEA RttT Funds		
	LEAs without a functioning instructional improvement system (as defined by Race to the Top) commit to considering adoption of a qualifying system	Required		LEA RttT Funds		
(ii) Professional development on use of data	LEAs will commit to implementing a formative assessment program; LEAs without current formative assessment programs commit to collaboratively developing and implementing such a program with the state and other participating districts	Required		Partial State RttT funds available for technology		
(iii) Availability and accessibility of data to researchers	LEAS will make instructional improvement system data available to researchers, consistent with the state's broader research agenda	Required		LEA RttT Funds		
	LEAs will partner with institutions of higher education to evaluate and implement innovative educational models	Optional		LEA RttT Funds		
(D)(2) Improving teacher and principal effectiveness based on performance:						

Elements of State Reform Plan	Specific Ohio Requirement	Required or Optional Element	Definition of N/A	LEA Funding Expectation	Indication of LEA Participation (Yes/No/NA)	LEA Comments
(i) Measure student growth	LEAs commit to implementing the student-level value-added program consistent with the program conducted by Battelle for Kids. This includes supporting professional development and the distribution of value-added reports on an annual basis to all eligible teachers and principals	Required	If a student-level value-added program is already implemented, there is no requirement for additional training	LEA RttT funds support release time for professional development and general implementation resources		
(i) Measure student growth	LEAs commit to participate in pilot projects to develop additional measures of student growth and extend value-added reporting to additional grades and subjects	Optional		State RttT funds will supplement. LEA contributions expected		
(ii) Design and implement evaluation systems	LEAs commit to adopt evaluation systems and definitions of effective teachers and principals which encompass multiple measures including student growth as one of multiple significant factors, and which are aligned with criteria established by the state. Recognizing the complexities of implementing new evaluation systems in a collective bargaining state, LEAs commit to designing revised evaluation systems, implementing pilots, and providing training, with full implementation within four years.	Required		LEA RttT Funds		
(iii) Conduct annual evaluations	LEAs commit to annual evaluations of all teachers and principals within a comprehensive performance assessment system that includes standards-based observation, measures of student growth, and other varied evaluations formats aligned with state criteria.	Required		LEA RttT Funds		
(iv)(a) Use evaluations to inform professional development	LEAs commit to using data and results from the evaluation system in the planning of district professional development programs	Required		LEA RttT Funds		
(iv)(b) Use evaluations to inform promotion and retention	LEAs commit to using evaluation results in promotion and retention decisions	Required		LEA RttT Funds		

Elements of State Reform Plan	Specific Ohio Requirement	Required or Optional Element	Definition of N/A	LEA Funding Expectation	Indication of LEA Participation (Yes/No/NA)	LEA Comments
(iv)(b) Use evaluations to inform compensation	LEAs may link evaluation system outcomes to compensation practices	Optional		State RttT funds will supplement. LEA contributions expected		
(iv)(c) Use evaluations to inform tenure	LEAs commit to including evaluation results as a significant input into tenure decisions	Required		LEA RttT Funds		
(iv)(d) Use evaluations to inform removal	LEAs commit to employ evaluation results as a significant input to removal decisions and will commit to not allowing persistently low performing teachers and principals to remain once they've been given ample opportunity to improve	Required				
(D)(3) Ensuring equitable distribution of effective teachers and principals:						
(i) High-poverty and/or high-minority schools	LEAs commit to collaboratively create and implement a plan that provides innovative strategies for placing effective teachers in high-poverty and high-minority schools, including strategies such as additional compensation, creating professional learning communities, placing teams of effective teachers in such schools, and distributive leadership models. Placement of teachers in such schools will not be based solely on seniority.	Required	Many districts in Ohio are small districts with a limited number of schools and only one high school. This element is not required for small districts with few buildings.			
(D)(5) Providing effective support to teachers and principals:						
(i) Quality professional development	LEAs commit to implement the residency program as defined by House Bill 1 with additional, intensive supports for new teachers in the lowest-performing schools	Required		LEA RttT Funds		
	LEAs commit to using the state's professional development standards when designing and implementing professional development	Required		LEA RttT Funds		
(ii) Measure effectiveness of professional development	captured by (D)(5)(i)					

Elements of State Reform Plan	Specific Ohio Requirement	Required or Optional Element	Definition of N/A	LEA Funding Expectation	Indication of LEA Participation (Yes/No/NA)	LEA Comments
(E)(2) Turning around the lowest-achieving schools	LEAs commit to implement one of four Race-to-the-Top specified intervention models in schools designated as among the lowest 5%, and will implement the models in sufficient schools each year to ensure implementation in all such schools within four years	Required	Not applicable to districts who do not have schools explicitly designated	LEA RttT Funds		
	LEAs commit to applying for school improvement grant funding to augment their support for transforming the lowest-performing schools	Required	Not applicable to LEAs who do not have schools explicitly designated	LEA RttT Funds		
	LEAs may apply Race-to-the-Top funding to implement the Governor's Closing the Achievement Gap initiative	Optional	Not applicable to LEAs that have no high schools meeting the criteria of the program	LEA RttT Funds		
General	LEAs commit to work collaboratively to address areas of the Race to the Top program that differ from existing collective bargaining agreements by developing a Memorandum of Understanding between the teachers union and the district.	Required				

For the Participating LEA

Authorized LEA Signature/Date

Print Name/Title

For the State

Authorized State Signature/Date

Print Name/Title

APPENDIX A.2.1

CONSOLIDATED CONTINUOUS IMPROVEMENT PLANNING TOOL DESCRIPTION

RATIONALE: DESCRIPTION OF OHIO'S CONSOLIDATED CONTINUOUS IMPROVEMENT PLANNING TOOL (CCIP), AN ONLINE IMPROVEMENT PLANNING AND GRANTS APPLICATION TOOL.

REFERENCED IN:
(A)(2)

Consolidated Continuous Improvement Planning (CCIP)

For Ohio school districts, the Consolidated Continuous Improvement Planning (CCIP) application is a powerful Web-based online tool designed to:

1. Promote best practices in planning for school improvement.
2. Simplify, automate and consolidate the application process for state and federal grants.
3. Link grant funds to specific strategies and actions within the school improvement plan.
4. Accelerate the process by which districts draw down cash based on grant awards.
5. Improve public access to district improvement plans.

School districts in Ohio, like their counterparts across the country, face a variety of pressures. State and local accountability systems and the consequences that emerge from them challenge districts to find the best ways to improve student outcomes. The current economic climate demands that districts maximize their efforts to access federal and state grant monies. Tighter budgets also mean that when making expenditures related to grants, districts must draw down cash reimbursements as quickly as possible.

The Ohio Department of Education could have addressed any of these challenges independently but chose an innovative approach instead, developing the CCIP system which integrates solutions to these various problems.

The CCIP starts with a powerful planning tool. It guides districts through the process of planning for student improvement. It encourages districts to review their data and assess their needs. It encourages them to develop focused improvement strategies and not try to tackle all problems at once. It provides a structure that starts with high-level goals, more detailed strategies and very specific action steps. The planning tool is designed around research-based best practices for school improvement planning.

The CCIP then couples the planning tool with a grants application tool. This tool allows districts to prepare applications for federal and state formula and competitive grants in a consolidated way. Common data and information required for multiple applications needs to be entered only once by districts. Elements from the improvement plan required to support the grant applications are easily linked. Districts are able to show how grant funds will be linked to the focused strategies from their improvement plans. The plan itself contains matrices that show the dollar amounts from each of the various grants that will be used to support the specific goals and strategies. This means that rather than taking a somewhat haphazard "apply first, integrate later" approach to grant applications, districts can be purposeful in targeting grant funds to support their specific school improvement agenda. They also are able to demonstrate how the many funding streams are being used together to support their goals.

Finally, the CCIP provides a mechanism to simplify and accelerate the process for reimbursing districts for expenditures made based on a grant award. The approved grant award amounts that emerge from CCIP drive an automated system that determines standard reimbursement patterns. It allows responsible individuals at the district level to certify that expenditures have been made and then submit documentation and reimbursement requests electronically. Cash is distributed faster and is more easily identifiable by the districts.

APPENDIX A.2.2

BUSINESS COALITION FOR EDUCATIONAL SYSTEM IMPROVEMENT

RATIONALE: DESCRIPTION OF THE BUSINESS COALITION FOR EDUCATIONAL SYSTEM IMPROVEMENT, A COALITION COMMITTED TO ACCELERATING OHIO'S EDUCATION REFORM AGENDA BY WORKING ALONGSIDE THE OHIO RTTT STATE TEAM AND PARTICIPATING LEA'S TO TRANSFER PRACTICES IN ORGANIZATIONAL CHANGE AND PROJECT MANAGEMENT.

REFERENCED IN:
(A)(2)

The Business Coalition for Education System Improvement

Ohio businesses have committed to accelerating the state's education reform agenda by aligning support efforts and creating a Business Coalition for Education System Improvement. The Coalition will work alongside Ohio RttT state team and participating LEAs to transfer practices in organizational change and project management – two key areas that require excellent agile execution for the ambitious goals to be achieved. The Coalition will benefit by connecting to the Ohio Business Roundtable to capitalize on its track record of policy advocacy and access to Ohio's most senior business leaders.

The Coalition founding members have identified mentoring, in-kind support, and loaned specialist programs to engage at all levels in Ohio's reform efforts. This work likely represents an additional area where Ohio demonstrates national leadership that will be transferred to other states as they attempt to deeply engage businesses in their own regions. Founding members have committed not only to broadening the circle of engagement by recruiting other Ohio businesses, but also to proactively reach out to peer groups in other states that receive RttT awards.

Ohio currently enjoys an array of impactful engagement by business in education support. Nationwide Insurance underwrites the support of several of its employees to work full-time with Columbus City Schools to improve systems for data collection and analysis – a core competency for the insurance industry leader. Honda Motor Company translates its renowned product quality through an ongoing program where school leaders are trained in how to think about quality control in management systems. The global research and development leader Battelle Memorial Institute, a charitable trust in Ohio founded with an education mission, is instrumental in managing the nationally recognized Ohio STEM Learning Network and actively spreading it to other states – many of whom are using similar design principles in their applications under RttT. Battelle's philanthropic dollars also provided the founding investment that led to Battelle for Kids, a nonprofit organization that provides strategic counsel and innovative solutions for today's complex educational-improvement challenges.

The Coalition intends to assist in two immediate areas with critical supports: (1) initiate executive coaching, and (2) facilitation assistance for implementation teams. The Coalition will be operated through in-kind and voluntary participation by Ohio's businesses. This visible support also reinforces the public endorsement of positive change and creates a cohort of non-traditional education ambassadors who hold high credibility in their regions.

Within the required 90-day timeframe for completion of signed contracts with LEA's and partners, the Coalition will have enlisted a minimum of 25 CEOs and chief operating officers from across the Ohio business community. (Half of these have already been identified.) The participating individuals will spend at least two years in a direct mentoring relationship with selected school superintendents or LEA leaders in Ohio. Carrying out executive-to-executive mentoring on a regular basis will enable business CEOs to be sounding boards for the critical change agenda that superintendents are wrestling with. CEOs also commit to provide opportunities within their own businesses to expose the superintendents and LEA leaders to business practices that could be translated to the world of education. This would include observation in board meetings, participation in leadership training with other executives, and other immersion experience.

As LEAs begin the promised work of executing plans, ODE and statewide partners commit to provide supports to these efforts. This is in the form of embedded teams and dedicated staff whose jobs are to increase the effectiveness of groups of LEA's working together. Another immediate role for the Coalition will be to bring tools for facilitation of these multiple groups, and build facilitation skills among the education leadership in Ohio.

Ohio is home to some of the nation's leading logistics specialists, like Limited Brands, Cardinal Health, and Worthington Industries. Ohio is also the location of research and development centers like The Air Force Research Laboratory (Dayton), Battelle (Columbus), and NASA Glenn Research Center (Cleveland). These organizations have deep competency in planning and operating projects on-time and on-budget. They are already connected to Ohio education work in The Ohio STEM Learning Network. They have vested interests in an educated Ohio citizenry because they employ tens of thousands of people. The complex project management dimension of Race to the Top can therefore be undergirded by project management organizations that agree to help educators who are not trained in this particular specialty. The Office of Strategic Initiatives will include provisions for one or more joint positions whose costs are shared between ODE and the private sector. This will be used as a means to bring

qualified project management expertise into ODE from the outset. Further, Ohio's Superintendent of Public Instruction will establish career development pathways that encourage high potential ODE staff to participate in a rotation, working side-by-side with these joint position mentors.

Periodically, the collection of CEOs and LEA leaders will be come together as a group to share what they are learning. These discussions from these convenings will also be captured for purposes of research and information transfer. Over time, this coalition approach promises to be a national model for how corporate engagement can make an immediate difference in accelerating the pace of education reform.

APPENDIX A.2.3

QUALIFICATIONS OF LEADERS IN OHIO'S PLANNED RTTT MANAGEMENT STRUCTURE

RATIONALE: RESUMES OF INDIVIDUALS IDENTIFIED AS KEY LEADERS IN OHIO'S PLANNED RTTT MANAGEMENT STRUCTURE.

REFERENCED IN:
(A)(2)

Deborah S. Delisle

6602 Egg Court, Dublin, OHIO 43017 614.307.3333
Deborah.Delisle@ode.state.oh.us

EDUCATION

1988-2002	Postgraduate studies: Administration & Curriculum Development Kent State University, Kent, Ohio
1983-1986	Kent State University M.Ed. Special Education
1979-1980	The University of Connecticut, Storrs, CT. Masters' Program: Educational Psychology
1971-1974	Springfield College, Springfield, MA. Bachelor of Science: Education and Psychology

PROFESSIONAL LICENSES

State of Ohio
Superintendent: expires 2013
Elementary Principal: expires 2013
Teacher: Elementary (1-8) and Gifted (1-12): Permanent

PRIMARY PROFESSIONAL ROLES

2008-present State Superintendent of Public Instruction
Ohio Department of Education, Columbus, Ohio
Responsible to 19 member, elected and appointed, State Board of Education
Member, Governor's Cabinet
Serve on 42 agencies' boards
Responsibilities include oversight of 613 school districts, 49 Joint Vocational Schools, and 270 community schools which educate 2 million K-12 students.
Ohio is ranked 5th in the nation on the 2010 Quality Counts report (Education Week).
Innovative work in: standards and assessments, Ohio Improvement Process, STEM, teacher preparation and induction, professional development standards.

2003-2008 Superintendent
Cleveland Heights-University Heights City School District
University Heights, Ohio
Responsibilities include all operations of an inner ring suburban district including:
6,600 students (81% minority and 52% free/reduced lunch); 1,233 employees; $98 million budget; six negotiated agreements; and thirteen buildings.
Provide visionary leadership in all aspects of the District including, but not limited to:
- Collaboration with treasurer to craft a sound financial process and plan
- Involvement in Minority Student Achievement Network (MSAN)
- Enhancement of community relations with three cities, their mayors, and city councils
- Design of Professional Development Schools with John Carroll University

- Development and formalization of partnerships with East China Normal University, CUI Education Group (Ningbo, China), and City of Xiangshan, China
- Three successful levy campaigns
- Orchestration of a cooperative nine million dollar budget reduction process
- Establishment of benchmarks of excellence for administrators and individual schools
- Utilization of data to inform decisions about students, programs, and finances
- Enhancing communication with staf f and union leaders
- Design of balanced literacy program, preK-12

2001-2003 Associate Superintendent
Cleveland Heights-University Heights City School District
University Heights, Ohio
An inner ring suburb of Cleveland, Ohio (see above for description)
Reported to: Superintendent
Responsibilities included, but not limited to: preK-12 educational programs; staff recruitment and training; negotiations; budget and grant management; Summit (union-administrative partnership); professional development for all classified and certified staff; and evaluation of principals and central office administrators.

1999-2001 Director of Academic Services
West Geauga School District, Chesterland, Ohio
Reported to: Superintendent
Title changed from position noted below; responsibilities expanded
Responsibilities and initiatives included, but not limited to:
- K-12 educational program, including curriculum development and accountability
- Staff recruitment and hiring
- Negotiations
- Local Professional Development Committee
- Professional development
- *Target Tech:* job-imbedded professional development incorporating technology into teacher developed interdisciplinary units
- Development of five-year plans for literacy, technology, and curriculum revision
- Revision of teacher performance review process
- Job-imbedded professional development

1996-1999 Director of Curriculum and Professional Development
West Geauga School District, Chesterland, Ohio
Reported to: Superintendent
Responsibilities and initiatives included, but not limited 10:
- K-12 curriculum and state standards coordination
- Title IX compliance officer
- Acquisition and monitoring of local, state, and federal grants
- Local Professional Development Committee and Senate Bill 55
- K-12 technology program
- Selection of student assessments
- Standardized testing data relative to district and building report cards
- Design and monitoring of Continuous Improvement Process
- *Excellence in Education* program: recognized outstanding teacher and student leaders

1998-1999 Elementary Principal, Westwood School
West Geauga School District, Chesterland, Ohio
Reported to: Superintendent
This position was held simultaneously with position identified above.
Responsibilities and initiatives included, but not limited to:
- Observation and evaluation of classified and certified staff
- *Techno-Buddies* program
- Enhanced communications with stakeholder groups
- Redesigned school schedule
- Supervised special education classes
- Odyssey of the Mind Program

1988-1996 Language Arts Specialist and Sixth Grade Teacher
Orange City School District, Pepper Pike, Ohio
Responsibilities and initiatives included, but not limited to:
- Chair of Language Arts Committee
- Designed alternative 7th grade courses
- Established procedures for textbook review and selection
- Design of interdisciplinary units of study
- Research-based curriculum piloted for London, England publisher
- District Continuous Improvement Team member
- Professional development for literacy and student assessment

1986-1988 Coordinator of Gifted and Talented Program
Shaker Heights School District, Shaker Heights, Ohio
Reported to: Superintendent
Responsibilities and initiatives included, but not limited to:
- Supervision and evaluation of ten teachers
- Evaluation of all K-12 enrichment and acceleration opportunities
- Redesign of student identification process
- Restructuring of program offerings
- Collaboration with parental groups
- Design of newsletter

1983-1986 Coordinator of Gifted and Talented Program
Crestwood Local School District, Mantua, Ohio
Reported to: Assistant Superintendent
Responsibilities and initiatives included, but not limited to:
- Development of new gifted and enrichment program including student assessment and identification
- Curriculum compacting project
- Collaboration with classroom teachers
- Development of interdisciplinary units of study
- *Lileracy Link.s*- connecting home and school

1982-1983 Gifted Education Specialist
Windsor Public Schools, Windsor, Connecticut
Reported to: Director of Special Education
Responsibilities and initiatives included, but not limited to:
- Establishment of mentor and independent study programs
- Published teacher resource book of community speakers and community service projects
- Redesigned student assessment

1978-1982 K-12 Coordinator and Teacher, Gifted and Talented Program
Watertown Public Schools, Watertown, Connecticut
Reported to: Superintendent
Responsibilities and initiatives included, but not limited to:
- Director of$225,000 grant
- Teacher: gifted resource room, grades K-8
- Collection and analysis of data to support of University of Connecticut research initiative
- Curriculum compacting project
- "Girls in Math and Science" Program incorporating mentorships and internships
- Development of science outreach program with Talcott Mountain Science Center

1975-1978 Watertown Public Schools, Watertown, Connecticut
Teacher
- Grades 2 & 8
- Initiated volunteer tutorial program
- Developed community resource program
- Designed home-based literacy outreach program

PROFESSIONAL ACTIVITIES

2009 NCATE, Executive Board
CCSSO, Executive Board; Subcommittees: Reauthorization of ESEA, Early Childhood, and Human Capital
Serve on 42 State Agencies' Boards
Midwest Regional Education Lab, Governing Board

2008 Greater Cleveland Educational Development Center; Board of Directors

2006-2008 Ohio Department of Education Committees (selected member):
International Education Advisory Committee; Ohio Leadership Advisory Council; State Report Card Committee; Vertical Alignment Network; Harvard University, ExEL Leadership Program

2005-2008 L earning Point Associates, Midwest Regional Education Lab, Board of Directors
Ohio Schools Council, Executive Board; Treasurer, President-Elect, Chairperson
Greater Cleveland Schools' Superintendent Association, Treasurer, Executive Board; Chair-Elect; President Buckeye Association of School Administrators (BASA)
Committees: Women in Leadership, State Report Card, Finance and Accountability
Ohio School Leaders' Institute

2003-2008 Minority Student Achievement Network (MSAN); Governing Board
First Ring Superintendents' Collaborative, Governing Board
John Carroll University, Leadership Program, Advisory Committee

2006-2007 Chinese Bridge for American Schools Delegate (Hanban and College Board)

2005-2006 P-16 Initiative, Martha Holden Jennings Foundation

2004-2006	Ohio School Leaders' Institute, BASA, Cohort 19
2001-2003	MSAN; Research-Practitioners' Council
2001-2008	Certified Palm (handheld computer) trainer John Carroll University; Advisory board, Leadership Certification
2001-2003	Ursuline College; adjunct faculty Greater Cleveland Educational Development Center; District Liaison
1997-2000	Greater Cleveland Educational Development Center: Local Professional Development Committee
1996-2001	Geauga County Educational Leadership Team
1996-2001	Ohio Dept.of Education, Christa McCauliffe Program; Advisory Board
1995-2001	Zaner-Bloser Publishing Company; Middle School Advisory Board
1992-2002	National Board for Professional Teaching Standards; Language Arts Standards Committee
1993-1999	McDougall Littell Publishing Company; Secondary Language Arts Advisory Panel
1993-1999	Walsh Jesuit High School, Cuyahoga Falls, Ohio; Curriculum Advisory Council
1993-1996	*The Roeper Review,* Bloomfield Hills, Michigan; Editorial Advisory Board of an international research publication
1993	Twinsburg, Ohio School District; North Central Evaluation Team
1992	Ohio Department of Education; designed materials for gifted inclusion classes
1992	Beachwood, Ohio School District; North Central Evaluation Team
1992-1994	Dorling Kindersly Publishers, London, England Curriculum development and field test supervisor; designed teacher handbook for research-based curriculum; arranged filming of publicity video with London media company.
1990	Kent State University, Kent, Ohio; Department of International Studies
1989-1993	*Learning* Magazine, Springhouse, PA; Field Editor

1987-1993	Kent State University, Kent, Ohio; Adjunct faculty Collaborated with educators from the former Soviet Union on development of international science curriculum andstudent-generated publication, *Future Generations*
1986-1989	Northwestern University: Midwest Talent Search, Advisory Board
1984-1986	Florida State Department of Education Developed series of guidebooks and videotapes for statewide professional development
1983-1987	Kent Roosevelt High School, Kent, Ohio Developed: *The Sky's Not the Limit;* annual tri-state conference for gifted children, families, and teachers
1981-1983	Department of Defense Dependents' Schools (DoDDS) Facilitated summer student teaching experiences in conjunction with University ofCt. Masters' Program for international teachers University of Connecticut, Storrs, Connecticut *Confratute,* two-week summer conference, presenter and planning committee

OUT-OF-STATE PROFESSIONAL PRESENTATIONS

Sept, 2007	Madison, WI:, Courageous Leadership: Leading Leaders
July 2007	Minneapolis, MN. AASA: Raising Expectations and Narrowing the Gap
Feb. 2007	New Orleans, LA. AASA National Conference; preconference *First Ring Suburbs: Challenges and Promises* and *Narrowing the Academic Achievement Gap*
Oct. 2006	Washington, DC, Alliance for Excellent Education: *What Options and Interventions Turn Failing Schools Around?*
March 2006	Washington, DC, Education Sector, The National Academies Center for Education and the National Education Knowledge Industry Association: High School Reform: It Takes More than Vision.
Nov. 2005	San Francisco, CA. High School Transformation: Challenges and Celebrations
Nov. 2000	Hong Kong American International School, Hong Kong, China *Growing Good Kids: Activities to Cultivate Leadership Skills*

1999-2000	Presented five different all-day workshops in three separate ISDs in Texas. • *Differentiated Instruction* • *Authentic Assessment* • *Interdisciplinary Studies Development*
Nov. 1998	National Middle Schools Association, Denver, CO; annual conference • *Beyond the Bells and Whistles: Multimedia Projects with Substance* • *Developing Leadership in Students*
Oct. 1998	Regional Educational Service Center #3, Corpus Christi, Texas • *Authentic Teaching and Authentic Learning* • *Curriculum Compacting*
April 1998	Regional Educational Service Center #6, Dallas, Texas • *Differentiated Curriculum: Making Each Day Relevant* • *Using Data to Craft Instruction*
Nov. 1997	National Middle Schools Association, Indianapolis, Indiana *Developing Leadership in Students*
Aug. 1997	SENG (supporting Emotional Needs of Gifted), Minneapolis, MN *Global Awareness* and *Developing Student Leaders*
Mar. 1997	Regional Educational Service Center, Waco, Texas • *Developing Differentiated Curriculum* • *Meeting the Needs ofGifted Students in the Regular Classroom*
Nov. 1996	Regional Educational Service Center, Waco, Texas • *Relevant Teaching, Relevant Learning: Curriculum for the 21st Century* • *Nurturing Talented Writers*
July 1996	University of Northern Colorado, Estes Park, Colorado; Summer Instructor • *Beyond the Textbook: Relevant Teaching, Relevant Learning* • *Nurturing Talented Writers*
1993-1996	National Association for Gifted Children annual conferences *Curriculum Compacting, Designing a Global Curriculum, Differentiating Instruction,* and *Connecting Literature Across the Content Areas*
April 1994	National Science Teachers' Association, annual conference, Los Angeles, CA • *Growing Independent Scientists* • *Research-Based Curriculum for All Students*
1993	Simon Frasier University, British Columbia, Canada Instructor in Summer Program: Classes on curriculum development and classrooms adaptations for gifted students

1991-1993	South Dakota State Department of Education Worked in eleven school districts providing workshops on various topics relative to gifted child education
1991	University of Northern Colorado, Estes Park, CO Instructor, summer program: *Beyond the Textbook: Relevant Teaching, Relevant Learning*
June 1985	Florida State Department of Education Summer Institute: *Meeting the Diverse Needs ofGf/ied Students*
1979-1982	University of Connecticut, Storrs, CT. Presenter at annual summer conference, *Confratute* • *Differentiated Classroom Instruction* • *Curriculum Compacting* • *Nurturing Talented Writers* • *Creative Problem Solving*

STATE and LOCAL PROFESSIONAL PRESENTATIONS

2009	National Association of State Boards Annual Conference, Cincinnati, OH *Effective Use of Longitudinal Data* Multiple presentations for Buckeye Association of School Administrators
2008	Columbus, OH, Ohio School Boards Association: *Preparing Students for the 21 st Century* Columbus, OH, Ohio Leadership Advisory Council: *Effective Leadership; Redefining Leadership; Creating Highly Effective Leadership Teams* Cleveland, OH: *Meeting the Needs of African American Males* Cleveland: *Education in the United States*- presentation to educational ministers from Saudi Arabia
2007	Columbus, OH, *Changing Learning with the Use of Laptops*
2006	Aurora, KnowledgeWorks Conference: *High School Reform: Leadership,*
2005-2006	University Heights, OH, Presented four community forums on diversity issues
2000-2002	Ohio SchoolNet Conference, Columbus, Ohio • *Target Tech- Professional Development with a Purpose* • *Using Handheld Computers in Educational Settings* *It's in the PALM of Your Hand*
1983-present	Dozens of presentations made within the state of Ohio in various school districts and at state conferences and meetings; specifics available upon request

PUBLICATIONS

In Press	Growing Good Writers, Free Spirit Publishing Company, Minneapolis, MN
1995	Growing Good Kids, Free Spirit Publishing Company, Minneapolis, MN Received Parents' Choice Award for Excellence in Educational Publishing, November 1997, in tenth printing.
1994	Think About It! Series; grades 3-8, editor. Scholastic Publishing Company
1992	*Classroom strategies for meeting multiple needs,* in Challenges in Gifted Education, Ohio Department of Education, Columbus, Ohio
1991	*Here's Looking at You, Kid,* Gifted Child Newsletter, New Jersey

GRANT ACTIVITIES

2008	Ohio Department of Education, *Seniors to Sophomores Initiative* Planning Grant: $100,000
2006	Federal Government, *Safe Schools/Healthy Students,* $989,000
2004	Federal Government, *High School Reform Project: $400,000*
2002	KnowledgeWorks Foundation (funding through Bill and Melinda Gates Foundation); Implementation Grant for *Ohio High School Transformation Initiative:* $1, 565,000
2001	KnowledgeWorks Foundation (funding through Bill and Melinda Gates Foundation); Planning Grant for *Ohio High School Transformation Initiative: $185,000*
1996-2001	Title I, Title II, Title IV, and Title VI: writing of grants and reports SchoolNet and SchoolNet Plus: writing of grant and parallel activities.
2001	Northeast Professional Development Center, Cleveland State University Development of summer training programs for science teachers in partnerships with two other school districts. Requested: $20,000 Awarded: $20,000
Mar. 1999	State Department of Education, Columbus, Ohio Ohio READS grant Requested: $65,000 Awarded: $65,000

Feb. 1999 State Department of Education, Columbus, Ohio
Purpose: Establish community-based continuous improvement team
Requested: $5,000 Awarded: $5,000

Feb. 1998 Geauga Educational Foundation
Purpose: Establish teacher-support group & training for grant writing
Requested: $2,000 Awarded: $1,500

Dec, 1997 Ohio SchoolNet Telecommunity Project, Columbus, Ohio
Purpose: Establishment of a telecommunity, *Vital Links,* among three school districts with international connections.
Requested: $238,500 Awarded: $129,500

Oct. 1997 Ohio SchoolNet TeleCommunity Project, Columbus, Ohio
Purpose: Establish planning committee to design telecommunity project.
Requested: $15,000 Awarded: $15,000

Nov. 1996 Connecticut State Department of Education, Hartford, CT
Purpose: Establish an innovative gifted child program with independent study and mentorship components.
Requested: $275,000 Awarded: $225,000

HONORS

Feb. 2008 eSchool News, Tech Saavy Superintendent of the Year

Oct. 2006 eSchool News: Technology Leadership

Dec. 2006 City of University Heights, Ohio; Appreciation Award for Diversity Series "2005's Most Influential People"; one of five individuals selected by the Sun Press newspaper, Editor Mary Jane Skala, for " ...raising test scores, restoring dignity and professionalism to the superintendent's office, and restoring public confidence in the school system."

1998 & 1999 Listed in Who's Who of Professionals

1996 & 1998 Listed in Who's Who Among America's Teachers

Oct. 1995 Named as *Teaching Scholar* by Ohio State Department of Education, Columbus, Ohio

1994 *The Golden Apple Achiever Award:* Ashland Oil Company

1990-1991	*Ohio Teacher of the Year,* first runner-up Ohio Department of Education, Columbus, Ohio
1990	*District Nominee for State Teacher of the Year* Orange City School District, Pepper Pike, Ohio
June 1990	*Educational Leadership Recognition* Awarded by 188'" General Assembly, State of Ohio
May 1990	*Professional Best Leadership Award* Selected as one of twenty outstanding national educators by *Learning,* Oldsmobile, and Michigan State University
Dec. 1989	Certificate of *Excellence in Citizenship* Awarded by Governor of South Carolina in recognition of middle school project designed to reach out to victims of Hurricane Hugo
Nov. 1989	Certificate of *Honorary Citizenship* Awarded by the Fire Chief and the Mayor of Charleston, South Carolina in recognition of middle school project designed to reach out to victims of Hurricane Hugo

ADDITIONAL MEMBERSHIPS and COMMITTEE WORK

Greater Portage County Hospice; Executive Board, Secretary
National Association for Gifted Children
Global Awareness Division, Secretary
Walsh Jesuit High School Mothers' Club; President- 1992-5
Ohio Association for Gifted Children; conference committee
Consortium of Ohio Coordinators of Gifted; Executive Board

Current Memberships
- National Association of Urban Schools
- Minority Student Achievement Network
- Greater Cleveland Schools Superintendents' Association (GCSSA)
- Buckeye Association of School Administrators (BASA)
- Association for Supervision and Curriculum Development (ASCD)
- American Association of School Administrators (AASA)
- National Staff Development Council (NSCD)
- National Middle Schools Association (NMSA)
- Ohio Association of Secondary Schools Principals (OASSP)
- Ohio Association of Elementary School Principals (OAESP

Marilyn B. Troyer
Deputy Superintendent of Public Instruction

Ohio Department of Education
25 S. Front St.
Columbus Oh 43215

(614)466-3175
marilyn.troyer@ode.state.oh.us

Education

1988, Ph.D., Educational Policy & Leadership, The Ohio State University
1981, M.A., Early & Middle Childhood Education, The Ohio State University
1978, B.S., Elementary Education, The Ohio State University

Positions Held

2009-Present, Deputy Superintendent
Ohio Department of Education
Senior manager of the Ohio Department of Education responsible for overseeing the coordination of services across units in the Department and supervising the Associate Superintendents. Primary point of contact for school district superintendents, educational service center superintendents and joint vocational school district superintendents. Responsible for coordinating the functions of regional service delivery systems for assistance to school districts and other educational institutions. Advisor to the Superintendent of Public Instruction on matters of operation and policy pertaining to education in Ohio. In the absence of the Superintendent of Public Instruction serve as the Superintendent.

2006-2009, Senior Associate Superintendent
Ohio Department of Education
Responsible for overseeing all programmatic work of the Department, including supervision of the Center for Curriculum and Assessment, Center for School Improvement, Center for the Teaching Profession, Center for Students, Families, and Communities, Center for School Finance, Office of Career-Technical and Adult Education, Ohio School for the Deaf, and Ohio State School for the Blind. Prioritized and approved work plans; interpreted board policies and directed implementation procedures; represented the board and state superintendent at regional, state, and national meetings, conferences, and hearings; monitored compliance with federal and state laws and regulations; developed goals and objectives for strategic long-term and short-term improvements to ensure efficient and effective services to districts and other stakeholders; reported regularly to the board on the Department's progress on board priorities.

2002-2006, Associate Superintendent, Center for the Teaching Profession
Ohio Department of Education
Directed policy and program development in teacher quality, teacher licensure, professional development, college/university teacher education, recruitment and retention, and implementation of federal teacher quality mandates. Supervised 70 staff and managed an annual budget of $26 million. Successfully applied for multiple grants from foundations and the federal government; analyzed statewide teacher employment trends and distribution patterns.

2000-2002, Executive Director, Office of Regional School Improvement Services
Ohio Department of Education
Responsible for technical assistance programs for school districts; supervised regional infrastructure for providing technical assistance and professional development statewide; administered grant programs; designed and implemented State Institute for Reading Instruction (SIRI) and other statewide professional development programs.

Marilyn B. Troyer

Positions Held (continued)

1998-2000, Director, Professional Development and Licensure
1996-1998, Associate Director, Professional Development and Licensure
1994-1996, Assistant Director, Professional Development and Licensure
1990-1993, Consultant, Teacher Education
Ohio Department of Education
Increasing levels of responsibility in implementing statewide professional development initiatives such as the Entry Year Program for new teachers and Local Professional Development Committees; administered numerous grant programs; directed Ohio's teacher award programs; supervised Regional Professional Development Centers; supervised accreditation of teacher education programs at Ohio colleges and universities; wrote documents and publications on state policies and procedures; provided training.

1988-1990, Instructor
The Ohio State University
Taught graduate and undergraduate courses in teacher education, child development, language and literacy, methods courses; supervised student teachers and teaching assistants.

1978-1985, Teacher
Jonathan Alder Local School District
Mechanicsburg Exempted Village School District
Taught primary grades, self-contained classrooms, and Title I reading program.

Awards, Fellowships, Grants

Distinguished Service Award, Ohio Department of Education, 1999
Chief Officer's Award, Ohio Department of Education, 1998
Chief Officer's Award, Ohio Department of Education, 1997
Employee of the Month Award, Governor of Ohio, 1992
Employee of the Month Award, Governor of Ohio, 1991
National Distinguished Dissertation Award in Teacher Education, 1989
Award for Outstanding Scholarship in Teacher Education, Association of Colleges and Schools of Education in State Universities and Land Grant Colleges, 1989
Earl W. Anderson Memorial Award, The Ohio State University, 1987
Graduate Student Alumni Research Award, 1987
Phi Kappa Phi Honor Society

Licenses and Certificates (Ohio)

Superintendent—5 year
Assistant Superintendent—5 year
Reading Supervisor—Permanent
Reading—Permanent
Elementary—Permanent

Related Experience

School Board President, Jonathan Alder Local Schools, 1996-1998
School Board Member, Jonathan Alder Local Schools, 1993-2001
School Board Member, Tolles Technical Center, 1998-2000
Board Member, Staff Development Council of Ohio, 1996-1998
Presenter at numerous state, regional, and national conferences
Reviewer/selection committee member, various state and federal award programs
Author, various journal articles, implementation guides, and ODE publications
Writer, numerous grants submitted to foundations and federal government

Paolo A. DeMaria, Executive Vice Chancellor
Ohio Board of Regents

30 E. Broad St., 36th Floor
Columbus, Ohio 43215
Phone: 614-995-7754 E-mail: pdemaria@regents.state.oh.us

Employment

2008-present

Executive Vice Chancellor – State of Ohio
Ohio Board of Regents

Columbus, Ohio

Responsible for the overall coordination of agency strategic planning and implementation including oversight of the implementation of the ***Strategic Plan for Higher Education*** (March 2008).

- Develops policies and workplans for various strategic initiatives including textbook affordability, workforce development, data collection and use, and college readiness.
- Serves as liaison with college and university administrators with regard to a variety of strategic initiatives.
- Supports agency budget development and advocacy efforts.
- Oversee the implementation of special projects for the agency.

2004-2008

Associate Superintendent for School Options and Finance – State of Ohio
Department of Education

Columbus, Ohio

Responsible for the operation of the Center for School Options and Finance within the Ohio Department of Education.

- Member of the Department senior management team which implemented the strategic plan and goals of the agency as set by the Superintendent and State Board of Education.
- Supervised 75+ member unit performing computations and processing of over $7 billion annually in payments to school districts and other entities.
- Developed policies, rules and proposed statutory changes regarding all aspects of education finance and options, including community schools and vouchers.
- Directed the production and release of the 2007-08 state, district, and building report cards which included, for the first time, the use of value added computations.
- Coordinated presentations, outreach efforts and communications to school treasurers and other school finance stakeholders.
- Advocated with legislators, Governor's Office, and other state and local government agencies.

2000-2004

Chief Policy Advisor/Director of Cabinet Affairs – State of Ohio Office of the Governor

Columbus, Ohio

Responsible for the operation of the Policy Section of the Office of the Governor. Managed the development and implementation of the Governor's policy agenda.

- Directed activities of the 12 member policy staff.
- Substantially responsible for the following policy areas: education finance and standards-based reform, higher education, workforce development, budget and financial management.
- Served as Governor's Office liaison to the Governor's Commission on Student Success, Governor's Commission on Teaching Success, Governor's Commission on Higher Education and the Economy, and Blue Ribbon Task Force for Financing Student Success.
- Served as the Governor's liaison to the State Workforce Policy Board.
- Developed policy positions. Researched and wrote policy papers and other documents.
- Interacted with members of the Governor's cabinet and other senior staff members on policy development and implementation, and strategic issue intervention.
- Interacted with members of the General Assembly, legislative committees, members of Congress, and congressional staff in promoting the Governor's policy agenda.

1999 - 2000

Senior Resident Advisor – Barents Group, LLC

Assignment in Yerevan, Armenia; Headquartered in McLean, Virginia

As part of the U.S. Agency for International Development (USAID) Tax and Fiscal Reform Project team, served in the Republic of Armenia as resident Senior Budget and Fiscal Reform Advisor.

- Interacted with, and advised counterparts within the Ministry of Finance.
- Provided critical analyses, recommendations, and implementation assistance regarding budget process re-engineering and other fiscal reform issues.
- Developed procedures and prototypes for a Medium Term Expenditure Framework (MTEF) and assisted with MTEF development.
- Worked closely with other donor organization representatives (U.S. Treasury, International Monetary Fund, World Bank) to coordinate budget reform activities.
- Provided training presentations on budget process issues.

1998 - 1999

Director - State of Ohio/Office of Budget and Management

Columbus, Ohio

Performed duties as the Chief Financial Officer for the State of Ohio and its annual budget of over $35 billion. Responsibilities included oversight of 110 member team performing all budgeting, accounting, and financial reporting functions, and associated management information systems.

- Frequently interacted, as member of Governor's cabinet, with Governor and Governor's Office staff regarding broad fiscal policy and other priority policy issues.
- Developed and guided the implementation of agency strategic plan, goals and objectives, and chaired agency's Quality Steering Committee.
- Led development of policy and implementation action plans for budget development, transaction accounting, and financial reporting functions.
- Coordinated and managed activities of senior management team.
- Served as member of Ohio's School Facilities Commission.
- Interacted with wide variety of interest groups including those representing local governments, primary education, higher education, health care, etc.

1991 - 1998

Assistant Director - State of Ohio/Office of Budget and Management

Columbus, Ohio

Responsible for assisting the director and serving in his absence. Primarily assigned to manage the development of executive operating and capital budget proposals and the implementation of enacted budgets for the State of Ohio.

- Supervised budget development and implementation section of 30 people.
- Successfully guided OBM's effort to attain the Government Finance Officers' Association Distinguished Budget Presentation Award.
- Facilitated fiscal problem resolution for state agencies.
- Served as liaison with legislature, Governor's office, and various interest groups.
- Facilitated implementation of total quality processes within the agency.
- Assisted with development and implementation of agency strategic goals and objectives.

1988 - 1991

Senior Fiscal Analyst - State of Ohio/The Ohio Senate

Columbus, Ohio

Responsible for the preparation and development of Senate majority caucus budget proposals as well as providing fiscal information, research and analysis.

Education

1996

Ohio State University/School of Public Policy and Management

Columbus, Ohio

Master of Public Administration (M.P.A.), June 1996. Studies emphasized fiscal administration and strategic management/leadership. Inducted into Phi Kappa Phi and Pi Alpha Alpha honor societies.

1984

Furman University

Greenville, South Carolina

Bachelor of Arts, summa cum laude, June 1984. Political Science and Economics majors. Ullmer Political Science Award recipient. Inducted into Phi Beta Kappa and Pi Gamma Mu honor societies.

Awards and Honors

- The Ohio State University Alumni Association: Distinguished State Government Service Award, 2009.
- Ohio Association of School Business Officials: President's Award, 2006.
- Ohio Government Finance Officers Association: Timothy I. Murphy Excellence in Government Award, 2003.
- Ohio State University John Glenn School of Public Policy and Management Distinguished State/Local Government Alumnus Award, 1998.

APPENDIX A.2.4

LETTERS OF SUPPORT

RATIONALE: REQUIRED EVIDENCE FOR (A)(2)(ii).

REFERENCED IN:
(A)(2)

Ohio Race to the Top - Letters of Support

1. **Ted Strickland**
   Governor, State of Ohio

2. **State Board of Education of Ohio**

3. **Eric Fingerhut, Chancellor**
   Ohio Board of Regents – University System of Ohio

Federal Legislators

United States Senate

4. Senator Sherrod Brown
5. Senator George V. Voinovich

United States House of Representatives

6. Representative John A. Boccieri, 16th District
7. Representative Steve Driehaus, 1st District
8. Representative Marcia Fudge, 11th District
9. Representative Marcy Kaptur, 9th District
10. Representative Mary Jo Kilroy, 15th District
11. Representative Dennis Kucinich, 10th District
12. Representative Steven C. LaTourette, 14th District
13. Representative Tim Ryan, 17th District
14. Representative Zack Space, 18th District
15. Representative Betty Sutton, 13th District
16. Representative Patrick J. Tiberi, 12th District
17. Representative Charlie Wilson, 6th District

State Legislators

State of Ohio Senate

18. Senator Bill Harris – Senate President, 19th Ohio Senate District
19. Senator Capri S. Cafaro - Minority Leader, 32nd Ohio Senate District
20. Senator Teresa Fedor, 11th Ohio Senate District
21. Senator Tom Sawyer , 28th Ohio Senate District

State of Ohio House of Representatives

22. Representative Joseph F. Koziura, 56th Ohio House District
23. Representative Mark Lundy, 57th Ohio House District
24. Representative Gerald L. Stebelton , 5th Ohio House District
25. Representative Brian G. Williams, 41st Ohio House District

Educational Organizations and Partners

26. Battelle for Kids
    James W. Mahoney, Executive Director
27. Buckeye Association of School Administrators
    Jerry L. Klenke, Executive Director
28. eTech Ohio

Kathleen T. Harkin, Executive Director

29. KidsOhio.org
    Mark Real, President and CEO
30. KnowledgeWorks Foundation
    Chad P. Wick, President and CEO
31. Management Council of the Ohio Education Computer Network
    Bruce E. Hawkins, CEO
32. Nationwide, Office of Corporate Citizenship
    Barbara Boyd, Associate Vice President, Nationwide Education Partnerships
33. Ohio Alliance for Public Charter Schools
    William J. Sims, President and CEO
34. Ohio Association of Elementary School Administrators
    Julie Davis, Executive Director
35. Ohio Association of School Business Officials
    David A. Varda, Executive Director
    Alana Cropper, Board President
36. Ohio Association of Secondary School Administrators
    James J. Harbuck, Executive Director
37. Ohio Education Association
    Patricia Frost-Brooks, President
38. Ohio Federation of Teachers
    Sue Taylor, President
39. Ohio Grantmakers Forum
    George E. Espy, President
40. Ohio PTA
    Deborah A. Tidwell, President
41. Ohio School Boards Association
    Richard C. Lewis, Executive Director
    Damon F. Asbury, Director of Legislative Services
42. Ohio STEM Learning Network
    David Burns, Director of Operations
43. Battelle
    Richard Rosen, Corporate Vice President, Education and Philanthropy Partnerships

Higher Education

44. State University Education Deans (SUED)
    Carine M. Feyton, Dean
    School of Education, Health, and Society
    Miami University

    Renee A. Middleton, Dean
    College of Education
    Ohio University
45. University of Dayton
    Thomas J. Lasley II
    Dean, School of Education and Allied Professions

TED STRICKLAND
GOVERNOR
STATE OF OHIO

January 8, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

I applaud President Barack Obama and you for calling on states to develop bold and innovative education reforms and make unprecedented investments in education through the Race to the Top initiative. I am pleased that Ohio has embraced and is positioned to pursue this opportunity to improve our state's education system and make meaningful changes for our students. I am proud to join State Board of Education President, Deborah Cain, Superintendent of Public Instruction, Deborah Delisle, and Chancellor Eric Fingerhut in supporting Ohio's Race to the Top application.

As the world continues to change at a rapid rate, we have the responsibility to ensure that today's students are prepared for the jobs of the future. It is from this belief that I engaged various business, community and education stakeholders in a statewide conversation during 2007 and 2008 to create a comprehensive education reform plan for the state of Ohio. Our collective efforts resulted in my putting forth an education reform plan during my January 2009 State of the State address that no longer tinkered around the edges but transformed our system into a 21st century, student-centered education system. This plan, ultimately enacted by the Ohio General Assembly and signed into law as a part of House Bill 1, articulates a vision, policies and strategies to ensure quality classroom instruction and increases the number of students ready for graduation and prepared for postsecondary education and careers.

With a Race to the Top award, Ohio will be uniquely positioned to expand upon our already extensive reform agenda that aligns with the four assurance areas articulated in Race to the Top.

The education reforms in Ohio's new law include expanding our fiscal and academic accountability system; adopting the use of value-added data statewide for teacher evaluation and licensure; revising our standards and assessments to prepare our students for a modern society; investing in STEM education models; turning around low-performing schools; expanding our Closing the Achievement Gap initiative; and advancing a comprehensive human capital management system designed to develop leadership and differentiated roles throughout the licensure structure and provide greater support and professional development to educators. As a

77 SOUTH HIGH STREET • 30TH FLOOR • COLUMBUS, OHIO 43215-6117 • 614.466.3555 • FAX: 614.466.9354

result of our education reform law, Ohio is prepared to utilize investments in standards, curriculum, assessments and technology to improve the overall effectiveness of classroom instruction for students across the state, and enhance the development of innovative educational programs.

With Ohio's existing education reform agenda, a Race to the Top award would enable our state to accelerate our compatible education reforms into immediate action and lead the nation in meeting the academic needs of all children. Ohio has developed a strong application and is well positioned to use a Race to the Top grant to transform education in our country. That is why I fully support our state's efforts in pursuing this historic opportunity for our children.

Sincerely,

Ted Strickland

Ted Strickland
Governor, State of Ohio

Ohio | State Board of Education

Ted Strickland, Governor

Deborah S. Delisle, Superintendent of Public Instruction

State Board of Education

President
Deborah Cain
Uniontown, District 8

Vice President
Ann Womer Benjamin
Aurora, At-large

Members
John R. Bender
Avon, District 2

Michael L. Collins
Westerville, District 9

Dannie Greene
Gallipolis, At-large

Jeff Hardin
Milford, District 10

Martha Harris
Cleveland Heights, At-large

Susan M. Haverkos
West Chester, District 3

Robin C. Hovis
Millersburg, District 5

Ann E. Jacobs
Lima, District 1

Kathy Leavenworth
Chagrin Falls, At-large

Kristen E. McKinley
Columbus, District 6

Stephen M. Millett
Columbus, At-large

Mary Rose Oakar
Cleveland, District 11

Tammy O'Brien
Akron, District 7

Dennis Reardon
Pickerington, At-large

Juanita Sanchez
Fremont, At-large

G. R. "Sam" Schloemer
Cincinnati, District 4

Tracey Smith
Van Wert, At-large

Ex Officio
Senator Gary Cates
West Chester

Representative
Brian Williams, Akron

January 12, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

Over the past several months, Ohio has been developing a Race to the Top application that meets the challenge you and President Barack Obama have posed for states to initiate bold and innovative education reforms. We enthusiastically support Ohio's Race to the Top application and join Governor Ted Strickland and Superintendent of Public Instruction Deborah Delisle in their commitment to implement these reforms that will improve student achievement, increase graduation rates and eliminate achievement gaps for students in the state of Ohio.

The State Board of Education and Ohio Department of Education are committed to creating an education system in which all students reach their highest potential and graduate with the knowledge, skills and behaviors needed to be successful in post secondary education and the workforce.

Ohio is fortunate to have a comprehensive education reform plan in place through House Bill 1, passed in July 2009. Receiving a Race to the Top award would put Ohio in a unique position to accelerate this ambitious reform agenda that includes expanding our already robust accountability system, increasing our use of value-added data, and making unprecedented investments in human capital management systems and professional development for educators. Support and best practices aimed at turning around low-achieving schools, improving the effectiveness of classroom instruction and expanding STEM education opportunities are also key aspects of our Race to the Top application.

As Ohio moves forward to reform education in our state, we strongly support Ohio's application for the Race to the Top grant and appreciate the opportunity to be part of this historic investment in our nation's education. We are committed to working with the Ohio Department of Education and other valuable partners to ensure that these reforms help students, teachers and schools reach their highest potential.

Sincerely,

Deborah Cain
President
State Board of Education

Ann Womer Benjamin
Vice President
State Board of Education

Office of Board Relations
25 S. Front Street
Columbus, Ohio 43215-4183

614 | 466-4838
j.c.benton@ode.state.oh.us

John R. Bender
District 2

Dannie Greene
At-large

Martha Harris
At-large

Robin C. Hovis
District 5

Kathy Leavenworth
At-large

Stephen M. Millett
At-large

Tammy O'Brien
District 7

Juanita Sanchez
At-large

Tracey Smith
At-large

Michael L. Collins
District 9

Jeff Hardin
District 10

Susan M. Haverkos
District 3

Ann E. Jacobs
District 1

Kristen E. McKinley
District 6

Mary Rose Oakar
District 11

Dennis Reardon
At-large

G. R. "Sam" Schiesmer
District 4

Ohio | Board of Regents

Ted Strickland, Governor
Eric D. Fingerhut, Chancellor

University System of Ohio

January 4, 2009

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

Ohio has answered your call to initiate the bold and innovative reforms needed to make a significant impact on student performance, increase graduation rates, and eliminate the achievement gap. On behalf of the **University System of Ohio,** I wish to communicate our enthusiastic support for Ohio's Race to the Top application. We join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

Our state commenced its new biennium with a comprehensive education reform plan and a Race to the Top award would accelerate the state's existing agenda to strategically address gaps to delivering a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, raise standards, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state will provide the supports and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, high education partnerships, standards and curriculum, assessments, and technology.

The **University System of Ohio** strongly supports Ohio's application for the Race to the Top grant and remains an enthusiastic and vested partner in ensuring successful outcomes for students, educators, and schools across the state.

Sincerely,

Eric Fingerhut
Chancellor, Ohio Board of Regents

30 East Broad Street • 36th Floor • Columbus, Ohio 43215-3414 • 614 | 466-6000 • Fax: 614 | 466-5866
www.regents.ohio.gov

SHERROD BROWN
OHIO

COMMITTEES:
AGRICULTURE, NUTRITION, AND FORESTRY
BANKING, HOUSING, AND URBAN AFFAIRS
HEALTH, EDUCATION, LABOR, AND PENSIONS
VETERANS' AFFAIRS

United States Senate
WASHINGTON, DC 20510

January 4, 2010

The Honorable Arne Duncan,
Secretary
U.S. Department of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

As the U.S. Department of Education considers applications for Race to the Top funding through the American Recovery and Reinvestment Act of 2009, I would like to bring to your attention a strong proposal submitted by the State of Ohio.

Ohio has commenced its new biennium with a comprehensive education reform plan, and funding provided through the Race to the Top program would accelerate the state's existing agenda to strategically address gaps in delivering a highly effective learning experience to all students.

Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

I am confident that the state will provide the supports and best practices necessary to turn around persistently low-achieving schools, and expand STEM education opportunities, as well as improving the overall effectiveness of classroom instruction through investments in best practices, standards and curriculum, assessments, and technology.

Please give serious consideration to Ohio's application for funding. I ask that you keep my office informed of the status of this application

Sincerely,

Sherrod Brown

Sherrod Brown
United States Senate

SB: lm

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GEORGE V. VOINOVICH
OHIO

524 HART SENATE OFFICE BUILDING
(202) 224-3353
TDD: (202) 224-6997
http://voinovich.senate.gov

United States Senate

WASHINGTON, DC 20510-3504

APPROPRIATIONS
RANKING MEMBER, SUBCOMMITTEE ON HOMELAND SECURITY

ENVIRONMENT AND PUBLIC WORKS
RANKING MEMBER, SUBCOMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE

HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS
RANKING MEMBER, SUBCOMMITTEE ON OVERSIGHT OF GOVERNMENT MANAGEMENT, THE FEDERAL WORKFORCE, AND THE DISTRICT OF COLUMBIA

January 6, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

I write in support of the grant application submitted by the State of Ohio for funding in the Race to the Top (RTTT) Program.

Ohio has submitted a proposal to initiate reforms that seek to impact on student performance, increase graduation rates, and eliminate the achievement gap. The state has proposed a comprehensive education reform plan to address gaps in delivering an effective learning experience to all students. This award could help with these goals, and put Ohio in a position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state will focus on supports and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. I respectfully request your favorable consideration of Ohio's application. The award will ensure successful outcomes for students, teachers, and schools across the state. If there are any questions, please contact my grant coordinator, Linda Greenwood at (419) 259-3895. Thank you.

Sincerely,

George V. Voinovich

George V. Voinovich
United States Senator

STATE OFFICES:
36 EAST SEVENTH STREET
ROOM 2615
CINCINNATI, OHIO 45202
(513) 684-3265

1240 EAST NINTH STREET
ROOM 2955
CLEVELAND, OHIO 44199
(216) 522-7095

37 WEST BROAD STREET
ROOM 300
COLUMBUS, OHIO 43215
(614) 469-6697
(614) 469-6774 (CASEWORK)
(800) 205-6468 (CASEWORK)

76 WEST WASHINGTON STREET
P.O. BOX 57
NELSONVILLE, OHIO 45764
(740) 441-6410

420 MADISON AVENUE
ROOM 1210
TOLEDO, OHIO 43604
(419) 259-3895

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JOHN BOCCIERI
16TH DISTRICT, OHIO

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CAUCUS MEMBERSHIPS:
FAIR TRADE CAUCUS
NATIONAL GUARD RESERVE COMPONENTS CAUCUS
VICE CHAIR

Congress of the United States
House of Representatives
Washington, DC 20515-3516

300 WEST TUSCARAWAS ST., SUITE 216
CANTON, OHIO 44702
(330) 489-4414
(330) 493-4448 (FAX)

124 WEST WASHINGTON STREET, SUITE 1A
MEDINA, OHIO 44256
(330) 725-2128

TOLL FREE DISTRICT NUMBER
1-800-826-9015

1516 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-3876
(202) 225-3059 (FAX)

WWW.HOUSE.GOV/BOCCIERI

January 15, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

I wish to express my support for Ohio's application for the federal funds from the Race to the Top program. In the wake of this economic recession and tightening school budgets, I believe that Ohio's children need the educational investment that these funds would provide.

I join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

While I fully support increased funding for Ohio's schools, I also support Ohio's decision to allow local education agency (LEA) to make the decision whether the program is the right fit for them. As you know, every school district faces unique issues and Ohio's decision to include the stakeholders in the process of deciding to participate is commendable.

Again, I want to express my support for Ohio's application and express the hope that programs continue to include LEAs in decision-making. I remain an enthusiastic and vested partner in ensuring successful outcomes for students, teachers, and schools across our state.

Sincerely,

John A. Boccieri
Member of Congress

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STEVE DRIEHAUS
1ST DISTRICT, OHIO

COMMITTEE ON FINANCIAL SERVICES
SUBCOMMITTEE ON
HOUSING AND COMMUNITY OPPORTUNITY

SUBCOMMITTEE ON
INTERNATIONAL MONETARY POLICY AND TRADE

SUBCOMMITTEE ON
OVERSIGHT AND INVESTIGATIONS

COMMITTEE ON
OVERSIGHT AND GOVERNMENT REFORM
SUBCOMMITTEE ON
NATIONAL SECURITY AND FOREIGN AFFAIRS

Congress of the United States
House of Representatives
Washington, DC 20515–3501

408 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225–2216
FAX: (202) 225–3012

441 VINE STREET, SUITE 3003
CINCINNATI, OH 45202
(513) 684–2723
FAX: (513) 421–8722

January 6, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

I am writing in support of Ohio's application for a Race to the Top grant through the Office of Elementary and Secondary Education (OESE).

The state of Ohio commenced its new biennium with a comprehensive education reform plan. A Race to the Top award would accelerate the state's existing agenda and help to achieve the goal of delivering a highly effective learning experience to all students. Education reforms our State has already implemented put Ohio in a unique position to advance reforms around the four specific areas targeted by the Race to the Top grant. Ohio is also in a position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state will provide the support and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

Again, I wish to express my support for Ohio's Race to the Top application and Ohio's quest to strengthen our country's dynamic education system. I believe the reforms being implemented in Ohio will provide a model for other States and local school districts throughout the country to follow.

Sincerely,

Steve Driehaus
Member of Congress

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MARCIA L. FUDGE
11TH DISTRICT, OHIO

COMMITTEES:
SCIENCE AND TECHNOLOGY
RESEARCH AND SCIENCE EDUCATION SUBCOMMITTEE
VICE CHAIR
SPACE AND AERONAUTICS SUBCOMMITTEE
EDUCATION AND LABOR
HEALTH EMPLOYMENT LABOR AND PENSIONS (HELP) SUBCOMMITTEE
HIGHER EDUCATION, LIFELONG LEARNING AND COMPETITIVENESS SUBCOMMITTEE

E-MAIL VIA WEBSITE:
http://fudge.house.gov

Congress of the United States
House of Representatives
Washington, DC 20515

WASHINGTON OFFICE:
U.S. HOUSE OF REPRESENTATIVES
1513 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-7032
(202) 225-1339 FAX

DISTRICT OFFICE:
RICHMOND HIGHLAND CENTER
4834 RICHMOND ROAD
SUITE 150
WARRENSVILLE HEIGHTS, OH 44128
(216) 522-4900
(216) 522-4908 FAX

January 8, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

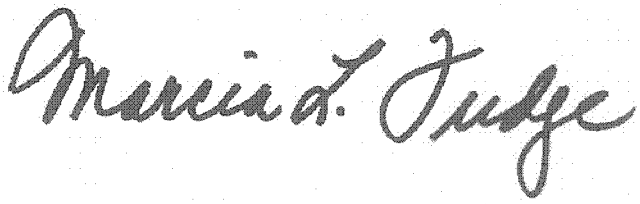
Through its Race to the Top application, Ohio has answered your call to initiate the bold and innovative education reforms necessary to significantly improve student performance, increase graduation rates, and eliminate the achievement gap. I join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in strengthening Ohio's education system to ensure that all students may realize their full potential in the classroom, graduate with the skills necessary for college, and successfully compete in the global marketplace.

The Race to the Top award would accelerate the state's existing agenda to strategically address issues that undermine its ability to deliver a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state will provide the needed support and best practices to reform persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

Again, I strongly support Ohio's application for the Race to the Top grant and remain a committed and vested partner in ensuring successful outcomes for students, teachers, and schools across the state.

Sincerely,



Marcia L. Fudge

Member of Congress

MLF: ams

COMMITTEE ON APPROPRIATIONS
Subcommittee on Defense
Subcommittee on Transportation, HUD, and Related Agencies
Subcommittee on Agriculture, Rural Development, FDA and Related Agencies
COMMITTEE ON THE BUDGET
DEMOCRATIC STEERING AND POLICY

MARCY KAPTUR
9TH DISTRICT, OHIO

WASHINGTON, D.C. OFFICE
2186 Rayburn Building
Washington, DC 20515-3509
(202) 225-4146
Fax: (202) 225-7711

OHIO OFFICE
One Maritime Plaza
6th Floor
Toledo, OH 43604-1853
(419) 259-7500
(800) 964-4699
Fax: (419) 255-9623

http://kaptur.house.gov

January 13, 2010

The Honorable Arne Duncan
Secretary
U.S. Department of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202-0008

Dear Secretary Duncan:

Ohio has answered your call to initiate the bold and innovative reforms needed to make a significant impact on student performance, increase graduation rates, and eliminate the achievement gap. I wish to express my support for Ohio's Race to the Top application under the American Recovery Act. I join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

The awarding of a Race to the Top grant would accelerate Ohio's action on education reform. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, reform the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators. Additionally, the state will provide the supports and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

I support Ohio's application for the Race to the Top grant and remain a vested partner in ensuring successful outcomes for students, teachers, and schools across the state.

Sincerely,

Marcy Kaptur

MARCY KAPTUR
U.S. Representative

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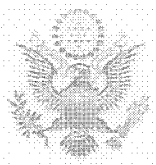

HOUSE OF REPRESENTATIVES
WASHINGTON, D.C. 20515

MARY JO KILROY
15TH DISTRICT, OHIO

January 6, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, SW
Washington, DC 20202

Dear Mr. Secretary,

I wish to express my enthusiastic support for Ohio's Race to the Top application, and I join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

Our state commenced its new biennium with a comprehensive education reform plan and a Race to the Top award would accelerate the state's existing agenda to strategically address gaps to delivering a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state will provide the supports and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

I strongly support Ohio's application for the Race to the Top grant and remain an enthusiastic and vested partner in ensuring successful outcomes for students, teachers, and schools across the state.

Sincerely,

Mary Jo Kilroy
U.S. Representative
Ohio's 15th Congressional District

DENNIS J. KUCINICH
10TH DISTRICT, OHIO

2445 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, D.C. 20515
(202) 225-5871

14400 DETROIT AVENUE
LAKEWOOD, OHIO 44107
(216) 228-8850

PARMATOWN MALL
7904 DAY DRIVE
PARMA, OH 44129
(440) 845-2707

Congress of the United States
House of Representatives
www.kucinich.house.gov

CHAIRMAN,
SUBCOMMITTEE ON DOMESTIC POLICY

COMMITTEE ON OVERSIGHT AND
GOVERNMENT REFORM

COMMITTEE ON EDUCATION AND LABOR

January 14, 2010

The Honorable Arne Duncan
Secretary
United States Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202-0008

Dear Secretary Duncan:

I write to bring to your attention the State of Ohio's application for the Race to the Top grant. I request that their application receives your full consideration.

The state of Ohio intends to use its race to the top award to accelerate the state's existing agenda to strategically address gaps to deliver a highly-effective learning experience to all students. The state asserts that it is in a position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles, expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators. A race to the top grant could greatly support the State's capacity to implement these reforms.

As a member of the Committee on Education and Labor, I strongly believe our country needs to make education a priority once again, and I commend the administration for its efforts in this regard. A Race to the Top grant will ensure that Ohio schools can prepare our students to be educated and productive members of the 21st century economy.

Thank you for your time and consideration in this matter.

Sincerely,

Dennis J. Kucinich

Dennis J. Kucinich
Member of Congress

COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON
TRANSPORTATION, HOUSING AND URBAN
DEVELOPMENT AND RELATED AGENCIES

SUBCOMMITTEE ON
INTERIOR, ENVIRONMENT AND RELATED AGENCIES
SUBCOMMITTEE ON
LEGISLATIVE BRANCH

Steven C. LaTourette
Congress of the United States
14th District, Ohio

January 7, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

I write to express my support for Ohio's Race to the Top (RTTT) application to participate in this competitive grant program.

There is a critical and compelling effort within the State to help students and teachers learn and master the skills needed to continue to achieve new successes in our global economy. With such commitment and interest, it is my hope that this program will be successful within Ohio's local school districts, and I am happy to support the State's application for funding to continue this investment in our children's future.

Thank you for this opportunity to express my support for Ohio's RTTT grant application. I hope Ohio is given every consideration as your process moves forward. I remain

Very truly yours,

Steven C. LaTourette
Member of Congress

ROOM 2371
RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-5731

1 VICTORIA PLACE
ROOM 320
PAINESVILLE, OH 44077
(440) 352-3939
TOLL FREE IN OHIO
1-800-447-0529

TWINSBURG GOVERNMENT CENTER
10075 RAVENNA ROAD
TWINSBURG, OH 44087
(330) 425-9291

1421 Longworth Building
Washington, DC 20515
202-225-5261
202-225-3719 FAX

Committee on
Appropriations

Tim Ryan
Congress of the United States
17th District, Ohio

January 13, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

I wish to express my enthusiastic support for Ohio's Race to the Top application. Ohio stands ready to initiate the bold and innovative reforms needed to make a significant impact on student performance, increase graduation rates, and eliminate the achievement gap. I join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

Ohio commenced its new biennium with a comprehensive education reform plan and a Race to the Top award would accelerate the state's existing agenda to strategically address gaps to delivering a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state will provide the supports and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

I strongly support Ohio's application for the Race to the Top grant and remain an enthusiastic and vested partner in ensuring successful outcomes for students, teachers, and schools across the state.

Sincerely,

Tim Ryan
Member of Congress

197 West Market Street
Warren, OH 44481
330-373-0074
330-373-0098 FAX

241 Federal Plaza West
Youngstown, OH 44503
330-740-0193
330-740-0182 FAX

1030 East Tallmadge Avenue
Akron, OH 44310
330-630-7311
330-630-7314 FAX

Toll-Free: 1-800-856-4152
www.house.gov/timryan

Congress of the United States
Washington, DC 20515

January 8, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

Today, I write in full support of the State of Ohio's application for Race to the Top funds. These funds are critical to helping our state repair its damaged economy.

Without question, in order to successfully emerge from our current economic, and to put our economy on strong footing for decades to come, we must make unprecedented investments in education. Ohio must produce the leaders and workforce of tomorrow, we must promote the types of innovations necessary to promote substantial growth. I truly believe that Ohio has taken a major step in achieving such growth by aggressively working to improve student performance, increase graduation rates, and eliminate the achievement gap by aggressively.

That's why I wish to express my full support for Ohio's Race to the Top application. I join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle as they work tirelessly to ensure that the State of Ohio is recognized for its collective effort to improve our state's education system.

Ohio has put forward a strong application that demonstrates a clear commitment to providing the type of education necessary to compete in the increasingly competitive global marketplace. By raising accountability, promoting math and science disciplines, and improving teacher-student development, Ohio will not only become a leader in comprehensive education reform, but also increase opportunities for hard-working Ohioans for generations to come.

I proudly offer my support for Ohio's Race to the Top Application and am confident that Ohio is prepared to act now to create a stronger education system for the future. If you should have any questions or need any further information, please contact Ryan Mann in my office at ryan.mann@mail.house.gov or at 202-225-6265.

Sincerely,

Zack Space
Member of Congress

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BETTY SUTTON
THIRTEENTH DISTRICT, OHIO

COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEE ON COMMERCE, TRADE AND CONSUMER PROTECTION
SUBCOMMITTEE ON HEALTH
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS

Congress of the United States
House of Representatives
Washington, DC 20515-3513

DISTRICT OFFICES:
39 EAST MARKET STREET, LL#1
AKRON, OHIO 44308
(330) 865-8450
FAX: (330) 865-8470

205 WEST 20TH STREET
SUITE M230
LORAIN, OHIO 44052
(440) 245-5350
FAX: (440) 245-5355
TOLL FREE: 1-866-317-9980

WASHINGTON OFFICE:
1721 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-3401
FAX: (202) 225-2266

WWW.SUTTON.HOUSE.GOV

January 6, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

I wish to express my enthusiastic support for Ohio's Race to the Top (RTTT) application. It is incumbent upon us, especially during these tough economic times, to ensure that all students realize their full potential in the classroom. A strong education is critical in preparing students for college and to successfully compete in the global marketplace. Ohio has answered your call to initiate bold and innovative reforms in its education programs, and I join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen Ohio's dynamic education system to meet the needs of our students and our nation.

The Ohio legislature's passage of their biennium education budget included a comprehensive education reform plan that addresses student performance, graduation rates and the achievement gap. A RTTT award would accelerate Ohio's existing agenda of strategic reforms designed to deliver a highly effective learning experience to all students. Ohio's current reform plans put the state in a unique position to use RTTT funds to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators. Additionally, this grant will provide Ohio with the resources necessary to turn around persistently low-achieving schools and expand STEM education opportunities.

I strongly support Ohio's application for a Race to the Top grant and remain an enthusiastic and vested partner in ensuring successful outcomes for students, teachers, and schools across the state.

Sincerely,

Betty Sutton

Betty Sutton
Member of Congress

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PATRICK J. TIBERI
12TH DISTRICT, OHIO

COMMITTEE ON WAYS AND MEANS
RANKING MEMBER, SUBCOMMITTEE ON SELECT REVENUE MEASURES

SUBCOMMITTEE ON SOCIAL SECURITY

SUBCOMMITTEE ON INCOME SECURITY AND FAMILY SUPPORT

Congress of the United States
House of Representatives
Washington, DC 20515–3512

COLUMBUS OFFICE:
3000 CORPORATE EXCHANGE DRIVE
SUITE 310
COLUMBUS, OH 43231
PHONE: (614) 523-2555
FAX: (614) 818-0897

WASHINGTON OFFICE:
113 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-3512
PHONE: (202) 225-5355
FAX: (202) 226-4523

www.house.gov/tiberi

January 5, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

I write today in support of Ohio's Race to the Top application. I think that our state can serve as a leader in improving our education system nationwide by improving student performance, increasing graduation rates, and eliminating the achievement gap.

Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Our state will work to turn around persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

I support Ohio's application for the Race to the Top grant. I hope you will give this request and the application all due consideration. Thank you for your attention to this matter.

Sincerely,

Pat

Patrick J. Tiberi
Representative to Congress

PJT/kb

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CHARLIE WILSON
6TH DISTRICT, OHIO

COMMITTEE ON
FINANCIAL SERVICES

COMMITTEE ON
SCIENCE & TECHNOLOGY

REGIONAL WHIP

Congress of the United States
House of Representatives
Washington, D.C. 20515-3506

CONGRESSIONAL STEEL CAUCUS
EXECUTIVE BOARD

HOUSE RURAL HEALTH CARE
COALITION (RHCC)

CONGRESSIONAL SPORTSMEN'S
CAUCUS

January 8, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

I am writing to express my support for Ohio's Race to the Top application. I understand the importance of improving the education system in Ohio so that all students may realize their full potential in the classroom and successfully compete in the global marketplace.

The State of Ohio has taken significant steps to advance student performance, increase graduation rates, and eliminate the achievement gap. This comprehensive education reform plan combined with a Race to the Top award would accelerate the state's existing agenda to strategically address gaps in the learning experience for all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state will provide the best resources necessary to advance low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

I strongly support Ohio's application for the Race to the Top grant and remain vested partner in ensuring successful outcomes for students, teachers, and schools across the state. Please do not hesitate to contact me, or Anne Sokolov (anne.sokolov@mail.house.gov) in my office if you need any additional information.

Sincerely,

Charlie Wilson
Member of Congress

225 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-3506
(202) 225-5705

820 MAIN ST.
BRIDGEPORT, OH 43912
(740) 633-5705

4137 BOARDMAN-CANFIELD RD.
CANFIELD, OH 44406
(330) 533-7250

1200 MAIN ST.
WELLSVILLE, OH 43968
(330) 532-9740

258 FRONT ST.
MARIETTA, OH 45750
(740) 376-0868

202 PARK AVE. SUITE C
IRONTON, OH 45638
(740) 533-9423

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Ohio Senate
Statehouse
Columbus, Ohio 43215
614-466-8086
614-466-2776 Fax
SD19@senate.state.oh.us

Committees:
Rules, Chair
Reference, Vice Chair
Legislative Service Commission

Bill Harris
Senate President
19th District

January 14, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan,

This letter is to offer my full support for Ohio's Race to the Top Application. I share your goals of higher standards, increasing student performance, and greater teacher accountability. Ohio has a long history of being a leader of innovative education initiatives and I believe Ohio is in an excellent position to capitalize on the resources provided to us through a Race to the Top award.

Like you, I believe parents are the best suited to determine the educational needs of their child. For the past 12 years, Ohio has been at the forefront in providing school choice for Ohio's families. Currently we have over 89,000 students attending 332 different charter schools. I was pleased to see that 187 charter school submitted a memorandum of understanding to participate in the Race to the Top program.

I stand ready to work in cooperation with Governor Ted Strickland and Superintendent of Public Instruction Deborah Delisle to make sure Ohio provides the best education possible for our future leaders.

Sincerely,

Bill Harris
President
Ohio Senate

CC: J.C. Benton

SENATOR CAPRI S. CAFARO
Senate Minority Leader
32nd Ohio Senate District

December 28, 2009

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

I wish to express my support for Ohio's Race to the Top application. I join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom and successfully compete in the global marketplace.

Our state commenced its new biennium with a comprehensive education reform plan and a Race to the Top award would accelerate the state's existing agenda. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state will provide the supports and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

I strongly support Ohio's application for the Race to the Top grant and remain an enthusiastic and vested partner in ensuring successful outcomes for students, teachers, and schools across the state.

Sincerely,

Capri S. Cafaro

Capri S. Cafaro
Minority Leader
Ohio Senate

Ohio Senate
Statehouse, 3rd Floor
Columbus, Ohio 43215
(614) 466-7182 (Phone)
(614) 466-5559 (Fax)
senatorcafaro@mailld.sen.state.oh.us

District Address:
108 Main Ave., SW
Suite 901
Warren, OH 44481
330.372.2222 (phone)
330.394.4444 (fax)

SENATOR TERESA FEDOR

Committees:
State & Local Government & Veterans' Affairs- Ranking Member
Education
Highways & Transportation
Government Oversight

Ohio Arts Council
Military Activation Task Force
Ohio School Facilities Commission
Trafficking in Persons Study Commission
State Council on Educational Opportunity for Military Children
National Statuary Hall Collection Study Commission
Committee to Study Public Funded Child Care Services

January 13, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

Ohio has answered your call to initiate the bold and innovative reforms needed to make a significant impact on student performance, increase graduation rates, and eliminate the achievement gap. I wish to express my enthusiastic support for Ohio's Race to the Top application. I join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

Our state commenced its new biennium with a comprehensive education reform plan and a Race to the Top award would accelerate the state's existing agenda to strategically address gaps to delivering a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state will provide the supports and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

I strongly support Ohio's application for the Race to the Top grant and remain an enthusiastic and vested partner in ensuring successful outcomes for students, teachers, and schools across the state.

Sincerely,

Teresa Fedor

TERESA FEDOR
State Senator
11th District

Columbus Office: Ohio Statehouse • Senate Building, Rm. 51. • Columbus, OH 43215
Phone: 614-466-5204 • Toll Free: 1-800-282-0253 • Facsimile: 614-466-4120

Tom Sawyer
State Senator
28th District
Phone: 614-466-7041
senatorsawyer@maild.sen.state.oh.us

Committees:
Education, Ranking Member
Energy and Public Utilities
Joint Committee on Agency Rule Review

December 30, 2009

The Honorable Arne Duncan
U.S Secretary of Education
400 Maryland Avenue, S.W
Washington, D.C 20202

Dear Secretary Duncan,

I am writing to you today to enthusiastically express my support for Ohio in our application for the Race to the Top award. It is my belief that Ohio is among the strongest applications in pursuit of this grant, as it will help strengthen the dynamic educational system already in place.

As a former teacher, state Representative, Mayor, Congressman, State School Board member, and now state Senator, I have been committed to the elevation of education policy and the stabilization of school funding in Ohio for my entire career. I have lived to see Ohio's system of funding education be declared unconstitutional *four* times – and I continue to hold onto the dream that all children receive a thorough and efficient education, regardless of their zip code. I know that you, too, share this dream.

While I am still fighting for some of the same issues that brought me to the legislature over 32 years ago, I will say that the education reforms passed in recent months have given us a monumental step forward. With the leadership of Governor Ted Strickland, the Ohio Legislature passed a budget bill amid difficult economic circumstances that demonstrate a true commitment to public education. Among these reforms was replacing the old funding formula of residual budgeting with the Ohio Evidence Based Model based on adequacy and need; a new licensure structure with a four-year residency program to provide greater support and professional development to new educators; an Educational Challenge Factor to fairly distribute state aid to those districts in need; smaller class sizes for grades K-3; replacing the high-stakes Ohio Graduation Test with a new, more comprehensive assessment system; and new standards to require school district financial transparency. These reforms, along with the sound education system already in place, make Ohio well-positioned for the Race to the Top grant.

Furthermore, this past month I introduced a bill that would make Ohio 100% competitive by requiring the implementation of a statewide longitudinal data system between the Department of Education and the University System of Ohio. After thoroughly reviewing the Race to the Top guidance documents, it became apparent that preference would be given to states with such a data system in place. We amended this measure into

a moving bill and it was immediately passed by both chambers with an emergency clause. It was signed by the Governor on December 28th.

Secretary Duncan, Ohio has answered your call to initiate bold and innovative reforms in our schools. We have put education at the forefront of debate, even throughout one of the most difficult economic climates since the Great Depression. We have remained dedicated to serving every student, all while holding onto the principle that education is the foundation needed for economic recovery.

That said, I hope that you can consider this request to help Ohio's students achieve the full measure of their promise.

I am grateful for your steadfast commitment to education in the United States.

Sincerely,

Tom Sawyer
State Senator,
28th District

TCS/cmd

Ohio House of Representatives

Joseph F. Koziura
State Representative

56th House District
Parts of Lorain County

District Office
5308 Gargasz Drive
Lorain, Ohio 44053
telephone: (440) 282-7452

Capitol Office
Riffe Center
77 South High Street
Columbus, Ohio 43215-6111
toll free: (800) 282-0253
telephone: (614) 466-5141
fax: (614) 644-9494
District56@ohr.state.oh.us
www.house.state.oh.us

Committees
Financial Institutions, Real Estate and Securities
Chairman
Rules and Reference
Vice Chairman
Insurance
Ways and Means

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

January 15, 2010

Dear Secretary Duncan:

I would like to express my strong support for Ohio's Race to the Top grant application. During the past few years, I and my colleagues in Ohio's state government have made an in-depth accounting of the needs of our students and educators and formulated a bold and innovative set of reforms needed to make a significant impact on student performance, graduation rates, and elimination of the achievement gap. I am one hundred percent behind Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and compete successfully in the global marketplace.

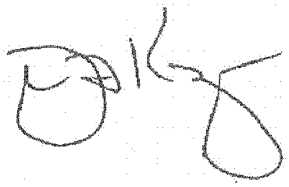
The opportunities that a Race to the Top award would provide our state to fully implement the comprehensive education reform plan passed into law in the new biennium would go a long way toward achieving our goals. There is no time to be lost in accelerating the state's existing agenda to strategically address gaps to delivering a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Our plan for Ohio's schools also focuses on providing the supports and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities, both vital aspects of education reform that will address the needs of all of Ohio's students. Our ability to significantly invest in best practices, standards and curriculum, assessments, and technology will be the biggest factor in improving the overall effectiveness of classroom instruction.

I feel that the Race to the Top grant program is a prime example of the aggressive and common sense approach that your agency and the Obama administration has implemented to address challenging issues in our country. The needs and strivings of Ohio's education system and our students, who are the future of our state, are a perfect fit for the goals that brought this grant program to fruition.

I remain an enthusiastic and vested partner in ensuring successful outcomes for students, teachers, and schools across the state, and I am confident that Ohio is deserving and equipped to utilize a Race to the Top grant to the upmost.

Sincerely,



Joseph F. Koziura
State Representative
56th House District

Committees: Consumer Affairs & Economic Protection – Chair, State Government – Vice Chair, Economic Development, Education, Rules & Reference

January 15, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

I am writing to express my support for Ohio's application for the Race to the Top grant. As a member of the Ohio House Education Committee, I understand how vital this grant is for the strengthening of Ohio's education system.

I join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to provide each student in Ohio the opportunity to realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

Our state has a comprehensive education reform plan in place and a Race to the Top award would accelerate the state's existing agenda to strategically address gaps to deliver an effective learning experience to all students.

I strongly support Ohio's application for the Race to the Top grant and ask for your full and fair consideration in this matter.

If you have any questions or wish to discuss this matter further, please do not hesitate to contact my office at (614) 644-5076 or district57@ohr.state.oh.us.

Continued Success,

MATT LUNDY
State Representative
57th House District
The Ohio House of Representatives

Gerald L. Stebelton

State Representative, 5th House District

COMMITTEES
Civil and Commercial Law
Economic Development
Education, *Ranking Member*
State Government

January 4, 2009

The Honorable Arne Duncan, Secretary
U.S. Department of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

I would like to take this time to offer my support for the State of Ohio's application for Race to the Top funds. As a state representative, one of my top priorities has and always will be the education of our children. While there is always room for improvement of any state's educational system, Ohio deserves to be rewarded for its educational achievements and its continued commitment to improve this system.

Ohio currently has one of the best education systems in the nation. A Race to the Top award would accelerate the state's existing agenda to strategically address gaps in delivering a highly effective learning experience to all students. Further, Ohio is in a unique position to expand its accountability system, increase the use of value-added data, create differentiated roles and expand responsibilities in the licensure structure, and increase the use of different technologies in the classroom.

Additionally, Ohio is committed to taking any necessary actions to turn around persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

I strongly support Ohio's application for the Race to the Top grant and encourage you to look favorably upon Ohio's application. If you have any questions or would like to discuss Ohio's educational system, please do not hesitate to contact me.

Sincerely,

Gerald L. Stebelton
State Representative
House District 05

Capitol:
77 South High Street, 10th Floor
Columbus, Ohio 43215-6111
(614) 466-8100
(614) 719-0005 (fax)
(800) 282-0253 (toll free)

District05@ohr.state.oh.us
www.house.state.oh.us

District:
Fairfield County
109 N. Broad St.
P.O. Box 130
Lancaster, Ohio 43130
(740) 654-4141
(740) 654-2521 (fax)

Brian G. Williams
State Representative 41st House District
Office: (614) 644-5085
Toll free: (800) 282-0253
District41@ohr.state.us

December 23, 2009

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

As Chairman of the Education Committee of the Ohio House of Representatives, I wish to express my enthusiastic support for our Race to the Top application. I join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

Our state commenced its new biennium with a comprehensive education reform plan (the center piece of HB 1, the state's operating budget) and a Race to the Top award would accelerate the state's existing agenda to strategically address gaps to delivering a highly effective learning experience to all students. Recently, the House Committee on Education focused its attention on putting in place a true P-16 Longitudinal Data System to further compliment the exceptional data collection system we have in Ohio.

I strongly support Ohio's application for the Race to the Top grant and remain an enthusiastic and vested partner in ensuring successful outcomes for students, teachers, and schools across the state.

Sincerely,

Brian G. Williams
Ohio House of Representatives
41st House District

se

Battelle for Kids
Bringing clarity to school improvement

1160 Dublin Road, Suite 500
Columbus, OH 43215
(614) 481-3141
(614) 481-8997 fax
www.BattelleforKids.org

December 22, 2009

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

On behalf of Battelle for Kids I offer our enthusiastic support for Ohio's Race to the Top application. Ohio is answering your call to initiate the bold and innovative reforms needed to make a significant impact on student performance, increase graduation rates, and eliminate achievement gaps. As an organization long committed to harnessing the power of data to empower teaching that results in strong academic growth for *all* students, we join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen Ohio's education system so that all students realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

A Race to the Top award would accelerate the state's comprehensive reform plan. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles via career ladders, expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state is poised to provide the supports and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. Overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology. And, especially important in a state as diverse as Ohio, the Race to the Top application gives priority to underserved students in both *urban and rural* districts. This attention to our poor rural districts also aligns with your recent commitments to provide resources and opportunities to this generally struggling region full of students who need and deserve the highest quality education possible.

Battelle for Kids strongly supports the Obama administration's commitment to dramatic educational improvement. And, we believe Ohio will demonstrate leadership and results in line with that commitment through a Race to the Top grant. To support our state's leaders and educators, Battelle for Kids remains an enthusiastic and vested partner in ensuring successful outcomes for all Ohio students.

(b)(6)

James W. Mahoney
Executive Director

JWM:gm

Buckeye Association of School Administrators

BASA
BUCKEYE ASSOCIATION OF SCHOOL ADMINISTRATORS

Suite 150, 8050 North High Street
Columbus, OH 43235
Phone: 614-846-4080
Fax: 614-846-4081
www.basa-ohio.org

Executive Director
Jerry L Klenke, Ph.D.

January 5, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

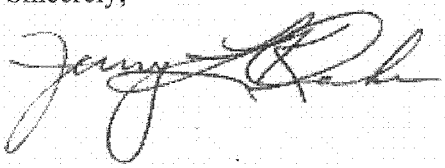
Ohio has answered your call to initiate the bold and innovative reforms needed to make a significant impact on student performance, increase graduation rates, and eliminate the achievement gap. On behalf of the Buckeye Association of School Administrators (BASA), I wish to communicate our enthusiastic support for Ohio's Race to the Top application. We join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

Our state commenced its new biennium with a comprehensive education reform plan and a Race to the Top award would accelerate the state's existing agenda to strategically address gaps and delivering a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state will provide the supports and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

BASA strongly supports Ohio's application for the Race to the Top grant and remains an enthusiastic and vested partner in ensuring successful outcomes for students, teachers, and schools across the state.

Sincerely,



Jerry L. Klenke, Ph.D.
Executive Director, BASA

Ohio | eTech Ohio

January 6, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

Ohio has answered your call to initiate the bold and innovative reforms needed to make a significant impact on student performance, increase graduation rates, and eliminate the achievement gap. On behalf of eTech Ohio I wish to communicate our enthusiastic support for Ohio's Race to the Top application. We join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

Our state commenced its new biennium with a comprehensive education reform plan and a Race to the Top award would accelerate the state's existing agenda to strategically address gaps to delivering a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state will provide the supports and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

eTech Ohio strongly supports Ohio's application for the Race to the Top grant and remains an enthusiastic and vested partner in ensuring successful outcomes for students, teachers, and schools across the state.

Sincerely,

Kathleen T. Harkin
Executive Director

35 East Chestnut Street, 8th Floor | Columbus, OH 43215 PH. 614.485.6000 FX. 614.728.1899
www.etech.ohio.gov | eTech Ohio is an equal opportunity employer

22 East Gay Street, Suite 600
Columbus, Ohio 43215

ph 614.228.6400
fax 614.461.0100

www.KidsOhio.org

January 7, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan,

KidsOhio.org, a nonpartisan private-sector education research and policy organization, which does not accept government funds, supports Ohio's application for federal Race to the Top funds. These funds will be used to help all Ohio students, especially disadvantaged students who now represent 40 percent of Ohio students, up from 33 percent five years ago.

These funds will enable Ohio to continue playing a leadership role in the 48-state effort to create common core standards in math and reading. Furthermore, Ohio's plan builds on two decades of school improvements, including a well-respected K-12 report card and data system, the use of value-added measures in grades four through eight, and the initiation of a more rigorous high school math and science curriculum.

State Superintendent Deborah Delisle has assured us that Ohio will use Race to the Top funds to:

- expand the use of value-added measures,
- carefully link student performance with educator evaluations and improvement plans,
- create a menu of student growth measurements for students and teachers,
- institute formative assessments to improve instruction in all grades,
- merge Ohio's separate pre-k, K-12, and higher education data systems into a pre K-16 longitudinal data system,
- help a select number of persistently low-performing schools, including charter schools, to turn around, and
- form public-private partnerships to effectively address several key needs.

We offer our assistance in educating Ohioans about this proposal, and how the state and local districts plan to use these additional funds if selected. We also offer our help in shaping, implementing, and monitoring the high quality plans called for in the guidelines.

For Ohio kids,

Mark Real

Board Members
Chad Jester
Linda Kass
Jeffrey Lyttle
Frederick L. Ransier, Esq.
Ilana Horowitz Ratner
Elizabeth Ruppert, M.D.
Barbara Trueman
Abigail Wexner

Mark Real, President

KnowledgeWorks Foundation

One W. 4th Street
Suite 200
Cincinnati, OH 45202-2015

phone: (513) 929-4777
fax: (513) 929-1122
toll free: (877) 852-3563
www.kwfdn.org

December 29, 2009

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

Ohio has answered your call to initiate the bold and innovative reforms needed to make a significant impact on student performance, increase graduation rates, and eliminate the achievement gap. On behalf of **The KnowledgeWorks Foundation** I wish to communicate our enthusiastic support for Ohio's Race to the Top application. We join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

Our state commenced its new biennium with a comprehensive education reform plan. A Race to the Top award would accelerate the state's existing agenda for delivering a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide support and professional development to educators.

KnowledgeWorks is particularly interested in the high school reform strategy in the State proposal. As the largest laboratory for high school reform in the country for the past seven years, Ohio proposes to turn around persistently low-achieving schools and expand STEM education opportunities. These efforts will be based on State learnings from the $100 million in public-private dollars invested since 2002 in the Ohio High School Transformation Initiative, which transformed several large, failing high schools that have erased achievement gaps, and the development of the largest network of Early College High Schools in the country that have created college opportunity for hundreds of first-generation college students. The State hopes to bring the success of these initiatives to scale through RTTT funds.

The KnowledgeWorks Foundation strongly supports Ohio's application for the Race to the Top grant and remains an enthusiastic and vested partner in ensuring successful outcomes for students, teachers, and schools across the state.

Sincerely,

(b)(6)

Chad P. Wick
President and CEO

mc·oecn

Management Council Ohio Education Computer Network

www.mcoecn.org

Columbus Office
4050 North High Street
Columbus Ohio 43235
Phone: (614) 840-9810
Fax: (614) 846-4081

Mount Vernon Office
1365 New Gambier Road
Mount Vernon, Ohio 43050
Phone: (740) 397-9510
Fax: (740) 392-1547

Hilliard Office
4860 Roger Allen Court
Hilliard, Ohio 43026
Phone: (614) 529-1394
Fax: (614) 529-1409

January 5, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

Ohio has developed a bold plan to further the innovative reforms needed to make a significant impact on student performance, increase graduation rates, and eliminate the achievement gap in our state. On behalf of the Management Council of the Ohio Education Computer Network, I wish to communicate our enthusiastic support for Ohio's Race to the Top application. We join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

We endorse Ohio's comprehensive education reform plan, and a Race to the Top award would accelerate the state's existing agenda to strategically address gaps to delivering a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

The MCOECN strongly supports Ohio's application for the Race to the Top grant and remains an enthusiastic and vested partner in ensuring successful outcomes for students, teachers, and schools across the state.

Sincerely,

(b)(6)

Bruce E. Hawkins, CEO
Management Council of the Ohio Education Computer Network

On Your Side®

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

January 15, 2010

Subject: Ohio's Race to the Top Application

Race to the Top accelerates the execution of Ohio's comprehensive plan for educational reform. Central to the plan are strong and committed connections between education and business. Nationwide agrees with Ohio's plan to establish a business collaborative to assist state and local education agencies engaged in system improvement and would welcome the opportunity to participate. From performance-based data systems to comprehensive human capital systems, business capabilities and expertise can help Ohio execute a high quality Race to the Top state plan.

Nationwide has a long history of working at the school and school district levels. Our involvement began with being a Partner in Education at one elementary school in Columbus City Schools in a high poverty neighborhood. As our relationship progressed, we saw a way to bring what we do well as a business to the district. We are now working with the district to advance data-informed decision making with educational analytics.

We have established within our Office of Corporate Citizenship an Education Partnerships team, which is focused on advancing education through the use of data. And while this team is mainly focused on academic data, Nationwide is also working with the district to address these non-academic barriers:

- Nationwide and the Nationwide Insurance Foundation are the lead sponsor and provide about 300 mentors for Project Mentor which seeks to match a caring adult with a student that could most benefit from a school-based mentor
- Nationwide with other corporate foundations and the Columbus Foundation are beginning to work together to ensure the success of each student within Columbus City Schools and the charter schools within Columbus
- Nationwide is also engaged in the emergent ASPIRE initiative emphasizing the need to address non-academic conditions for educational success

As a result of our involvement, we continue to see opportunities for business to help the education community and for the corporate community to play a role to ensure the success of all students. Nationwide is a socially responsible company and we will continue to be involved in education in a meaningful way. We look forward to working with the Ohio Department of Education to ensure every child succeeds regardless of their zip code.

Sincerely,

(b)(6)

Barbara Boyd
Associate Vice President
Nationwide Education Partnerships

One Nationwide Plaza
Columbus, Ohio 43215-2220

OAPCS

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

December 29, 2009

Dear Secretary Duncan:

Ohio has made great strides to create the educative reform measures needed to impact student performance, increase graduation rates, and eliminate the achievement gap. The *Ohio Alliance for Public Charter Schools* enthusiastically supports Ohio's "Race to the Top" application.

Our state commenced its new biennium with a comprehensive education reform plan and a "Race to the Top" award would accelerate the state's existing agenda to strategically address gaps to delivering a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Charter schools are uniquely positioned to help realize related RTT goals, and to help serve as a reform laboratory. Because of the populations served by Ohio's charter schools and Ohio's robust charter school closure and accountability provisions, charters have been early and enthusiastic adopters of the value-added concept. Ohio's charters are eager for tools to use student–level, value-added data, same-student learning gains, and to use additional measures that extend to all grades and subjects. Our specialized dropout recovery and special needs schools have a wealth of experience using progress measures that are meaningful for diverse student populations. Comprehensive teacher evaluation systems can be piloted in charters as they have more flexibility to link evaluation results to compensation, promotion and retention decisions.

The *Ohio Alliance for Public Charter Schools* strongly supports Ohio's application for the Race to the Top grant and remains an enthusiastic and vested partner in ensuring successful outcomes for students, teachers, and schools across the state.

Sincerely,

William J. Sims
President and CEO
Ohio Alliance for Public Charter Schools

oaesa serving ohio's elementary, middle level, and central office administrators

900 Club Drive, Suite A
Westerville, OH 43081
Phone: 614.794.9190
Fax: 614.794.9191
Toll Free: 888.OH.OAESA
www.oaesa.org

December 17, 2009

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

Ohio has answered your call to initiate the bold and innovative reforms needed to make a significant impact on student performance, increase graduation rates, and eliminate the achievement gap. On behalf of the **Ohio Association of Elementary School Administrators**, I wish to communicate our enthusiastic support for Ohio's Race to the Top application. We join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace. Throughout the application process, we have had the opportunity to provide input and feedback to the Ohio Department of Education personnel and appreciate being included stakeholders.

The Ohio Association of Elementary School Administrators has a long-standing positive relationship with the Governor's office, the State Board of Education, and the Department of Education. Our state commenced its new biennium with a comprehensive education reform plan and a Race to the Top award would accelerate the state's existing agenda to strategically address gaps to delivering a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators. I have had the privilege of hearing you speak several times this year and appreciate your commitment to securing effective leadership in each of the nation's schools.

Additionally, the state will provide the supports and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

The **Ohio Association of Elementary School Administrators** strongly supports Ohio's application for the Race to the Top grant and remains an enthusiastic and vested partner in ensuring successful outcomes for students, teachers, principals, and schools across the state.

Sincerely,

(b)(6)

Julie Davis, Ed.D.
Executive Director

8050 North High Street, Suite 170 / Columbus, Ohio 43235-6485
614.431.9116 / Toll Free (in state only) 800.646.2726 / Fax 614.431.9137 / www.oasbo-ohio.org

Ohio Association of School Business Officials

oasbo

January 5, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

Ohio has answered your call to initiate the bold and innovative reforms needed to make a significant impact on student performance, increase graduation rates, and eliminate the achievement gap. On behalf of the **Ohio Association of School Business Officials (OASBO)**, I wish to communicate our enthusiastic support for Ohio's Race to the Top application. We join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

Our state commenced its new biennium with a comprehensive education reform plan and a Race to the Top award would accelerate the state's existing agenda to strategically address gaps to delivering a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state will provide the supports and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

OASBO strongly supports Ohio's application for the Race to the Top grant and remains an enthusiastic and vested partner in ensuring successful outcomes for students, teachers, and schools across the state.

Sincerely,

(b)(6)

David A. Varda
Executive Director

(b)(6)

Alana Cropper
Board President

OHIO ASSOCIATION OF SECONDARY SCHOOL ADMINISTRATORS
8050 North High Street • Suite 180 • Columbus, Ohio 43235-6484
614/430-8311 Fax 614/430-8315

December 12, 2009

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

Ohio has answered your call to initiate the bold and innovative reforms needed to make a significant impact on student performance, increase graduation rates, and eliminate the achievement gap. On behalf of the **Ohio Association of Secondary School Administrators,** I wish to communicate our enthusiastic support for Ohio's Race to the Top application. We join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

Our state commenced its new biennium with a comprehensive education reform plan and a Race to the Top award would accelerate the state's existing agenda to strategically address gaps to delivering a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state will provide the supports and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

The Ohio Association of Secondary School Administrators strongly supports Ohio's application for the Race to the Top grant and remains an enthusiastic and vested partner in ensuring successful outcomes for students, teachers, and schools across the state.

Sincerely,

James J. Harbuck

James J. Harbuck
Executive Director

OEA
OHIO EDUCATION ASSOCIATION

Patricia Frost-Brooks, President
William Leibensperger, Vice President
Jim Timlin, Secretary-Treasurer
Larry E. Wicks, Executive Director

The OEA will lead the way for continuous improvement of public education while advocating for members and the learners they serve.

January 15, 2010

Deborah S. Delisle
Superintendent of Public Instruction
Ohio Department of Education
25 South Front Street
Columbus, OH 43215-4183

Dear Superintendent Delisle:

The Ohio Education Association (OEA) strongly supports Ohio's application to participate in the federal Race to the Top grant program (RTTT). A successful application would bring important resources to a state that has both a record of continuing improvement and a comprehensive strategy to transform schools. The targeted reforms and a more equitable funding system provided by Ohio's House Bill 1, along with the support of federal RTTT funding, will help Ohio achieve its potential, despite a challenging economic outlook. Working together, education stakeholders will be able to accelerate the implementation of a statewide infrastructure responsive to the teaching and learning needs of local schools. RTTT will help Ohio provide the funding and research-based resources so that participating school districts can work collaboratively with our members to envision and advance promising reforms.

OEA's support for RTTT is rooted in our vision – *to lead the way for the continuous improvement of public education while advocating for members and the learners we serve.* We have a history of constructive collaboration with the Ohio Department of Education (ODE), as well as with school districts throughout the state. ODE has invited and been responsive to our input during the preparation of Ohio's application. This application draws its primary strength from the commitment of Governor Ted Strickland to a 21st century vision for public education. The Governor has been a tireless advocate for education funding and strategies for school improvement. We look forward to continuing these fruitful partnerships at all levels.

OEA understands that RTTT is designed to spur innovation and change. We are particularly encouraged by the following emphases in Ohio's application:

- Construction and adoption of 21st Century standards, curricula, instructional supports, and assessments, including participation in the Common Core initiative and interstate research and development initiatives on student assessment;
- Establishment of data management and instructional support systems responsive to teacher and principal goals and needs;
- Implementation of Ohio's newly-legislated teacher licensure program, including the four-year Resident Educator Program for beginning teachers, which should accelerate and extend teacher proficiency, and foster teacher leadership;

- Negotiation of teacher and principal evaluation systems that encourage and guide professional development, enhance individual proficiency, and build staff capacity; and
- Engagement by state and local school district leaders (administrators, teachers and local community members) in the development of programs for turning around struggling schools, closing achievement gaps, and enhancing overall student growth.

OEA believes that inspirational collaborative leadership at both the state and local levels will be essential to implement those provisions of House Bill 1 that are the focus of RTTT. Our role will be to advocate for and assist our local associations as they take on the challenges of assuring quality public education for every child, not only for those associations that signed on to the RTTT application, but also for those who have chosen not to participate based on the unique circumstances and conditions present in their school communities.

The memorandum of understanding (MOU) central to school district participation in RTTT sets the stage for collaboration at the local level. OEA believes that the MOU will provide an operating framework to protect members' rights, as well as affirm their professional role in shaping the conditions for teaching and learning necessary for transforming schools and districts. By participating as equal partners on school district transformation teams, our members will bring the practical classroom perspective to local program planning and implementation. The MOU is flexible enough to uphold existing provisions of the locally negotiated collective bargaining agreements (CBAs), while giving local OEA affiliates and school districts a roadmap for using collective bargaining to incorporate innovations in the transformation plan that may be at variance with existing CBAs.

OEA embraces the moral imperative of educating each child for success. We believe every child deserves a great public school with caring, effective teachers and education support professionals. To achieve this vision, OEA will offer technical assistance and consulting advice to our local affiliates as they strive to create world-class teaching and learning conditions for their students, their communities and the State of Ohio. We are pledging OEA's support for the RTTT application and Ohio's ambitious school transformation agenda, which we see as connected, compatible and complementary to RTTT.

Sincerely,

(b)(6)

Patricia Frost-Brooks, President

Ohio Federation of Teachers AFT, AFL-CIO
A Union of Professionals

1251 E. Broad Street
Columbus, OH 43205
T: 614/258-3240
800/821-1722 in Ohio
F: 614/257-4193

www.oft-aft.org

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An affiliate of the American Federation of Teachers, AFL-CIO

January 12, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Secretary Duncan,

The Ohio Federation of Teachers has worked closely with the Ohio Department of Education to develop our state's application for Race to the Top grant funding. We are also providing resources and guidance to many of our member leaders as they work with their districts to collaboratively develop their Race to the Top applications.

The Ohio Federation of Teachers supports the state's application for Race to the Top grants as well as applications from individual districts where we represent teachers and other school employees.

We believe that Race to the Top grants will bolster Ohio's new education reform plan set forth in House Bill 1. The grants will allow Ohio to focus on creating and testing new pilot programs as well as expanding innovative structures established in the reform model in strong collaboration with educators. A stronger public education system will foster business growth and job development to help improve Ohio's economy. A stronger public education system and stronger economy will create a stronger future for all Ohioans.

We will continue to provide resources and guidance to our locals so that they can use Race to the Top grants in the most effective way possible for Ohio's students. And we look forward to continued collaboration with the Ohio Department of Education as this grant process moves forward.

Sincerely,

(b)(6)

Sue Taylor
President
Ohio Federation of Teachers

OHIO GRANTMAKERS FORUM

Serving Grantmakers, Promoting Philanthropy

January 10, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan,

Ohio Grantmakers Forum (OGF) is an association of over 200 Ohio-based foundations, corporate contribution programs and other grantmaking organizations. OGF's mission is to provide leadership for organized philanthropy in Ohio and to enhance the ability of its members to fulfill their charitable goals.

In the area of education, OGF is doing this by:

- working collaboratively with other education stakeholder groups;
- bringing people and organizations with disparate points of view to the table to find areas of consensus;
- advocating for state policies and local practices that change students' lives and improve communities' futures; and
- helping our members become more effective grantmakers by giving them a better understanding of the complexities of education reform, sharing information about best and promising practices and identifying innovative ways to make a positive difference in students' lives.

We are writing to offer our support for the State of Ohio's Race to the Top application. We strongly believe that the receipt of federal Race to the Top funds will help propel Ohio to the next level in education reform, but more importantly in helping our students achieve at higher levels. The Race to the Top application builds on Ohio's on-going reform efforts including the recent passage of Ohio House Bill 1, Ohio's budget and education reform bill. OGF, its members and partners published a series of recommendations in late 2008, most of which became the basis for the education reform passed in House Bill 1. House Bill 1 Ohio has already taken critical steps to:

1. Improve Ohio's student academic standards
2. Align Ohio's college- and career-ready assessment system to these new standards
3. Improve teacher effectiveness through tenure reform, dismissal standards and the incorporation of student measures in teacher evaluations, promotion decisions and teacher residency models.

OGF has been a partner with the Governor's office, the Ohio Department of Education and the Ohio Board of Regents and we look forward to continuing to support, monitor and accelerate Ohio's efforts to improve education and the performance of Ohio's students.

Sincerely,

(b)(6)

George E. Espy, President
Ohio Grantmakers Forum

Fifth Third Center, 21 E. State Street, Suite 1600
Columbus, OH 43215-4228
Phone: 614-224-1881
Fax: 614-224-1882
www.ohiograntmakers.org
info@ohiograntmakers.org

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December 16, 2009

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

Ohio has answered your call to initiate the bold and innovative reforms needed to make a significant impact on student performance, increase graduation rates, and eliminate the achievement gap. On behalf of Ohio PTA, I wish to communicate our enthusiastic support for Ohio's Race to the Top application. We join Governor Ted Strickland, State Board of Education President Deborah Cain, and our Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

Our state commenced its new biennium with a comprehensive education reform plan and a Race to the Top award would accelerate the state's existing agenda to strategically address gaps to delivering a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state will provide the supports and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

The Ohio PTA strongly supports Ohio's application for the Race to the Top grant and remains an enthusiastic and vested partner in ensuring successful outcomes for **all** students, teachers, and schools across the state.

Sincerely,

(b)(6)

Deborah A. Tidwell
President 2009-2011

40 Northwoods Blvd. Columbus, OH 43235
614-781-6344 Fax 614-781-6349 oh_office@PTA.org www.ohiopta.org

Ohio School Boards Association

8050 North High Street, Suite 100, Columbus, Ohio 43235-6482
(614) 540-4000 • (800) 589-OSBA • fax: (614) 540-4100
www.osba-ohio.org

December 29, 2009

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

Ohio has answered your call to initiate the bold and innovative reforms necessary to achieve a significant impact on student performance, increase graduation rates and eliminate the achievement gap. On behalf of the Ohio School Boards Association, I wish to communicate our enthusiastic support for Ohio's Race to the Top application. We join Governor Ted Strickland, State Board of Education President Deborah Cain and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college and successfully compete in the global marketplace.

Our state commenced its new biennium with a comprehensive education reform plan and a Race to the Top award would accelerate the state's existing agenda to strategically address gaps to delivering a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expanded responsibilities in the licensure structure and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state will provide the support and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments and technology.

OSBA strongly supports Ohio's application for the Race to the Top grant and remains an enthusiastic and vested partner in ensuring successful outcomes for students, teachers and schools across the state.

Sincerely,

Richard C. Lewis

Richard C. Lewis, CAE
Executive Director

Damon F. Asbury

Damon F. Asbury
Director of Legislative Services

Ohio STEM Learning Network

December 23, 2009

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

On behalf of the Ohio STEM Learning Network (OSLN), I write to express our strong support for Ohio's Race to the Top application. We are pleased to join hands with state-level leaders and education partners to further strengthen Ohio's education system – positioning our students for success in college and 21st century careers.

The OSLN is an unparalleled public-private, statewide network of STEM partners who seek to amplify and accelerate STEM education quality and access. A network of innovation like none other in the nation, the OSLN spans five regions from Cleveland, Akron, Columbus, Dayton and Cincinnati and connects 10 STEM schools and 26 STEM K-8 Programs of Excellence. We believe the best practices occurring within and shared beyond the network hold the keys to unlock transformative education reform anchored in engineering and technological design principles.

In Ohio, we have used STEM education as a test kitchen to strengthen our approach in the four assurance areas. For example, in standards and assessments, STEM schools are engaged in inquiry-based science assessments and end-of-course exams helping align high school exit to higher education admissions. To address the data systems to support instruction, STEM programs are designing local instructional improvement systems for performance analysis, professional development and continuous improvement. Furthermore, STEM schools and programs are anchored in partnerships among K-12, higher education and business that cultivate ideal professional development training grounds for pre-service and practicing teachers and administrators. This open platform approach provides a great assist for the state in supporting great teachers and leaders. And, in the turning around the lowest-achieving schools, Ohio's network of unique STEM school models offer proof points for school turnaround or transformation models.

The OSLN is aimed at systemic reform and the examples mentioned above are snapshots of initiatives underway that can be accelerated throughout Ohio and beyond with a Race to the Top award. An award will catapult Ohio from *progress* to *prominence* in education reform, resulting in college- and career-ready students who require no remediation. And the OSLN can be a partner in bringing these initiatives to scale.

We are committed to partnering with Ohio to ensure the Race to the Top proposal is a success and will benefit our most important constituency – students.

Thank you for your consideration and favorable review of Ohio's proposal.

Sincerely,

(b)(6)

David Burns
Director of Operations
Ohio STEM Learning Network

Battelle
The Business of Innovation

January 15, 2010

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

On behalf of Battelle, I wish to communicate our enthusiastic support for Ohio's Race to the Top application, and our commitments in support of that application. The ambitious goals of Race to the Top, and those of Ohio's correspondingly bold application, are at the heart of Battelle's core purposes.

Battelle is a charitable trust in the state of Ohio founded in 1929 under the will of industrialist Gordon Battelle, who believed that advances in science and technology are among the most powerful tools for improving the human condition. Our founding purposes therefore include the making of discoveries and their translation to beneficial application, and philanthropic support for charitable and community enterprises, and in particular education. Today, Battelle is the world's largest non-profit research and development company, with a philanthropic focus on science, technology, engineering and mathematics (STEM) education, and is a major participant in education reform at the national and regional level, and in the communities across the country where Battelle has significant operations.

Of particular note for this application, Battelle manages the Ohio STEM Learning Network, which has catalyzed the creation of innovative STEM schools in Ohio's major urban centers and is serving as a national model. Battelle also provided the founding investment in Battelle for Kids, a now-independent nonprofit organization that is nationally recognized in value-added measurement and is intimately involved in education reform in Ohio and, today, in several other states around the nation.

Based on our long-term education reform partnership with the State of Ohio, Battelle believes that Ohio is distinctively positioned to make effective use of a Race to the Top grant. For reasons set forth in its application, Ohio is in a unique position to expand its accountability system, increase the use of value-added data, deploy a comprehensive human capital management system, and provide greater support and professional development to new educators. Perhaps the most significant aspect of Ohio's plan is to engage performance-driven public and private partnerships on all four assurances and the STEM competitive priority. These relationships truly distinguish Ohio's application.

Battelle commits to working with Ohio's Race to the Top implementation team. In particular, we will work in partnership with the Ohio Business Roundtable and leadership of four similarly committed leading Ohio corporations at the CEO level to form the *Business Coalition for Education Improvement* referenced in the Ohio application, and, through that coalition, recruit and motivate local business to support local school districts and charter or community schools in implementing reforms.

Battelle believes that Ohio is among the few states, and perhaps the single state, best prepared to use Race to the Top funds to deliver truly meaningful results for children, and for our nation. We wholeheartedly endorse the Ohio application.

Sincerely,

(b)(6)

Richard D. Rosen
Corporate Vice President
Education and Philanthropy Partnerships

RDR/ep

SUED

State University Education Deans

Member Institutions

Bowling Green State University
419-372-2791

Central State University
937-376-6175

Cleveland State University
216-687-3737

Kent State University
330-672-2202

Miami University
513-529-6317

Ohio University
740-593-9449

The Ohio State University
614-292-2461

Shawnee State University
740-351-3547

The University of Akron
330-972-6742

The University of Cincinnati
513-556-2321

The University of Toledo
419-530-6126

Wright State University
937-775-2822

Youngstown State University
330-941-3267

December 28, 2009

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S. W.
Washington, D.C. 20202

Dear Secretary Duncan:

Ohio has answered your call to initiate the bold and innovative reforms needed to make a significant impact on student performance, increase graduation rates, and eliminate the achievement gap. On behalf of the 13 State University Education Deans (SUED), we wish to communicate our enthusiastic support for Ohio's Race to the Top application. We join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

Our state commenced its new biennium with a comprehensive education reform plan and a Race to the Top award would accelerate the state's existing agenda to strategically address gaps to delivering a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state will provide the supports and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

The State University Education Deans strongly support Ohio's application for the Race to the Top grant and remain enthusiastic and vested partners in ensuring successful outcomes for students, teachers, and schools across the state.

Sincerely,

Carine M. Feyten, Ph.D.
Dean
School of Education, Health and Society
Miami University, Oxford, Ohio

Renée A. Middleton, Ph.D.
Dean
College of Education
Ohio University, Athens, Ohio

UNIVERSITY of DAYTON

December 17, 2009

The Honorable Arne Duncan
U.S. Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

Ohio has answered your call to initiate the bold and innovative reforms needed to make a significant impact on student performance, increase graduation rates, and eliminate the achievement gap. On behalf of the **University of Dayton's School of Education and Allied Professions**, I wish to communicate our enthusiastic support for Ohio's Race to the Top application. We join Governor Ted Strickland, State Board of Education President Deborah Cain, and Superintendent of Public Instruction Deborah Delisle in their quest to strengthen the dynamic education system in Ohio so that all students may realize their full potential in the classroom, graduate ready for college, and successfully compete in the global marketplace.

Our state commenced its new biennium with a comprehensive education reform plan and a Race to the Top award would accelerate the state's existing agenda to strategically address gaps to delivering a highly effective learning experience to all students. Ohio is in a unique position to expand its accountability system, increase the use of value-added data, invest in a comprehensive human capital management system, create differentiated roles and expand responsibilities in the licensure structure, and create a four-year residency program to provide greater support and professional development to new educators.

Additionally, the state is providing the supports, the leadership training and best practices necessary to turn around persistently low-achieving schools and expand STEM education opportunities. New high quality charter schools have been established and the state has enacted laws to close those that fail to educate students. The overall effectiveness of classroom instruction will be improved through investments in best practices, standards and curriculum, assessments, and technology.

The University of Dayton strongly supports Ohio's application for the Race to the Top grant and remains an enthusiastic and vested partner in ensuring successful outcomes for students, teachers, and schools across the state.

Sincerely,

Thomas J. Lasley II
Dean, School of Education and Allied Professions
University of Dayton

Thomas J. Lasley II
Dean
lasley@keiko.udayton.edu
www.udayton.edu

SCHOOL OF EDUCATION AND ALLIED PROFESSIONS
Building Learning Communities Through Critical Reflection

300 College Park
Dayton, Ohio 45469-0510
Telephone (937) 229-3327
Fax (937) 229-3199

APPENDIX A.3.1

QUALITY COUNTS REPORT

RATIONALE: REPORT HIGHLIGHTING THE OHIO'S EDUCATIONAL PERFORMANCE AGAINST OTHER STATES

REFERENCED IN:
(A)(1)

January 14, 2010 – *Education Week* Report Ranks Ohio 5th in Nation

Columbus, Ohio – Deborah Delisle, superintendent of public instruction, today announced that *Education Week's* Quality Counts 2010 report ranked Ohio's educational system fifth in the nation. Ohio's overall all grade was a "B-minus." Maryland, New York, Massachusetts and Virginia make up the remainder of the top five.

"This report confirms what the members of Ohio's educational community have known for several years — Ohio has a strong system that is viewed as a national leader," Delisle said. "I would like to commend the administrators, teachers, students and policy makers who have helped strengthen Ohio's education system."

Ohio continues to make steady progress, as this is the third straight year Ohio has gained ground in the annual Quality Counts report. Previously, Ohio ranked seventh in 2008 and sixth in 2009.

"Ohio's schools deserve a thunderous round of applause for making continuous strides each of the past three years in the Education Week rankings. We have made quality, affordable learning a priority for our students, knowing that a modern education with dedicated teachers and relevant assessments will help prepare our children for success in the future," Governor Ted Strickland said. "I believe that our comprehensive education reform plan will further strengthen Ohio's national position for years to come. I appreciate the efforts of Ohio's educators, State Superintendent Deborah Delisle and members of the State Board of Education Board for their tireless efforts to strengthen our schools so our students can compete with students anywhere on earth.

"Education Week's validation of Ohio's efforts will also bolster Ohio's Race to the Top application for federal funds that we will be submitting in the next several days."

Of the six areas examined, Ohio's strongest performance was in standards, assessment and accountability. The state received a grade of "A", tied for third best in the nation. The analysis in this area focuses on how rigorous learning expectations were, how challenging assessments of learning are, and how both are linked to school accountability.

Ohio was the first state to internationally benchmark content standards, looking to leading countries around the world for the best practices. The report notes that Ohio's standards for mathematics and science have been cited as a model by other states.

Quality Counts 2010: Fresh Course, Swift Current -- Momentum and Challenges in the Surge Toward Common Standards examines the effort by states to develop common standards. The Common Core standards in mathematics and English language arts are under development in a state-led process that is being facilitated by the Council of Chief State School Officers, the National Governors Association and the National Association of State Boards of Education. Currently, 51 states and territories are participating in the process.

Ohio has a strong presence in the Common Core effort. Delisle has been an advocate for more rigorous content standards for our nation's students. She has supported the efforts to develop common standards and Ohio has committed to adopting the Common Core standards in mathematics and English language arts.

"As educators, we must continue to evaluate what knowledge and skills we expect of our students. We must ensure that they are prepared for their future and possess the critical thinking and other skills that will be necessary for success," Delisle said.

Ohio's efforts to offer students a quality education, regardless of their zip code are also recognized in other areas analyzed in the Quality Counts report. Ohio ranked high among other states in other grading categories of the Quality Counts 2010 report.

Category	*Year*	*Score*	*Grade*	*Rank*
Overall Score	**2010**	**81.2**	**B-**	**5**

Chance for Success	2010 79.3	C+	25
School Finance	2010 77.4	C+	18
Standards, Assessments, and Accountability	2010 97.2	A	3 (tied)
Teaching Profession	2010 78.8	C+	14
Transitions and Alignment	2009 82.1	B-	14
K-12 Achievement	2008 72.4	C-	14

Highlights from other areas analyzed in the 2010 report:

Chance for Success is a "best in class" rubric that looks at preparation, school performance, and education and economic outcomes. Ohio lost one position in this area, down to 25th nationally, from 24th in 2008. The data show that Ohio's students perform well on both the reading and math NAEP assessments and the state does well compared to other states in graduating students from high school. Ohio doesn't fare as well in the number of children who attend preschool. We also are not as strong as other states in terms of the percent of adults with two- or four-year postsecondary degrees.

School Finance provides an updated assessment of the states' finance systems. Ohio currently ranks 18th nationally, but is still spending more per pupil than the national average. When examining education spending as a percent of total taxable resources, Ohio continues to rank well above the national average, spending 4.5 percent of its total resources on education compared to 3.8 percent nationally. Information from fiscal year 2007 was analyzed in this part of the analysis.

Standards, Assessment and Accountability analyzes how rigorous learning expectations were, how challenging assessments of learning are, and how both are linked to school accountability. Ohio tied for 3rd in this category. Ohio has long been held as a national leader in the development of standards, use of assessments to measure student success and employing the results of assessments to hold schools accountable. Ohio has also been noted as a leader in the development of the Common Core Standards.

Teaching Profession looks at state efforts to improve teacher quality. Strong teachers and school leaders are fundamental and undeniably linked to the success of Ohio's students. The report indicates that Ohio is one of 13 states where student achievement can be tied to teacher evaluations. This year, Ohio received a C+ in this area, ranking 14th in the nation. While Ohio demonstrates strength in several areas, there are others in which we must strive to do more. Through the Race to the Top grant, we hope to be able to experiment with programs which will address areas such as linking teacher pay with student achievement.

Source: http://ohio.gov/news/2010/01/#011410b , 1/17/2010

APPENDIX A.3.2

NAEP RESULTS, OHIO ACHIEVEMENT TEST, OHIO GRADUATION TEST DATA, GRADUATION RATE DATA, NAEP EXCLUSION AND ACCOMMODATION TABLES, NAEP ACCOMMODATION POLICY, NAEP EXCLUSION STATEMENT

RATIONALE: REQUIRED EVIDENCE FOR (A)(3)(ii).

REFERENCED IN:
(A)(3)

Evidence for (A)(3)(ii): NAEP and ESEA Results Since at Least 2003

4th Grade NAEP Reading

Percent of Students by Subgroup At Least Proficient on the 4th Grade NAEP Reading Assessment, 2002-2007*				
Student Subgroup	**2002**	**2003**	**2005**	**2007**
All Students	33.61%	34.18%	34.37%	36.28%
White	39.77%	38.53%	41.08%	41.98%
Black	13.18%	15.64%	9.91%	13.71%
Hispanic	‡	22.86%	23.63%	21.05%
Asian/Pacific Islander	‡	‡	‡	‡
American Indian	‡	‡	‡	‡
Unclassified	‡	26.62%	32.84%	31.48%
Eligible for School Lunch	17.55%	18.57%	16.68%	19.19%
Students With Disabilities	9.02%	4.51%	16.03%	11.85%
English Language Learner	‡	13.74%	‡	17.88%
Male	30.25%	31.02%	31.49%	33.30%
Female	37.01%	37.36%	37.30%	39.38%

Average Scaled Scores by Subgroup on the 4th Grade NAEP Reading Assessments, 2002-2007*				
Student Subgroups	**2002**	**2003**	**2005**	**2007**
All Students	222.4	221.9	222.5	225.7
White	228.6	226.5	229.5	231.1
Black	202.0	201.7	196.6	203.6
Hispanic	‡	207.1	210.6	214.0
Asian/Pacific Islander	‡	‡	‡	‡
American Indian	‡	‡	‡	‡
Unclassified	‡	219.3	226.1	223.3
Eligible for School Lunch	206.9	206.5	205.8	211.3
Students with Disabilities	198.1	174.0	200.8	197.2
English Language Learner	‡	173.7	‡	210.8
Male	219.5	218.0	219.5	223.0
Female	225.4	225.7	225.7	228.5

*All data was generated using NAEP's Data Explorer:
http://nces.ed.gov/nationsreportcard/naepdata/
‡NAEP reporting standards not met.

EVIDENCE FOR (A)(3)(II)

8TH GRADE NAEP READING

Percent of Students by Subgroup At Least Proficient on the 8th Grade NAEP Reading Assessment, 2002-2007*				
Student Subgroup	**2002**	**2003**	**2005**	**2007**
All Students	35.24%	33.95%	35.51%	35.92%
White	39.83%	39.07%	41.15%	41.85%
Black	12.79%	12.73%	9.97%	11.80%
Hispanic	‡	37.32%	13.86%	30.82%
Asian/Pacific Islander	‡	‡	‡	‡
American Indian	‡	‡	‡	‡
Unclassified	‡	‡	‡	30.42%
Eligible for School Lunch	23.83%	17.71%	18.25%	16.15%
Students With Disabilities	5.76%	4.28%	6.53%	8.57%
English Language Learner	‡	‡	‡	‡
Male	31.39%	29.63%	29.75%	31.33%
Female	39.30%	37.99%	41.02%	40.44%

Average Scaled Scores by Subgroup on the 8th Grade NAEP Reading Assessments, 2002-2007*				
Student Subgroups	**2002**	**2003**	**2005**	**2007**
All Students	268.3	266.6	266.8	268.0
White	272.8	270.8	272.0	273.6
Black	246.1	248.9	242.7	246.4
Hispanic	‡	268.0	245.2	259.7
Asian/Pacific Islander	‡	‡	‡	‡
American Indian	‡	‡	‡	‡
Unclassified	‡	‡	‡	260.3
Eligible for School Lunch	256.6	250.5	250.8	251.3
Students with Disabilities	225.2	225.5	231.1	234.9
English Language Learner	‡	‡	‡	‡
Male	264.19	263.09	261.35	263.8
Female	271.6	269.81	271.94	272.1

*All data was generated using NAEP's Data Explorer:
http://nces.ed.gov/nationsreportcard/naepdata/
‡NAEP reporting standards not met.

EVIDENCE FOR (A)(3)(II)

4TH GRADE NAEP MATHEMATICS

Percent of Students by Subgroup At Least Proficient on the 4th Grade NAEP Mathematics Assessment, 2000-2009*					
Student Subgroup	**2000**	**2003**	**2005**	**2007**	**2009**
All Students	24.58%	35.75%	42.51%	45.87%	45.28%
White	29.47%	42.21%	50.88%	53.03%	53.98%
Black	2.45%	9.53%	15.80%	17.94%	13.52%
Hispanic	‡	15.54%	20.81%	25.07%	24.51%
Asian/Pacific Islander	‡	‡	‡	‡	‡
American Indian	‡	‡	‡	‡	‡
Unclassified	‡	34.32%	34.78%	40.72%	38.06%
Eligible for School Lunch	10.49%	17.17%	21.18%	23.27%	23.89%
English Language Learners	‡	18.38%	NC	26.67%	36.19%
Students With Disabilities	‡	9.02%	20.40%	22.25%	17.85%
Male	28.41%	37.33%	45.19%	48.99%	47.73%
Female	20.72%	34.09%	39.72%	42.61%	42.82%

Average Scaled Scores by Subgroup on the 4th Grade NAEP Mathematics Assessments, 2000 2009					
Student Subgroups	**2000**	**2003**	**2005**	**2007**	**2009**
All Students	230.0	237.8	242.1	244.5	243.7
White	235.0	243.0	248.5	249.5	249.3
Black	206.2	216.5	220.8	224.7	222.1
Hispanic	‡	224.6	230.8	231.2	233.0
Asian/Pacific Islander	‡	‡	‡	‡	‡
American Indian	‡	‡	‡	‡	‡
Unclassified	‡	239.1	238.6	242.0	239.8
Eligible for School Lunch	216.3	223.6	226.8	230.3	229.8
English Language Learner	‡	212.9	‡	230.8	239.3
Students With Disabilities	‡	214.0	222.5	227.1	220.1
Male	233.3	238.6	243.2	246.4	245.5
Female	227.9	236.9	241.0	242.6	241.9

*All data was generated using NAEP's Data Explorer:
http://nces.ed.gov/nationsreportcard/naepdata/
‡NAEP reporting standards not met.

EVIDENCE FOR (A)(3)(II)

8TH GRADE NAEP MATHEMATICS

Percent of Students by Subgroup At Least Proficient on the 8th Grade NAEP Mathematics Assessment, 2000-2009*

Student Subgroup	2000	2003	2005	2007	2009
All Students	30.25%	30.43%	33.12%	35.38%	35.68%
White	33.62%	35.40%	38.24%	41.56%	41.10%
Black	7.05%	8.08%	7.14%	8.86%	10.87%
Hispanic	‡	18.17%	10.97%	25.25%	16.36%
Asian/Pacific Islander	‡	‡	‡	‡	‡
American Indian	‡	‡	‡	‡	‡
Unclassified	‡	‡	‡	31.39%	22.44%
Eligible for School Lunch	9.1%	11.48%	15.51%	15.96%	18.36%
Students with Disabilities	‡	5.04%	8.59%	7.31%	11.34%
English Language Learners	‡	2.76%	‡	17.04%	10.80%
Male	31.73%	32.22%	34.44%	37.82%	37.61%
Female	28.69%	28.64%	31.82%	32.86%	33.73%

Average Scaled Scores by Subgroup on the 8th Grade NAEP Mathematics Assessments, 2000 2009*

Student Subgroups	2000	2003	2005	2007	2009
All Students	280.6	281.6	283.3	284.9	285.6
White	285.0	287.1	288.9	290.9	291.1
Black	251.2	257.1	255.2	257.8	259.6
Hispanic	‡	270.0	259.4	275.8	267.3
Asian/Pacific Islander	‡	‡	‡	‡	‡
American Indian	‡	‡	‡	‡	‡
Unclassified	‡	‡	‡	286.7	275.6
Eligible for School Lunch	256.7	263.5	265.2	267.8	268.7
Students With Disabilities	‡	244.6	251.3	250.2	254.9
English Language Learner	‡	234.1	NC	261.5	260.7
Male	281.03	282.7	284.18	286.3	287.0
Female	280.11	280.6	282.33	283.4	284.2

*All data was generated using NAEP's Data Explorer:
http://nces.ed.gov/nationsreportcard/naepdata/
‡NAEP reporting standards not met.

EVIDENCE FOR (A)(3)(II)

3RD GRADE READING OAT

Percent Proficient by Subgroup on the 3rd Grade Reading Ohio Achievement Test (OAT), 2004-2009						
Student Subgroups	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**
All Students	78.2%	77.3%	75.1%	78.3%	77.4%	77.4%
Asian or Pacific Islander	85.3%	87.6%	84.3%	87.8%	85.8%	87.7%
Black, Non-Hispanic	57.4%	58.6%	52.3%	57.4%	56.4%	55.9%
Hispanic	62.5%	62.6%	59.1%	62.5%	62.0%	62.4%
American Indian or Alaskan Native	73.6%	75.1%	67.0%	76.4%	72.6%	68.9%
Multiracial	77.5%	74.0%	71.1%	74.2%	74.2%	74.5%
White, Non-Hispanic	83.3%	81.8%	80.6%	83.6%	82.7%	82.6%
Students with Disabilities	50.2%	54.0%	52.6%	55.6%	55.7%	52.8%
Economically Disadvantaged	63.8%	64.4%	61.1%	65.5%	65.3%	65.0%
Limited English Proficiency	53.9%	59.7%	55.3%	60.6%	59.0%	62.5%

Average Scaled Scores by Subgroup on the 3rd Grade Reading Ohio Achievement Test (OAT), 2004-2009						
Student Subgroups	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**
All Students	418.2	417.1	418.4	417.2	418.0	419.0
Asian or Pacific Islander	427.1	428.1	426.3	430.6	427.3	431.7
Black, Non-Hispanic	402.5	402.5	400.2	401.9	402.3	402.4
Hispanic	405.7	405.4	404.9	405.2	405.6	407.2
American Indian or Alaskan Native	414.1	414.7	410.5	414.7	415.1	413.1
Multiracial	416.5	414.0	413.9	414.9	414.4	416.1
White, Non-Hispanic	422.0	420.6	421.2	422.5	421.9	423.0
Students with Disabilities	398.5	399.1	399.9	400.1	400.5	400.5
Economically Disadvantaged	406.7	406.7	407.7	406.2	408.2	408.5
Limited English Proficiency	400.9	403.2	404.4	402.3	404.2	407.6

*The first 3rd Grade OAT in Reading was administered in 2003-2004. Prior to the OATs, Ohio administered Proficiency Tests in the 4th, 6th, and 9th grades. Given the significant differences between the OATs and Proficiency Tests, comparisons between test results before and after the implementation of the OATs is not advisable.

EVIDENCE FOR (A)(3)(II)

4TH GRADE READING OAT

Percent Proficient by Subgroup on the 4th Grade Reading Ohio Achievement Test (OAT), 2005-2009*

Student Subgroups	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
All Students	76.6%	76.8%	80.0%	81.1%	82.0%
Asian or Pacific Islander	86.2%	87.4%	88.9%	90.0%	88.9%
Black, Non-Hispanic	54.7%	53.9%	57.2%	59.0%	61.1%
Hispanic	62.6%	62.1%	67.9%	68.7%	69.4%
American Indian or Alaskan Native	71.8%	77.8%	78.7%	77.3%	77.3%
Multiracial	74.5%	73.3%	77.8%	78.7%	79.9%
White, Non-Hispanic	81.7%	82.2%	85.2%	86.3%	86.9%
Students with Disabilities	49.7%	50.7%	57.0%	58.5%	55.9%
Economically Disadvantaged	62.4%	62.6%	67.2%	69.4%	70.8%
Limited English Proficiency	55.9%	56.4%	63.6%	65.7%	67.6%

Average Scaled Scores by Subgroup on the 4th Grade Reading Ohio Achievement Test (OAT), 2005-2009*

Student Subgroups	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
All Students	420.1	424.6	419.6	421.6	427.8
Asian or Pacific Islander	432.7	434.1	439.5	435.7	441.7
Black, Non-Hispanic	400.9	400.7	403.9	403.7	408.5
Hispanic	407.9	407.4	411.8	410.4	415.0
American Indian or Alaskan Native	415.2	417.1	420.2	417.5	422.5
Multiracial	417.2	416.6	420.9	418.5	423.9
White, Non-Hispanic	424.4	423.9	429.2	425.7	432.3
Students with Disabilities	397.2	397.0	401.7	401.2	404.6
Economically Disadvantaged	407.5	411.6	407.1	410.7	415.4
Limited English Proficiency	403.2	409.4	403.3	409.5	414.4

*The first 4th Grade OAT in Reading was administered in 2004-2005. Prior to the OATs, Ohio administered Proficiency Tests in the 4th, 6th, and 9th grades. Given the significant differences between the OATs and Proficiency Tests, comparisons between test results before and after the implementation of the OATs is not advisable.

EVIDENCE FOR (A)(3)(II)

5TH GRADE READING OAT

Percent Proficient by Subgroup on the 5th Grade Reading Ohio Achievement Test (OAT), 2005-2009*					
Student Subgroups	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**
All Students	76.9%	75.3%	80.0%	72.7%	72.0%
Asian or Pacific Islander	87.5%	87.5%	89.6%	86.4%	83.8%
Black, Non-Hispanic	53.5%	50.4%	57.6%	44.9%	45.2%
Hispanic	65.7%	59.9%	67.5%	58.8%	57.0%
American Indian or Alaskan Native	70.6%	70.7%	76.5%	72.8%	68.8%
Multiracial	76.2%	73.5%	76.9%	68.4%	67.8%
White, Non-Hispanic	82.4%	81.0%	85.2%	78.9%	78.2%
Students with Disabilities	43.7%	46.4%	51.9%	43.6%	39.8%
Economically Disadvantaged	61.9%	60.0%	66.6%	57.7%	56.7%
Limited English Proficiency	57.3%	52.9%	62.0%	53.0%	55.7%

Average Scaled Scores by Subgroup on the 5th Grade Reading Ohio Achievement Test (OAT), 2005-2009*					
Student Subgroups	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**
All Students	417.4	421.5	421.9	413.8	415.7
Asian or Pacific Islander	431.2	438.4	435.0	429.7	431.0
Black, Non-Hispanic	398.5	398.8	401.9	391.2	394.5
Hispanic	406.4	406.3	409.2	401.0	403.3
American Indian or Alaskan Native	414.3	418.6	416.1	410.8	413.9
Multiracial	415.4	418.5	418.3	409.9	411.8
White, Non-Hispanic	421.9	427.2	425.9	418.8	420.5
Students with Disabilities	421.9	393.4	395.7	386.4	388.8
Economically Disadvantaged	404.2	408.5	406.3	400.7	402.7
Limited English Proficiency	401.0	405.9	400.3	397.1	402.2

*The first 5th Grade OAT in Reading was administered in 2004-2005. Prior to the OATs, Ohio administered Proficiency Tests in the 4th, 6th, and 9th grades. Given the significant differences between the OATs and Proficiency Tests, comparisons between test results before and after the implementation of the OATs is not advisable.

EVIDENCE FOR (A)(3)(II)

6TH GRADE READING OAT

Percent Proficient by Subgroup on the 6th Grade Reading Ohio Achievement Test (OAT), 2006-2009*

Student Subgroups	2005-2006	2006-2007	2007-2008	2008-2009
All Students	83.6%	77.7%	79.7%	81.3%
Asian or Pacific Islander	92.2%	87.9%	90.2%	90.5%
Black, Non-Hispanic	64.8%	53.2%	58.2%	59.7%
Hispanic	71.2%	62.5%	68.1%	70.7%
American Indian or Alaskan Native	77.8%	75.3%	77.4%	76.3%
Multiracial	82.8%	75.1%	77.0%	79.1%
White, Non-Hispanic	88.2%	83.4%	84.5%	86.1%
Students with Disabilities	55.8%	49.4%	49.6%	50.5%
Economically Disadvantaged	71.3%	62.7%	66.6%	69.0%
Limited English Proficiency	62.0%	55.0%	61.4%	69.0%

Average Scaled Scores by Subgroup on the 6th Grade Reading Ohio Achievement Test (OAT), 2006-2009*

Student Subgroups	2005-2006	2006-2007	2007-2008	2008-2009
All Students	419.0	426.5	422.9	424.0
Asian or Pacific Islander	440.5	432.1	437.1	439.7
Black, Non-Hispanic	408.6	400.5	405.3	405.2
Hispanic	414.3	407.0	412.8	413.4
American Indian or Alaskan Native	419.7	415.3	419.4	416.6
Multiracial	424.0	415.6	420.1	419.9
White, Non-Hispanic	430.8	423.2	426.8	428.2
Students with Disabilities	401.0	395.7	397.2	399.1
Economically Disadvantaged	406.4	413.4	411.0	411.6
Limited English Proficiency	402.9	407.5	408.8	412.2

*The first 6th Grade OAT in Reading was administered in 2005-2006. Prior to the OATs, Ohio administered Proficiency Tests in the 4th, 6th, and 9th grades. Given the significant differences between the OATs and Proficiency Tests, comparisons between test results before and after the implementation of the OATs is not advisable.

EVIDENCE FOR (A)(3)(II)

7TH GRADE READING OAT

Percent Proficient by Subgroup on the 7th Grade Reading Ohio Achievement Test (OAT), 2006-2009*				
Student Subgroups	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**
All Students	78.9%	77.5%	77.3%	76.6%
Asian or Pacific Islander	88.8%	88.5%	87.7%	88.8%
Black, Non-Hispanic	56.2%	52.5%	53.7%	51.3%
Hispanic	65.5%	63.0%	61.3%	63.1%
American Indian or Alaskan Native	70.6%	71.6%	72.2%	73.6%
Multiracial	78.2%	76.0%	75.0%	74.0%
White, Non-Hispanic	84.4%	83.5%	82.7%	82.1%
Students with Disabilities	43.5%	44.8%	43.7%	40.2%
Economically Disadvantaged	63.6%	61.9%	63.1%	61.3%
Limited English Proficiency	53.6%	55.3%	52.7%	56.2%

Average Scaled Scores by Subgroup on the 7th Grade Reading Ohio Achievement Test (OAT), 2006-2009*				
Student Subgroups	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**
All Students	418.9	421.3	418.5	418.8
Asian or Pacific Islander	434.1	432.8	434.0	434.1
Black, Non-Hispanic	400.8	399.6	399.5	398.7
Hispanic	408.1	407.0	405.5	406.9
American Indian or Alaskan Native	414.7	414.1	414.3	414.2
Multiracial	418.4	415.6	415.5	415.6
White, Non-Hispanic	426.2	423.4	422.7	423.2
Students with Disabilities	390.9	392.1	389.5	389.6
Economically Disadvantaged	405.6	406.5	405.9	405.5
Limited English Proficiency	401.0	400.6	400.0	402.9

*The first 7th Grade OAT in Reading was administered in 2005-2006. Prior to the OATs, Ohio administered Proficiency Tests in the 4th, 6th, and 9th grades. Given the significant differences between the OATs and Proficiency Tests, comparisons between test results before and after the implementation of the OATs is not advisable.

EVIDENCE FOR (A)(3)(II)

8TH GRADE READING OAT

Percent Proficient by Subgroup on the 8th Grade Reading Ohio Achievement Test (OAT), 2005-2009*

Student Subgroups	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
All Students	78.9%	77.1%	80.2%	79.4%	72.4%
Asian or Pacific Islander	86.5%	86.7%	88.3%	89.9%	83.5%
Black, Non-Hispanic	56.5%	52.4%	59.9%	58.1%	48.6%
Hispanic	62.8%	62.7%	65.3%	66.2%	59.1%
American Indian or Alaskan Native	76.5%	71.7%	76.2%	71.0%	70.9%
Multiracial	77.0%	74.1%	77.4%	77.5%	68.7%
White, Non-Hispanic	83.9%	82.8%	85.1%	84.4%	77.7%
Students with Disabilities	39.8%	40.0%	45.6%	45.4%	34.1%
Economically Disadvantaged	62.6%	60.8%	66.0%	65.9%	56.2%
Limited English Proficiency	50.9%	52.5%	52.3%	56.3%	50.0%

Average Scaled Scores by Subgroup on the 8th Grade Reading Ohio Achievement Test (OAT), 2005-2009*

Student Subgroups	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
All Students	420.4	420.7	421.0	422.2	415.6
Asian or Pacific Islander	432.3	434.6	431.8	437.7	428.3
Black, Non-Hispanic	400.7	399.4	402.7	403.4	398.8
Hispanic	405.2	406.5	407.6	409.5	405.3
American Indian or Alaskan Native	416.2	415.9	415.3	415.2	414.8
Multiracial	417.9	416.7	417.1	418.8	411.9
White, Non-Hispanic	424.7	425.9	425.0	426.6	419.3
Students with Disabilities	388.7	388.9	391.7	392.0	388.0
Economically Disadvantaged	405.2	407.4	405.6	409.3	403.4
Limited English Proficiency	397.4	399.1	399.3	403.0	400.0

*The first 8th Grade OAT in Reading was administered in 2004-2005. Prior to the OATs, Ohio administered Proficiency Tests in the 4th, 6th, and 9th grades. Given the significant differences between the OATs and Proficiency Tests, comparisons between test results before and after the implementation of the OATs is not advisable.

EVIDENCE FOR (A)(3)(II)

10TH GRADE READING OGT

Percent Proficient by Subgroup on the 10th Grade Reading Ohio Graduation Test (OGT), 2005-2009*

Student Subgroups	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
All Students	92.0%	89.4%	86.9%	85.2%	84.5%
Asian or Pacific Islander	94.2%	93.0%	91.4%	91.0%	89.5%
Black, Non-Hispanic	81.2%	75.5%	73.0%	68.9%	68.7%
Hispanic	83.0%	79.6%	74.8%	75.4%	73.4%
American Indian or Alaskan Native	92.6%	87.2%	78.7%	83.1%	83.8%
Multiracial	89.5%	88.1%	84.9%	82.8%	83.3%
White, Non-Hispanic	93.9%	92.2%	90.0%	88.8%	88.2%
Students with Disabilities	59.7%	56.9%	52.2%	49.9%	46.1%
Economically Disadvantaged	81.7%	78.4%	75.6%	74.3%	72.7%
Limited English Proficiency	72.6%	63.5%	60.8%	55.9%	59.7%

Average Scaled Scores by Subgroup on the 10th Grade Reading Ohio Graduation Test (OGT), 2005-2009*

Student Subgroups	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
All Students	433.4	423.1	429.3	424.5	425.5
Asian or Pacific Islander	440.1	438.7	431.3	433.8	435.1
Black, Non-Hispanic	416.2	412.8	410.7	409.2	410.5
Hispanic	422.0	418.4	413.4	414.7	415.0
American Indian or Alaskan Native	431.0	422.9	418.8	421.4	423.2
Multiracial	430.6	427.3	420.8	421.7	422.9
White, Non-Hispanic	436.3	432.5	425.7	427.9	428.9
Students with Disabilities	403.6	400.3	398.0	396.1	396.5
Economically Disadvantaged	418.5	412.9	416.4	413.8	413.8
Limited English Proficiency	412.9	404.3	408.1	402.7	405.8

*The first 10th Grade OGT in Reading was administered in 2004-2005. Prior to the OGTs, Ohio administered Proficiency Tests in the 4th, 6th, and 9th grades. Given the significant differences between the OATs and Proficiency Tests, comparisons between test results before and after the implementation of the OATs is not advisable.

EVIDENCE FOR (A)(3)(II)

3RD GRADE MATHEMATICS OAT

Percent Proficient by Subgroup on the 3rd Grade Mathematics Ohio Achievement Test (OAT), 2005-2009*

Student Subgroups	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
All Students	70.4%	74.9%	84.5%	79.3%	81.3%
Asian or Pacific Islander	87.1%	86.1%	93.0%	89.1%	90.5%
Black, Non-Hispanic	42.6%	49.3%	63.6%	53.8%	59.4%
Hispanic	54.3%	60.9%	71.8%	63.3%	70.0%
American Indian or Alaskan Native	68.9%	73.2%	81.3%	75.5%	74.2%
Multiracial	65.8%	70.3%	81.6%	75.6%	77.6%
White, Non-Hispanic	76.8%	80.8%	89.5%	85.4%	86.5%
Students with Disabilities	47.4%	54.4%	64.5%	57.6%	56.5%
Economically Disadvantaged	54.4%	61.1%	73.8%	67.0%	70.2%
Limited English Proficiency	54.1%	59.6%	71.7%	62.7%	70.1%

Average Scaled Scores by Subgroup on the 3rd Grade Mathematics Ohio Achievement Test (OAT), 2005-2009

Student Subgroups	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
All Students	414.7	424.3	418.4	420.9	422.4
Asian or Pacific Islander	432.8	433.0	437.8	435.7	436.4
Black, Non-Hispanic	394.4	399.2	406.0	399.7	404.3
Hispanic	402.0	406.8	412.4	407.2	411.4
American Indian or Alaskan Native	413.4	414.3	419.8	417.7	416.9
Multiracial	409.8	413.7	420.3	416.1	418.3
White, Non-Hispanic	419.3	422.7	428.5	425.8	426.6
Students with Disabilities	395.4	401.1	405.5	400.5	402.3
Economically Disadvantaged	402.2	413.4	406.9	409.1	411.8
Limited English Proficiency	402.8	413.5	407.1	408.3	413.4

*The first 3rd Grade OAT in Reading was administered in 2003-2004. Prior to the OATs, Ohio administered Proficiency Tests in the 4th, 6th, and 9th grades. Given the significant differences between the OATs and Proficiency Tests, comparisons between test results before and after the implementation of the OATs is not advisable.

EVIDENCE FOR (A)(3)(II)

4RD GRADE MATHEMATICS OAT

Percent Proficient by Subgroup on the 4th Grade Mathematics Ohio Achievement Test (OAT), 2006-2009*

Student Subgroups	2005-2006	2006-2007	2007-2008	2008-2009
All Students	76.9%	75.9%	74.6%	78.4%
Asian or Pacific Islander	91.1%	88.4%	88.4%	88.6%
Black, Non-Hispanic	50.7%	50.3%	49.1%	52.8%
Hispanic	61.8%	61.4%	59.4%	64.6%
American Indian or Alaskan Native	76.7%	73.8%	73.4%	75.4%
Multiracial	72.8%	71.5%	68.5%	75.2%
White, Non-Hispanic	82.9%	81.8%	80.7%	84.4%
Students with Disabilities	51.9%	52.7%	48.5%	49.7%
Economically Disadvantaged	62.3%	62.0%	60.8%	65.6%
Limited English Proficiency	59.9%	61.0%	60.9%	65.8%

Average Scaled Scores by Subgroup on the 4th Grade Mathematics Ohio Achievement Test (OAT), 2006-2009*

Student Subgroups	2005-2006	2006-2007	2007-2008	2008-2009
All Students	420.1	421.6	419.7	425.1
Asian or Pacific Islander	443.1	440.6	441.2	443.7
Black, Non-Hispanic	399.0	397.5	395.7	401.4
Hispanic	408.0	406.8	404.5	410.3
American Indian or Alaskan Native	419.3	415.6	414.5	420.4
Multiracial	416.7	414.9	413.2	419.3
White, Non-Hispanic	426.6	425.1	425.2	430.5
Students with Disabilities	398.2	396.8	392.2	398.3
Economically Disadvantaged	406.5	407.5	405.3	411.2
Limited English Proficiency	407.5	406.7	407.0	412.9

*The first 4th Grade OAT in Mathematics was administered in 2005-2006. Prior to the OATs, Ohio administered Proficiency Tests in the 4th, 6th, and 9th grades. Given the significant differences between the OATs and Proficiency Tests, comparisons between test results before and after the implementation of the OATs is not advisable.

EVIDENCE FOR (A)(3)(II)

5TH GRADE MATHEMATICS OAT

Percent Proficient by Subgroup on the 5th Grade Mathematics Ohio Achievement Test (OAT), 2006-2009*

Student Subgroups	2005-2006	2006-2007	2007-2008	2008-2009
All Students	62.7%	61.2%	61.8%	62.3%
Asian or Pacific Islander	82.6%	83.3%	83.0%	82.6%
Black, Non-Hispanic	32.6%	31.9%	32.3%	32.5%
Hispanic	46.7%	45.2%	44.3%	45.1%
American Indian or Alaskan Native	54.2%	52.3%	61.5%	56.1%
Multiracial	56.5%	54.1%	53.8%	54.7%
White, Non-Hispanic	69.6%	67.9%	68.6%	69.3%
Students with Disabilities	36.1%	35.1%	35.4%	31.2%
Economically Disadvantaged	43.9%	42.9%	44.6%	45.0%
Limited English Proficiency	45.4%	46.2%	47.2%	49.2%

Average Scaled Scores by Subgroup on the 5th Grade Mathematics Ohio Achievement Test (OAT), 2006-2009*

Student Subgroups	2005-2006	2006-2007	2007-2008	2008-2009
All Students	409.2	407.3	408.8	410.8
Asian or Pacific Islander	427.0	434.8	435.5	436.1
Black, Non-Hispanic	384.5	385.0	382.7	385.8
Hispanic	394.8	395.9	393.6	396.6
American Indian or Alaskan Native	403.0	401.2	405.9	403.5
Multiracial	402.5	403.3	402.0	404.1
White, Non-Hispanic	412.4	414.5	414.4	416.4
Students with Disabilities	383.7	382.8	380.5	382.1
Economically Disadvantaged	393.7	393.0	393.1	395.6
Limited English Proficiency	396.8	394.0	396.0	400.3

*The first 5th Grade OAT in Mathematics was administered in 2005-2006. Prior to the OATs, Ohio administered Proficiency Tests in the 4th, 6th, and 9th grades. Given the significant differences between the OATs and Proficiency Tests, comparisons between test results before and after the implementation of the OATs is not advisable.

EVIDENCE FOR (A)(3)(II)

6TH GRADE MATHEMATICS OAT

Percent Proficient by Subgroup on the 6th Grade Mathematics Ohio Achievement Test (OAT), 2006-2009*				
Student Subgroups	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**
All Students	68.4%	74.0%	76.6%	75.2%
Asian or Pacific Islander	87.5%	89.7%	91.5%	89.1%
Black, Non-Hispanic	40.4%	45.2%	48.9%	47.4%
Hispanic	52.7%	61.5%	61.6%	61.5%
American Indian or Alaskan Native	64.1%	64.0%	76.8%	78.0%
Multiracial	62.9%	69.1%	71.4%	71.2%
White, Non-Hispanic	75.1%	80.5%	83.0%	81.4%
Students with Disabilities	36.4%	42.4%	45.8%	40.4%
Economically Disadvantaged	50.2%	57.5%	61.7%	59.9%
Limited English Proficiency	49.8%	56.8%	60.6%	62.7%

Average Scaled Scores by Subgroup on the 6th Grade Mathematics Ohio Achievement Test (OAT), 2006-2009*				
Student Subgroups	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**
All Students	423.2	416.0	424.7	425.2
Asian or Pacific Islander	443.7	448.5	453.0	452.0
Black, Non-Hispanic	392.7	395.2	396.7	396.5
Hispanic	402.4	408.2	408.6	409.6
American Indian or Alaskan Native	410.5	417.4	420.3	420.8
Multiracial	410.3	417.0	418.3	418.4
White, Non-Hispanic	421.5	429.3	430.8	431.4
Students with Disabilities	386.4	389.0	390.8	388.6
Economically Disadvantaged	405.4	399.8	407.7	407.5
Limited English Proficiency	406.0	401.3	409.1	412.5

*The first 6th Grade OAT in Mathematics was administered in 2005-2006. Prior to the OATs, Ohio administered Proficiency Tests in the 4th, 6th, and 9th grades. Given the significant differences between the OATs and Proficiency Tests, comparisons between test results before and after the implementation of the OATs is not advisable.

EVIDENCE FOR (A)(3)(II)

7TH GRADE MATHEMATICS OAT

Percent Proficient by Subgroup on the 7th Grade Mathematics Ohio Achievement Test (OAT), 2005-2009*

Student Subgroups	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
All Students	58.5%	63.2%	71.2%	68.8%	74.3%
Asian or Pacific Islander	82.5%	83.6%	89.2%	87.8%	89.3%
Black, Non-Hispanic	27.0%	34.6%	45.0%	38.3%	47.5%
Hispanic	39.7%	47.0%	56.4%	51.9%	60.5%
American Indian or Alaskan Native	51.1%	54.5%	67.6%	64.2%	72.5%
Multiracial	51.0%	56.6%	66.4%	62.8%	68.6%
White, Non-Hispanic	65.7%	70.2%	77.5%	75.7%	80.4%
Students with Disabilities	23.3%	30.8%	38.1%	36.0%	39.4%
Economically Disadvantaged	37.3%	44.4%	54.0%	51.6%	58.6%
Limited English Proficiency	43.3%	45.2%	53.2%	50.4%	60.3%

Average Scaled Scores by Subgroup on the 7th Grade Mathematics Ohio Achievement Test (OAT), 2005-2009*

Student Subgroups	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
All Students	408.8	414.0	410.1	417.1	418.4
Asian or Pacific Islander	435.1	433.6	437.6	443.1	443.8
Black, Non-Hispanic	388.0	390.1	396.1	394.1	396.5
Hispanic	395.9	398.7	402.8	403.7	405.1
American Indian or Alaskan Native	403.2	401.6	410.7	414.0	411.2
Multiracial	403.3	404.8	409.0	411.1	412.9
White, Non-Hispanic	413.3	414.8	418.1	422.1	423.0
Students with Disabilities	383.4	385.8	389.9	389.6	390.2
Economically Disadvantaged	394.0	401.3	396.3	402.7	403.9
Limited English Proficiency	398.9	403.0	399.0	404.3	407.5

*The first 7th Grade OAT in Mathematics was administered in 2004-2005. Prior to the OATs, Ohio administered Proficiency Tests in the 4th, 6th, and 9th grades. Given the significant differences between the OATs and Proficiency Tests, comparisons between test results before and after the implementation of the OATs is not advisable.

EVIDENCE FOR (A)(3)(II)

8TH GRADE MATHEMATICS OAT

Percent Proficient by Subgroup on the 8th Grade Mathematics Ohio Achievement Test (OAT), 2005-2009*

Student Subgroups	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
All Students	60.1%	68.6%	71.5%	72.8%	70.6%
Asian or Pacific Islander	82.4%	87.1%	88.1%	90.4%	85.3%
Black, Non-Hispanic	27.9%	39.3%	45.4%	45.6%	41.1%
Hispanic	39.6%	49.0%	56.4%	57.8%	54.6%
American Indian or Alaskan Native	50.7%	61.6%	59.6%	67.9%	68.7%
Multiracial	54.2%	62.7%	65.8%	67.1%	64.1%
White, Non-Hispanic	67.2%	75.3%	77.8%	79.2%	77.3%
Students with Disabilities	22.7%	31.4%	35.8%	37.8%	32.1%
Economically Disadvantaged	37.4%	49.1%	54.1%	56.8%	52.6%
Limited English Proficiency	41.6%	49.0%	53.0%	55.2%	52.3%

Average Scaled Scores by Subgroup on the 8th Grade Mathematics Ohio Achievement Test (OAT), 2005-2009*

Student Subgroups	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
All Students	408.7	412.8	412.4	418.4	415.9
Asian or Pacific Islander	432.9	434.1	432.4	442.9	437.3
Black, Non-Hispanic	387.1	393.7	396.0	398.3	394.7
Hispanic	395.2	399.6	402.8	406.6	403.5
American Indian or Alaskan Native	402.6	405.6	405.9	412.7	414.4
Multiracial	403.6	407.5	408.0	412.6	409.6
White, Non-Hispanic	413.3	416.6	416.6	423.0	420.5
Students with Disabilities	381.5	387.9	388.9	391.5	387.5
Economically Disadvantaged	392.9	400.8	399.1	405.4	401.5
Limited English Proficiency	397.7	402.8	401.7	407.0	403.7

*The first 8th Grade OAT in Mathematics was administered in 2004-2005. Prior to the OATs, Ohio administered Proficiency Tests in the 4th, 6th, and 9th grades. Given the significant differences between the OATs and Proficiency Tests, comparisons between test results before and after the implementation of the OATs is not advisable.

EVIDENCE FOR (A)(3)(II)

10TH GRADE MATHEMATICS OGT

Percent Proficient by Subgroup on the 10th Grade Mathematics Ohio Graduation Test (OGT), 2005-2009*

Student Subgroups	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
All Students	81.6%	82.7%	81.2%	79.0%	81.4%
Asian or Pacific Islander	90.8%	92.6%	91.6%	91.7%	92.6%
Black, Non-Hispanic	57.1%	59.7%	56.4%	53.7%	59.2%
Hispanic	66.3%	71.2%	68.0%	66.8%	69.5%
American Indian or Alaskan Native	73.8%	76.3%	72.8%	76.6%	75.9%
Multiracial	76.7%	81.0%	76.4%	73.8%	77.9%
White, Non-Hispanic	85.9%	87.2%	86.4%	84.6%	86.5%
Students with Disabilities	39.6%	45.0%	44.7%	41.5%	40.9%
Economically Disadvantaged	63.7%	67.4%	65.5%	64.7%	67.4%
Limited English Proficiency	57.2%	61.2%	58.7%	54.5%	61.1%

Average Scaled Scores by Subgroup on the 10th Grade Mathematics Ohio Graduation Test (OGT), 2005-2009*

Student Subgroups	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
All Students	425.8	426.9	429.1	428.1	430.8
Asian or Pacific Islander	443.6	453.3	446.2	452.3	451.9
Black, Non-Hispanic	401.7	404.3	404.4	403.5	407.6
Hispanic	410.7	415.3	413.7	414.1	417.2
American Indian or Alaskan Native	417.9	421.4	420.7	420.7	425.0
Multiracial	420.3	424.5	420.4	420.8	424.5
White, Non-Hispanic	429.8	433.8	431.5	433.5	436.0
Students with Disabilities	393.4	394.8	396.4	392.8	395.3
Economically Disadvantaged	407.3	411.3	411.6	412.4	414.6
Limited English Proficiency	408.4	408.7	411.9	407.5	412.1

*The first 10th Grade OGT in Mathematics was administered in 2004-2005. Prior to the OGTs, Ohio administered Proficiency Tests in the 4th, 6th, and 9th grades. Given the significant differences between the OATs and Proficiency Tests, comparisons between test results before and after the implementation of the OATs is not advisable.

NAEP Exclusion and Accommodation Rates for Students with Disabilities and English Language Learners

Identified students (ID), Excluded (Excl) and Accommodated (Accm)

2009 Grade 4 Mathematics										
Jurisdiction	Students with Disabilities					English Language Learners				
	% of total			% of SD		% of total			% of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
National Public	13	2	8	16	62	10	1	4	6	35
Ohio	14	3	9	20	69	2	0	2	14	62

2007 Grade 4 Mathematics										
Jurisdiction	Students with Disabilities					English Language Learners				
	% of total			% of SD		% of total			% of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
National Public	14	3	8	20	56	11	1	3	8	31
Ohio	15	4	8	30	54	3	1	1	27	47

2005 Grade 4 Mathematics										
Jurisdiction	Students with Disabilities					English Language Learners				
	% of total			% of SD		% of total			% of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
National Public	14	3	8	19	55	10	1	3	12	26
Ohio	12	3	7	27	59	1	0	0	26	49

2003 Grade 4 Mathematics										
Jurisdiction	Students with Disabilities					English Language Learners				
	% of total			% of SD		% of total			% of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
National Public	14	3	7	22	49	11	1	2	14	21
Ohio	12	4	7	34	53	2	1	1	35	35

2009 Grade 8 Mathematics										
Jurisdiction	Students with Disabilities					English Language Learners				
	% of total			% of SD		% of total			% of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
National Public	13	3	8	22	63	6	0	2	8	34
Ohio	15	5	9	33	58	1	1	0	43	34

2007 Grade 8 Mathematics										
Jurisdiction	Students with Disabilities					English Language Learners				
	% of total			% of SD		% of total			% of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
National Public	13	4	6	30	51	7	1	2	11	27
Ohio	15	7	7	48	43	1	0	0	33	36

2005 Grade 8 Mathematics										
Jurisdiction	Students with Disabilities					English Language Learners				
	% of total			% of SD		% of total			% of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
National Public	13	3	7	24	52	6	1	1	13	23
Ohio	14	5	7	40	49	1	0	0	--	--

2003 Grade 8 Mathematics										
Jurisdiction	Students with Disabilities					English Language Learners				
	% of total			% of SD		% of total			% of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
National Public	14	3	6	22	44	6	1	1	18	19
Ohio	13	5	5	38	40	1	0	0	29	26

2007 Grade 4 Reading										
Jurisdiction	Students with Disabilities					English Language Learners				
	% of total			% of SD		% of total			% of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
National Public	14	5	6	34	41	11	2	2	20	19
Ohio	15	7	6	50	38	2	1	1	32	34

2005 Grade 4 Reading										
Jurisdiction	Students with Disabilities					English Language Learners				
	% of total			% of SD		% of total			% of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
National Public	14	5	5	36	38	11	2	2	22	16
Ohio	13	8	4	60	29	1	1	0	56	16

2003 Grade 4 Reading										
Jurisdiction	Students with Disabilities					English Language Learners				
	% of total			% of SD		% of total			% of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
National Public	14	5	5	34	35	10	2	1	24	11
Ohio	12	6	5	46	37	2	1	0	50	16

2007 Grade 8 Reading										
Jurisdiction	Students with Disabilities					English Language Learners				
	% of total			% of SD		% of total			% of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
National Public	13	5	6	34	46	7	2	1	23	15
Ohio	17	9	7	50	41	2	1	0	54	22

2005 Grade 8 Reading										
Jurisdiction	Students with Disabilities					English Language Learners				
	% of total			% of SD		% of total			% of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
National Public	13	4	6	32	42	6	1	1	21	17
Ohio	13	7	5	50	36	1	0	0	--	--

2003 Grade 8 Reading										
Jurisdiction	Students with Disabilities					English Language Learners				
	% of total			% of SD		% of total			% of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
National Public	14	4	5	31	36	6	2	1	24	12
Ohio	12	5	4	44	35	1	0	0	41	17

NAEP				What Is It?	How NAEP Administers It	State Accommodations
		Directions read aloud in native language	Subjects: Math & Science	This accommodation requires that the session script instructions be read aloud in Spanish.	• This accommodation requires a separate accommodation session. • The person administering the session will use the grade-appropriate bilingual session script to conduct the session.	Translated recordings that are available for several of the largest second language groups in Ohio for the OAT include the translation of the directions into the student's native language.
		Test items read aloud in native language	Subjects: Math & Science	For this accommodation, students may request to have words, phrases, or sentences read aloud to them in Spanish. This requires the student to use the bilingual Spanish/English mathematics or science booklet. Therefore, this accommodation is only allowed with the mathematics or science booklet in Spanish.	• This accommodation requires a separate accommodation session. • The person administering the session will use the grade-appropriate bilingual session script to conduct the session. • Students will complete the assessment using the bilingual Spanish/English mathematics or science assessment booklets.	Translated recordings are available for several of the largest second language groups in Ohio for the OAT. On reading tests, only directions, questions and answer choices are allowed to be translated. Reading passages must be read in English by students on reading tests. In general, the entire test for other test subjects may be translated. Eligible Limited English Proficient (LEP) students whose native language is not available via an audio test format may have an oral translator provide this accommodation.
Direct Linguistic Support		Bilingual booklet	Subjects: Math	NAEP has bilingual Spanish/English mathematics or science assessment booklets available for students who require them. When a bilingual booklet is open, one page has the directions and questions in Spanish, and the facing page will have the same directions and questions in English. Because of the size, the booklets are printed in a set of two. Students may mark their answers on either page and in either language.	• This accommodation requires a separate accommodation session. • The person administering the session will use the grade-appropriate, bilingual session script to conduct the session.	For the Ohio Achievement Tests (OAT) in grades 3-8, bilingual forms of the test books are available in printed Spanish for March administration for eligible LEP students. These tests present allowable parts of the test in written Spanish, alongside the corresponding test questions and instructions in English. Reading passages are presented only in English. LEP students using this test format must provide their answers in written English in a regular answer format. Bilingual booklets are not provided for the Ohio Graduation Test (OGT).

NAEP			What Is It?	How NAEP Administers It	State Accommodations
Presentation Format	Bilingual dictionary w/no definitions	**Subjects:** Math & Science	This is a non-electronic bilingual dictionary provided by the school in any language that contains English translations of words but does not contain definitions. It is sometimes referred to as a "word-for-word" dictionary, "word-to-word translation dictionary," or a "bilingual word list."	• This accommodation is usually provided in the regular session, although students who need this accommodation will need to have extended time to look up words in the dictionary. • Prior to the start of the session, the NAEP Assessment Administrator (AA) should quietly instruct the student to follow along with the regular timing of the assessment, but explain that, at the end, he/she will have extra time to go back and finish working. • The AA is responsible for checking the dictionary prior to the start of the assessment to be sure it does not contain definitions.	For students classified as limited English proficient, the dictionary should be the same as the dictionary used in classroom instruction.
	Directions only signed	**Subjects:** Reading, Math & Science	This accommodation requires that a qualified sign language interpreter at the school sign the instructions included in the session script. The interpreter may not sign any additional directions in the assessment booklet.	• This accommodation can be provided in the regular session in the back of the room (or wherever it is typically administered). • The interpreter will sit near the students so they are able to see the directions being signed.	A script is provided to indicate words that must be finger-spelled. Signing may not be used to define or clarify words or phrases on the test.
	Test items signed	**Subjects:** Math & Science	This accommodation requires that a qualified sign language interpreter at the school sign some or all of the test questions and answer choices for the student.	• This accommodation requires a separate accommodation session. • The interpreter will sign the instructions from the grade appropriate accommodation session script to the student along with the question and answer choices, then wait for the student to mark the answer before moving on to the next question. • For mathematics booklets, the interpreter will refer to the *Mathematics Read Aloud Guidelines* that are with the accommodation session scripts for details on how to sign certain mathematical symbols and equations.	Allowable on Ohio assessments.

NAEP	What Is It?	How NAEP Administers It	State Accommodations
Read-aloud—occasional **Subjects:** Math & Science	For this accommodation, students may request to have words, phrases, or sentences read aloud to them in English. *Note: Reading the script, instructions or directions aloud, when requested, so students understand where and how to record their answers is NOT considered an accommodation and should not be recorded as one. These instructions can be repeated or reworded in any way, in English, so students understand what to do.*	• This accommodation can be provided in the regular session. • The AA should quietly instruct the student before the start of the session to raise his/her hand if he/she needs to have a word, phrase, or sentence read aloud. • If more than one student in a session requires this accommodation, they should be seated together in a way that minimizes distractions for other students.	Allowable on Ohio assessments.
Read-aloud—most or all **Subjects:** Math & Science	For this accommodation, students may request to have most or all of the assessment booklet read aloud to them in English.	• This accommodation requires a separate accommodation session. • The AA will administer the session using the grade-appropriate accommodation session script. • The AA will read aloud all the questions and answer choices and then wait for all of the students to mark their answers before moving on to the next question. • For mathematics booklets, the AA will refer to the *Mathematics Read Aloud Guidelines* in the accommodation session script for details on how to read certain mathematical symbols and equations.	Certain students are allowed to receive an accommodation which allows parts of a test to be read aloud to them. These students must either have an IEP or 504 Plan which authorizes the use of such a testing accommodation. Eligible LEP students also may receive this test accommodation. An English Audio CD-ROM provides a word by word reading of allowable parts of tests for students. The purpose of this format is to provide a standardized reading of allowable parts of the test to assist districts in providing this accommodation.

NAEP			What Is It?	How NAEP Administers It	State Accommodations
	Braille version of test	**Subjects:** Reading, Math & Science	This is a Braille version of the booklet.	• This accommodation requires a separate accommodation session. • The AA will administer the session by reading the grade-appropriate accommodation session script. • Students may require a Braille typewriter or a scribe to respond to the questions. • If a Braille typewriter is used, the AA will write the booklet ID number on all pages created by the Braille typewriter and insert these pages into the student's regular booklet. • If a scribe is used, when a constructed response is required, the scribe should write exactly what the student says. A student responding orally should indicate when a sentence ends and another one begins. There is no need for the student to indicate grammar or punctuation, provided that the answer can be read and understood. The student should spell a word only if it's critical to distinguish meaning (for example, too vs. two). • The scribe should read the written response to the student. The student will get one chance to make revisions, and then will need to move on to the next question.	Ohio provides both the OGT and the OAT in Braille for students with visual impairments.
	Large print version of test	**Subjects:** Reading, Math & Science	NAEP provides large-print booklets to students who are visually impaired. These are assessment booklets that have been enlarged to 129 percent.	• This accommodation can be provided in the regular session.	Ohio provides both the OGT and the OAT in large print for students with visual impairments. Type sizes are increased significantly in large print format tests.
Response Format	Magnification equipment	**Subjects:** Reading, Math & Science	This is a lens or system provided by the school that enhances visual function. Magnification devices include eyeglass-mounted magnifiers, free-standing or hand-held magnifiers, enlarged computer monitors, or computers with screen enlargement programs. Some students use closed-circuit television to enlarge print and display printed material with various image enhancements on a screen.	• This accommodation can be provided in the regular session.	Allowable on Ohio assessments.

NAEP	What Is It?	How NAEP Administers It	State Accommodations
Responds in sign language **Subjects:** Reading Math & Science	This accommodation requires that students sign their responses to a qualified sign language interpreter provided by the school. The interpreter records the student's answers in the assessment booklet.	• This accommodation requires a separate accommodation session. • The AA will administer the session by reading the grade-appropriate accommodation session script. • When a constructed response is required, the interpreter/scribe should write exactly what the student signs. A student should indicate when one sentence ends and another begins. There is no need for the student to indicate grammar or punctuation, provided that the answer can be read and understood. • The interpreter/scribe should show the student the written response after the student completes it, but NOT sign the response to the student. The student will get one chance to make revisions, and then will need to move on to the next question.	Allowable on Ohio assessments; however responses would need to be recorded in the student's answer booklet.
Responds using Braille typewriter **Subjects:** Reading, Math, Science	This accommodation requires that a visually impaired student record his/her answers using a Braille typewriter, a slate and stylus, or an electronic Brailler note taker provided by the school.	• This accommodation can be provided in the regular session if the Braille typewriter they use is quiet enough. Some older Braille typewriters are very loud and may require a separate session. • The AA will write the booklet ID number on all pages created by the Braille typewriter and insert these pages into the student's booklet.	Allowable on Ohio assessments; however responses would need to be recorded in the student's answer booklet.

NAEP			What Is It?	How NAEP Administers It	State Accommodations
Response Format	Responds orally to scribe	**Subjects:** Reading, Math & Science	This accommodation requires that the student respond orally to a scribe provided by the school or respond by pointing to his/her answers. The scribe then records the student's responses in the assessment booklet.	• This accommodation requires a separate accommodation session. • The AA will administer the session by reading the grade-appropriate accommodation session script. • When a constructed response is required, the scribe should write exactly what the student says. A student responding orally should indicate when a sentence ends and another one begins. There is no need for the student to indicate grammar or punctuation, provided that the answer can be read and understood. The student should spell a word only if it's critical to distinguish meaning (for example, too vs. two). • The scribe should show the student the written response after the student completes it, but NOT read the response to the student. The student will get one chance to make revisions, and then will need to move on to the next question.	The scribe writes exactly what student dictates. Student is not required to spell words. On the writing test, students are required to indicate beginning of sentences (use of capitals) and end of sentences (punctuation). Student can indicate where sentences begin and end while dictating or edit what the scribe has written.
	Responds using computer or typewriter	**Subjects:** Reading, Math & Science	This accommodation requires that the student record his/her answers using a computer or typewriter provided by the school. *Note: Use of the spelling/grammar check function on a computer is NOT allowed.*	• This accommodation can be provided in the regular session if the computer or typewriter is quiet enough. • The student will use the computer or typewriter to record his/her answers. • The AA will write the booklet ID number on all pages created by the computer and insert these pages into the student's booklet. • The AA is responsible for checking the computer prior to the start of the assessment and for monitoring the student during the assessment to be sure the spelling/grammar check function is disabled.	Responses must be transcribed verbatim into test or answer document.
	Uses template or respondent	**Subjects:** Reading, Math & Science	This is a cutout or overlay provided by the school that is used to focus a student's attention on one part of a page by obscuring other parts of the page.	• This accommodation can be provided in the regular session.	Allowable on Ohio assessments.

NAEP			What Is It?	How NAEP Administers It	State Accommodations
Setting Format	Uses Special Writing Tool	**Subjects:** Reading, Math & Science	This is a large-diameter pencil, pencil grip, or other special writing tool provided by the school that a student uses to record his/her answers in the assessment booklet. *NOTE: Some students' IEPs/504 Plan stipulate that they should receive this accommodation. For those students, this will be coded as an accommodation or 504. Students who do not have this as an IEP requirement, but who typically use large-diameter pencils, pencil grips, or other special writing tools during assessments may use these for NAEP, and it will not be recorded as an accommodation.*	• This accommodation can be provided in the regular session. • The AA will verify that the student has the special writing tool before the session begins.	Allowable on Ohio assessments.
	Small Group	**Subjects:** Reading, Math & Science	Generally, a small group session includes no more than five students. A student can be assigned to a small group session because he/she requires one, or because one or more of the accommodations he/she typically requires must be administered in a separate session to minimize distractions to other students in the regular session.	• This is by definition a separate session. • The person administering the session will use the grade-appropriate accommodation session script.	Allowable on Ohio assessments; however there should be no student interaction or oral responses during a small group setting.
	One-on-one	**Subjects:** Reading, Math & Science	This accommodation requires that a student is assessed individually in an area free of distractions.	• This is a session with one student and one AA or school staff member administering the session. • The person administering the session will use the grade-appropriate accommodation session script to conduct the session. • If the student regularly works with a facilitator provided by the school, that person should be available for the assessment.	Allowable on Ohio assessments.
	Study carrel	**Subjects:** Reading, Math & Science	This is a study carrel or portable screen provided by the school used to limit distractions for a student.	• This accommodation can be provided in the regular session, although occasionally the location of the study carrel is in a separate location. • If a portable screen is to be used, the screen is placed on the student's desk to limit distractions for the student.	Allowable on Ohio assessments.

NAEP			What Is It?	How NAEP Administers It	State Accommodations
Setting Format	Preferential Seating, Light, Furniture	Subjects: Reading, Math & Science	This accommodation requires that a student sit in a designated area for the assessment; such as away from other students to limit distractions; a location where there is access to special equipment; or close to the front of the room so that a student can see or hear more easily. It may also include special light and furniture used by the student.	• This accommodation can be provided in the regular session.	Allowable on Ohio assessments.
	School Staff Administers	Subjects: Reading, Math, & Science	This accommodation requires that a school staff member familiar to the student administer the session.	• This accommodation requires a separate accommodation session. • The school staff member will administer the session by reading the grade-appropriate accommodation session script.	Allowable on Ohio assessments.
Timing Accommodations	Extended Time	Subjects: Reading, Math & Science	This accommodation requires that students be given extra time to complete the assessment.	• In a regular session, this accommodation requires that students be given extra time after the timed session has been completed to continue to work on the cognitive sections of the assessment. Prior to the start of the session, the AA should quietly instruct students with this accommodation to follow along with the regular timing of the assessment, but explain that, at the end, they will have extra time to go back and finish working. • In a separate session, if most or all of the students are still working on a section at the end of the regular time limit, the AA should allow them to continue to work for about 10 more minutes per section. If most are finished, he/she should move on to the next section. In either case, students who need extra time may go back to work on unfinished sections of the assessment up to the maximum time allowed, which is three times the normal time. • The only limit for extended time is that students may not take more than three times the regular time allocated for a particular section of the booklet. • During the extended time, the AA must remain in the testing location until students have finished the assessment.	Allowable on Ohio assessments up to one school day as defined by the school district.

NAEP	What Is It?	How NAEP Administers It	State Accommodations
Breaks during test **Subjects:** Reading, Math & Science	This accommodation requires that the student be allowed to take breaks as requested or at predetermined intervals during the assessment. This also could mean that the student is allowed to take the assessment in more than one sitting during a single day.	• This accommodation requires a separate accommodation session. • There are no specific NAEP requirements regarding the length of time for a break, how often the breaks are taken, or whether the student has contact with other students during the breaks. The test must, however, be administered during a single day.	Allowable on Ohio assessments as long as there is no potential for discussion of the test with other students.
Other Accommodations Other **Subjects:** Reading, Math & Science	This category includes accommodations provided by the school that are not listed above and are regularly used by one or more students sampled for the assessment. Examples are that some hearing-impaired students require the administrator to wear a small microphone. Other students require the "read aloud to self" accommodation. *NOTE. Some schools provide special equipment such as colored highlighters for all students to use as a testing "strategy." If these are typically used on the state assessment by these students, they are allowed for use on NAEP and are not considered an accommodation. However NAEP does not allow the use of scrap paper or graph paper. Students are instructed to show all of their work in the assessment booklet.*	• Many of the accommodations that fall into this category can be administered during the regular session provided they do not distract the other students in the session.	Allowable on a case-by-case basis.

Statement Regarding Ohio's Exclusion Policy on NAEP

Ohio does not have a statewide exclusion policy for NAEP. The decision to exclude a child from participation in NAEP ultimately rests with the local district. For students with disabilities, exclusion is based upon a student's IEP. For students with limited English proficiency, those who have been enrolled in U.S. schools for fewer than 180 days are not required to participate in statewide testing.

APPENDIX A.3.3

OHIO STANDARDS FOR TEACHERS AND PRINCIPALS

RATIONALE: DOCUMENT CONTAINING THE OHIO STANDARDS FOR THE TEACHING PROFESSION THAT SERVE AS A GUIDE FOR TEACHERS AS THEY CONTINUALLY REFLECT UPON AND IMPROVE THEIR EFFECTIVENESS AS EDUCATORS THROUGHOUT ALL OF THE STAGES OF THEIR CAREERS.

REFERENCED IN:

(A)(3)

(D)(5)

Ohio's Standards for Teachers

1. Teachers understand student learning and development and respect the diversity of the students they teach.

- Teachers display knowledge of how students learn and of the developmental characteristics of age groups.
- Teachers understand what students know and are able to do and use this knowledge to meet the needs of all students.
- Teachers expect that all students will achieve to their full potential.
- Teachers model respect for students' diverse cultures, language skills and experiences.
- Teachers recognize characteristics of gifted students, students with disabilities and at-risk students in order to assist in appropriate identification, instruction and intervention.

2. Teachers know and understand the content area for which they have instructional responsibility.

- Teachers know the content they teach and use their knowledge of content-area concepts, assumptions and skills to plan instruction.
- Teachers understand and use content-specific instructional strategies to effectively teach the central concepts and skills of the discipline.
- Teachers understand school and district curriculum priorities and the Ohio academic content standards.
- Teachers understand the relationship of knowledge within the discipline to other content areas.
- Teachers connect content to relevant life experiences and career opportunities.

3. Teachers understand and use varied assessments to inform instruction, evaluate and ensure student learning.

- Teachers are knowledgeable about assessment types, their purposes and the data they generate.
- Teachers select, develop and use a variety of diagnostic, formative and summative assessments.
- Teachers analyze data to monitor student progress and learning, and to plan, differentiate and modify instruction.
- Teachers collaborate and communicate student progress with students, parents and colleagues.
- Teachers involve learners in self-assessment and goal setting to address gaps between performance and potential.

4. Teachers plan and deliver effective instruction that advances the learning of each individual student.

- Teachers align their instructional goals and activities with school and district priorities and Ohio's academic content standards.
- Teachers use information about students' learning and performance to plan and deliver instruction that will close the achievement gap.
- Teachers communicate clear learning goals and explicitly link learning activities to those defined goals.
- Teachers apply knowledge of how students think and learn to instructional design and delivery.
- Teachers differentiate instruction to support the learning needs of all students, including students identified as gifted, students with disabilities and at-risk students.

- Teachers create and select activities that are designed to help students develop as independent learners and complex problem-solvers.
- Teachers use resources effectively, including technology, to enhance student learning.

5. Teachers create learning environments that promote high levels of learning and achievement for all students.

- Teachers treat all students fairly and establish an environment that is respectful, supportive and caring.
- Teachers create an environment that is physically and emotionally safe.
- Teachers motivate students to work productively and assume responsibility for their own learning.
- Teachers create learning situations in which students work independently, collaboratively and/or as a whole class.
- Teachers maintain an environment that is conducive to learning for all students.

6. Teachers collaborate and communicate with students, parents, other educators, administrators and the community to support student learning.

- Teachers communicate clearly and effectively.
- Teachers share responsibility with parents and caregivers to support student learning, emotional and physical development and mental health.
- Teachers collaborate effectively with other teachers, administrators and school and district staff.
- Teachers collaborate effectively with the local community and community agencies, when and where appropriate, to promote a positive environment for student learning.

7. Teachers assume responsibility for professional growth, performance and involvement as an individual and as a member of a learning community.

- Teachers understand, uphold and follow professional ethics, policies and legal codes of professional conduct.
- Teachers take responsibility for engaging in continuous, purposeful professional development.
- Teachers are agents of change who seek opportunities to positively impact teaching quality, school improvements and student achievement.

Ohio's Standards for Principals

1. Principals help create a shared vision and clear goals for their schools and ensure continuous progress toward achieving the goals.

- Principals lead the process of setting, monitoring and achieving specific and challenging goals that reflect high expectations for all students and staff.
- Principals lead the change process for continuous improvement.
- Principals anticipate, monitor and respond to educational developments that affect school issues and environment.

2. Principals support the implementation of high-quality standards based instruction that results in higher levels of achievement for all students.

- Principals ensure that the instructional content that is taught is aligned with the Ohio academic content standards and curriculum priorities in the school and district.

- Principals ensure instructional practices are effective and meet the needs of all students.
- Principals advocate for high levels of learning for all students, including students identified as gifted, students with disabilities and at-risk students.
- Principals know, understand and share relevant research.
- Principals understand, encourage and facilitate the effective use of data by staff.
- Principals support staff in planning and implementing research-based professional development.

3. Principals allocate resources and manage school operations in order to ensure a safe and productive learning environment.

- Principals establish and maintain a safe school environment.
- Principals create a nurturing learning environment that addresses the physical and mental health needs of all.
- Principals allocate resources, including technology, to support student and staff learning.
- Principals institute procedures and practices to support staff and students and establish an environment that is conducive to learning.
- Principals understand, uphold and model professional ethics, policies, and legal codes of professional conduct.

4. Principals establish and sustain collaborative learning and shared leadership to promote learning and achievement of all students.

- Principals promote a collaborative learning culture.
- Principals share leadership with staff, students, parents, and community members.
- Principals develop and sustain leadership.

5. Principals engage parents and community members in the educational process and create a environment where community resources support student learning, achievement and well being.

- Principals use community resources to improve student learning.
- Principals involve parents and community members in improving student learning.
- Principals connect the school with the community.
- Principals establish expectations for the use of culturally-responsive practices, which
- acknowledge and value diversity

APPENDIX A.3.4

OHIO'S STANDARDS FOR PROFESSIONAL DEVELOPMENT

RATIONALE: DOCUMENT CONTAINING OHIO'S STANDARDS FOR PROFESSIONAL DEVELOPMENT.

REFERENCED IN:

(A)(3)

(D)(5)

Section Four: Ohio Standards for Professional Development

1 High quality professional development (HQPD) is a purposeful, structured and continuous process that occurs over time.

- The goals and vision for professional development are clear, focused and aligned with school and district priorities and state and national goals.
- Professional development is continuous and includes planning, implementation, reflection, evaluation and revision.
- Professional development supports and advances the leadership capacity of all educators.
- Educators in small learning teams engage in sustained and ongoing professional development experiences.
- The structure and culture of the educational community supports professional development as a necessary condition for improvement.
- Resources are allocated for planning, implementing and supporting professional development.

2 High quality professional development (HQPD) is informed by multiple sources of data.

- School, district, state and national data related to student achievement are analyzed to determine the focus and content for professional development.
- Educators analyze their practice and examine multiple sources of data to determine the focus and content of their professional development plan.
- Educators study the research that support claims made by advocates of a particular approach to instructional improvement or whole school reform.
- Data from evaluations of previous professional development are analyzed to determine the focus and content for future professional development.

3 High quality professional development (HQPD) is collaborative.

- Professional development provides ongoing opportunities for educators to work together.
- Diverse teams of educators work collaboratively to plan, deliver and evaluate professional development.
- Professional development incorporates communication technologies to broaden the scope of collaboration.

4 High quality professional development (HQPD) includes varied learning experiences that accommodate individual educators' knowledge and skills.

- Professional learning opportunities are based on identified needs.
- Professional development includes a variety of learning experiences.
- Professional development reflects a logical sequence of experiences.

5 High quality professional development (HQPD) is evaluated by its short- and long-term impact on professional practice and achievement of all students.

- Professional development is evaluated by assessing levels of participant satisfaction and learning of content.
- Professional development is evaluated by evidence of new skills applied to practice.
- Professional development is evaluated by the extent to which organizations change to improve.
- Professional development is evaluated on its impact on achievement of all students.
- The professional development process is evaluated.

6 High quality professional development (HQPD) results in the acquisition, enhancement or refinement of skills and knowledge.

- Professional development plans support the understanding and use of local, state and national standards as well as school and district curriculum priorities.
- Professional development supports the study, evaluation and integration of relevant and current best practices and research into practice.
- Professional development enhances understanding of instructional strategies appropriate to specific content, and addresses the needs of diverse learners.
- Professional development ensures that all educators understand and use various types of assessments to measure student learning.
- Professional development provides educators with tools to engage students, families and communities in improving student achievement.

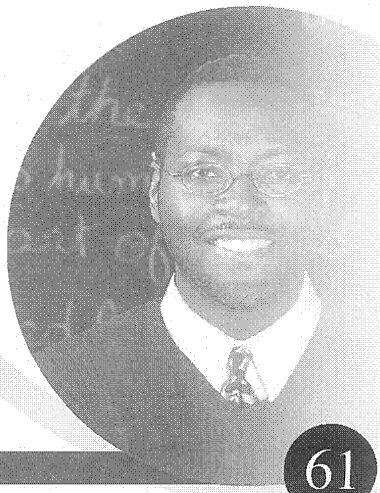
Introduction

Effective professional development meets the needs of educators by responding to the needs of students. It also must align with personal, building, district, state and national goals. All stakeholders have a responsibility to ensure that Ohio's educators continue to develop the skills and knowledge needed to enable students to perform at the highest levels of achievement. Ongoing professional growth is essential for ensuring that educators have the knowledge and skills they need to meet the increasing demands of their profession.

Ohio's standards for professional development delineate the essential characteristics of quality professional development. These are not minimal expectations. Schools that successfully implement all of these standards should expect to see higher quality teaching and increased student achievement.

Ohio's Standards for Professional Development are written for multiple audiences. The standards can be used by each of these audiences.

The key to implementing effective professional development is to view it as an ongoing process that is embedded in the daily work of all educators. Effective professional development must be approached systematically and involve all educators in the planning, implementing, reflecting and maintaining phases. To be successful, this system must involve and be supported by all educators.



Ohio Standards for Professional Development

Standard 1

High Quality Professional Development (HQPD) is a purposeful, structured and continuous process that occurs over time.

Narrative Summary

Professional development is a continuous process that includes multiple steps: planning, implementation, reflection, evaluation and revision. The result of this process is a series of activities or programs that has been systematically planned and designed to form an integrated whole. The participants in professional development are part of small learning teams that are involved in each step in this process. In order for professional development to contribute to real change and to continuous improvement efforts, participants must be provided with time to fully engage in the professional development process, to apply new ideas and to reflect on changes in their practice.

In an effective system of professional development, leaders improve educators' capabilities and create the structures and conditions that support educators' use of new skills and knowledge. Professional development leaders clearly identify and communicate the goals of professional development. They establish structures (such as daily schedules and yearly calendars) that support professional development. They embed professional development into the jobs of educators; High Quality Professional Development (HQPD) occurs as part of the work day and is about the day-to-day work that educators do. Resources (people, time, materials and funds) are made available and allocated to ensure that educators can implement their new skills and knowledge.

Elements

1.1 The goals and vision for professional development are clear, focused and aligned with school and district priorities and state and national goals.
1.2 Professional development is continuous and includes planning, implementation, reflection, evaluation and revision.
1.3 Professional development supports and advances the leadership capacity of all educators.
1.4 Educators in small learning teams engage in sustained and ongoing professional development experiences.
1.5 The structure and culture of the educational community supports professional development as a necessary condition for improvement.
1.6 Resources are allocated for planning, implementing and supporting professional development.

Standard I Elements	*Indicators*
1.1 The goals and vision for professional development are clear, focused and aligned with school and district priorities and state and national goals.	In a High Quality Professional Development (HQPD) system: a. Goals are clearly articulated and understood by all participants. b. HQPD plans and programs align with school and district improvement goals and state and national goals. c. HQPD plans and programs have a clear focus that supports the goals of improved teaching and learning.
1.2 Professional development is continuous and includes planning, implementation, reflection, evaluation and revision.	In a High Quality Professional Development (HQPD) system: a. A comprehensive professional development plan is created, which identifies both short- and long-term professional development outcomes and methods of evaluation. b. A series of connected and coherent events are implemented. c. Participants reflect on their learning. d. Multiple measures are used to evaluate the professional development. e. Professional development plans and programs are revised, based on evaluation and student impact data.
1.3 Professional development supports and advances the leadership capacity of all educators.	In a High Quality Professional Development (HQPD) system: a. HQPD builds the knowledge and skills of teachers, administrators, board members and other stakeholders to guide continuous instructional improvement. b. The organizational structure allows all educators to utilize their leadership knowledge and skills.

Ohio Standards for Professional Development

Standard 1 Elements	*Indicators*
1.4 Educators in small learning teams engage in sustained and ongoing professional development experiences.	In a High Quality Professional Development (HQPD) system: a. HQPD is a continual process rather than a single, isolated event. b. Staff members discuss ways to improve teaching and learning. c. Small learning teams focus on increasing student learning. d. Professional development is linked to daily practice.
1.5 The structure and culture of the educational community supports professional development as a necessary condition for improvement.	In a High Quality Professional Development (HQPD) system: a. Educators have opportunities to work in small learning teams. b. The daily schedule and school calendar are adjusted to allow for professional learning experiences in and out of the workday. c. Schools work closely with professional development agencies and higher education institutions to meet professional learning needs.
1.6 Resources are allocated for planning, implementing and supporting professional development.	In a High Quality Professional Development (HQPD) system: a. Internal and external expertise is utilized for professional development. b. Educators have time for both professional development experiences and implementation of new learning. c. Print, electronic and other material resources are available to support professional learning and implementation. d. Funds are allocated within the budget to support professional development that is aligned to school and district goals.

Standard 2

High Quality Professional Development (HQPD) is informed by multiple sources of data.

Narrative Summary

Increasing student achievement is the ultimate goal of professional development. To this end, professional development is based on an analysis of classroom, school, district and statewide student data that reveals current student performance. This analysis is then considered against the goals and the expectations for student learning in the classroom, school, district and state. Effective professional development helps educators close any gaps that exist between students' actual performance and the desired levels of student performance.

To ensure that educators perceive the value and relevance of professional development, educators must be involved in analyzing data, research and best practices to determine the focus of professional learning. The likelihood of professional development being successful, and of educators employing what they have learned, is increased when educators are involved in the process of ensuring that professional development is data-based.

Elements

2.1 School, district, state and national data related to student achievement are analyzed to determine the focus and content for professional development.

2.2 Educators analyze their practice and examine multiple sources of data and research to determine the focus and content of their professional development plan.

2.3 Educators study the research that support claims made by advocates of a particular approach to instructional improvement or whole school reform.

2.4 Data from evaluations of previous professional development are analyzed to determine the focus and content for future professional development.

Ohio Standards for Professional Development

Standard 2 Elements	*Indicators*
2.1 School, district, state and national data related to student achievement are analyzed to determine the focus and content of professional development.	In a High Quality Professional Development (HQPD) system: a. Planners and participants collect, disaggregate, analyze and utilize appropriate data related to the achievement of all students. b. All available sources of data and best practice research are examined as an integral part of the process leading to decisions about professional development. c. School and district professional development plans are based on student achievement data.
2.2 Educators analyze their practice and examine multiple sources of data and research to determine the focus and content for professional development.	In a High Quality Professional Development (HQPD) system: a. Educators analyze their professional knowledge, strengths and weaknesses in order to develop targeted goals for professional growth. b. Individual professional development goals are aligned with school and district improvement plans.
2.3 Educators study the research that supports claims made by advocates of a particular approach to instructional improvements or whole school reform.	In a High Quality Professional Development (HQPD) system: a. Stakeholders use educational research to select both the content and the process for professional development. b. Educators engage in action research or conduct pilot studies to determine the effectiveness of new approaches.
2.4 Data from evaluation of previous professional development are analyzed to determine the focus and content for future professional development.	In a High Quality Professional Development (HQPD) system: a. Professional development evaluation data is collected. b. Short- and long-term professional development evaluation data are examined. c. Revisions to the delivery and content of professional development are made based on evaluation data.

Standard 3

High Quality Professional Development (HQPD) is collaborative.

Narrative Summary

Collaboration ensures that professional development extends beyond impacting individuals. Collaboration ensures that professional development will impact whole groups and result in schoolwide change and improvement. Educators within and across buildings must have access to one another to work in small learning teams to collaboratively identify both challenges to effective teaching and learning as well as solutions to continually improve teaching and learning.

Learning teams may engage in many varied activities, such as curriculum development, action research or study groups. What each of these activities shares is that colleagues are working together, focused on improving teaching, impacting student learning and increasing student achievement. This is an essential condition of High Quality Professional Development.

Elements

3.1 Professional development provides ongoing opportunities for educators to work together.
3.2 Diverse teams of educators work collaboratively to plan, deliver and evaluate professional development.
3.3 Professional development incorporates communication technologies to broaden the scope of collaboration.

Ohio Standards for Professional Development

Standard 3 Elements	*Indicators*
3.1 Professional development provides ongoing opportunities for educators to work together.	In a High Quality Professional Development (HQPD) system: a. Educators have the knowledge and skills needed to collaborate in teams successfully. b. Collaboration is supported by creating opportunities for flexible scheduling of participants. c. Participants are provided opportunities to meet regularly in collaborative teams to focus on improving practice and student achievement.
3.2 Diverse teams of educators work collaboratively to plan, deliver and evaluate professional development.	In a High Quality Professional Development (HQPD) system: a. Educators are part of teams that plan, implement and sustain the goals of professional development. b. Teams of diverse stakeholders (i.e., educators in all roles), organized by grade level, subject area, interdisciplinary groups or other areas of need, are assembled. c. Collaborative teams evaluate professional development and its contribution to student learning.
3.3 Professional development incorporates communication technologies to broaden the scope of collaboration.	In a High Quality Professional Development (HQPD) system: a. Current technologies are used, when appropriate, to facilitate collaboration and enhance opportunities for professional learning.

Standard 4

High Quality Professional Development (HQPD) includes varied learning experiences that accommodate individual educators' knowledge and skills.

Narrative Summary

While the process for designing and implementing professional development must be collaborative, specific learning experiences within professional development should be based on both individual needs and the needs of the group. Specific learning experiences should vary to fit the needs, knowledge, skills and goals of the educator participants. The sequence of learning experiences should be systematically planned to meet the needs of educators to reflect upon and implement new skills and knowledge.

Elements

4.1 Professional learning opportunities are based on identified needs.
4.2 Professional development includes a variety of learning experiences.
4.3 Professional development reflects a logical sequence of experiences.

Ohio Standards for Professional Development

Standard 4 Elements	*Indicators*
4.1 Professional learning opportunities are based on identified needs.	In a High Quality Professional Development (HQPD) system: a. Professional development learning experiences are matched with individual goals, needs, current knowledge and skills. b. Professional development experiences are planned with consideration for group needs, current knowledge and skills. c. Variety in the design, delivery, intensity and duration of professional development is employed according to identified needs.
4.2 Professional development includes a variety of learning experiences.	In a High Quality Professional Development (HQPD) system: a. Experiences and methods of delivery are varied to reflect the learning needs of adults. b. Technology is used to deliver professional development, when appropriate. c. Learning experiences reflect best practice professional development models.
4.3 Professional development reflects a logical sequence of experiences.	In a High Quality Professional Development (HQPD) system: a. The sequence of professional development opportunities is based on a comprehensive professional development plan. b. A structured sequence of professional development opportunities gives educators time to strengthen, refine or replace previous knowledge and skills.

Standard 5

High Quality Professional Development (HQPD) is evaluated by its short- and long-term impact on professional practice and achievement of all students.

Narrative Summary

The primary goal of professional development is to increase student learning. Although it is difficult to measure a cause and effect relationship, the impact of professional development must be evaluated on multiple levels, beginning with participants' immediate satisfaction and learning and continuing with the evaluation of educators' application of new knowledge, organizational change and student achievement. Effective evaluation of professional development is a systematic, purposeful process of collecting and analyzing multiple sources of data to make informed decisions. Evaluation data informs continuous improvement by identifying the effects of professional development in terms of intended outcomes and enabling planners to focus and improve the quality of professional development.

Elements

5.1 Professional development is evaluated by assessing levels of participant satisfaction and learning of content.
5.2 Professional development is evaluated by evidence of new skills applied to practice.
5.3 Professional development is evaluated by the extent to which organizations change to improve.
5.4 Professional development is evaluated on its impact on achievement of all students.
5.5 The professional development process is evaluated.

Ohio Standards for Professional Development

Standard 5 Elements	*Indicators*
5.1 Professional development is evaluated by assessing levels of participation and learning of content.	In a High Quality Professional Development (HQPD) system: a. Evaluation is designed prior to the professional development activities. b. Tools (such as participant surveys, questionnaires, evaluation forms or personal learning logs) are used to assess attendance at, satisfaction with and learning outcomes from each professional development experience.
5.2 Professional development is evaluated by evidence of new skills applied to practice.	In a High Quality Professional Development (HQPD) system: a. A combination of measures (e.g., teacher surveys, interviews and observation) is used over time to identify changes in classroom practices.
5.3 Professional development is evaluated by the extent to which organizations change to improve.	In a High Quality Professional Development (HQPD) system: a. The impact of professional development on school culture and change within the organization is assessed.
5.4 Professional development is evaluated on its impact on achievement of all students.	In a High Quality Professional Development (HQPD) system: a. Baseline information on student achievement is gathered and used. b. Formative data on student achievement are used to monitor and revise district professional development. c. Summative evaluation of the long-term professional development program is developed and used to identify the impact on teacher practices and student achievement. d. Various measures of student performance, achievement, behaviors and attitudes (e.g., standardized assessments, classroom assessments, portfolios, school records, interviews or observations) are used to assess the impact of professional development.
5.5 The professional development process is evaluated.	In a High Quality Professional Development (HQPD) system: a. Data are continuously collected to ensure effective implementation of professional development.

Standard 6

High Quality Professional Development (HQPD) results in the acquisition, enhancement or refinement of skills and knowledge.

Narrative Summary

The content of professional development should focus on what teachers are expected to teach and students are expected to learn. Professional development should provide teachers with specific strategies that research and experience have proven to be effective in increasing student learning and achievement. Content knowledge alone may not result in improvements in teaching. Rather, a professional development focus on content – connected to what students should know and how students can best learn that content – will likely result in more effective teaching and learning. Effective teachers have a deep understanding of the disciplines they teach as well as knowledge and use of appropriate skills of pedagogy. Professional development is the means by which educators acquire, refine or enhance the knowledge and skills needed to create high levels of learning for all students. Professional development informs educators about research and ensures that they have the knowledge, skills and dispositions to access and use research in their practice. When educators understand the theories that support certain instructional strategies or decisions, they can more easily adapt the strategy to their own classrooms. Effective professional development ensures that educators have strategies for engaging students and families to share the responsibility of student learning.

Elements

6.1 Professional development plans support the understanding and use of local, state and national standards as well as school and district curriculum priorities.

6.2 Professional development supports the study, evaluation and integration of relevant and current best practices and research into practice.

6.3 Professional development enhances understanding of instructional strategies appropriate to specific content and addresses the needs of diverse learners.

6.4 Professional development ensures that all educators understand and use various types of assessments to measure student learning.

6.5 Professional development provides educators with tools to engage students, families and communities in improving student achievement.

Ohio Standards for Professional Development

Standard 6 Elements	*Indicators*
6.1 Professional development plans support the understanding and use of local, state and national standards as well as school and district curriculum priorities.	In a High Quality Professional Development (HQPD) system: a. An environment is fostered for educators to understand state and national standards and district and school priorities for learning. b. Educators share strategies for using standards to improve student learning.
6.2 Professional development supports the study, evaluation and integration of relevant and current best practices and research into practice.	In a High Quality Professional Development (HQPD) system: a. Educators learn strategies for studying and evaluating relevant current research. b. Educators learn strategies to integrate the research into practice.
6.3 Professional development enhances the understanding of instructional strategies appropriate to specific content and addresses the needs of diverse learners.	In a High Quality Professional Development (HQPD) system: a. HQPD ensures that educators understand their subject-matter content. b. Specific strategies for content-specific teaching and learning are shared. c. Educators learn specific strategies for identifying and meeting the needs of diverse learners, including gifted students, students with disabilities and at-risk students.
6.4 Professional development ensures that all educators understand and use various types of assessments to measure student learning.	In a High Quality Professional Development (HQPD) system: a. Educators learn the structure and purpose of a variety of assessment tools (e.g., formative, summative, authentic). b. Educators practice creating, implementing and evaluating assessment tools. c. Educators learn to analyze various types of assessment results to determine levels of student learning.
6.5 Professional development provides educators with tools to engage students, families and communities in improving student achievement.	In a High Quality Professional Development (HQPD) system: a. Students and families are included in the learning process in a meaningful way. b. Educators understand and appreciate all students. c. Connections between home and school are strengthened when educators learn and use methods to communicate effectively with families and other members of the community. d. Educators understand how child- and family-related mental health issues impact student achievement.

APPENDIX A.3.5

DECISION FRAMEWORK

RATIONALE: DESCRIPTION OF AN IMPROVEMENT PLANNING TOOL HELP LEAS IDENTIFY AND ANALYZE CRITICAL COMPONENTS FOR IMPROVING THE ACADEMIC PERFORMANCE OF ALL STUDENTS.

REFERENCED IN:

(A)(3)

(D)(5)

Ohio Decision Framework

The Ohio Decision Framework (DF) is a tool designed to assist District Leadership Teams (DLT), Building Leadership Teams (BLT), and Community School Leadership Teams (CSLT) in making informed decisions – based on what their data tell them – about where to spend their time, energy and resources to make significant and sustainable improvements in student performance. To that end, the DF helps DLTs, BLTs, and CSLTs:

- Sort through and categorize data in meaningful ways;
- Prioritize areas of need and make decisions based on an analysis of data;
- Identify root causes of prioritized needs; and
- Develop a more focused plan leading to improved student achievement.

The DF is the primary power tool that districts, buildings, and community schools will utilize in **Stage 1 of the Ohio Improvement Process (OIP).** As one of a set of connected tools, the DF results in a profile based on what DLTs, BLTs, or CSLTs identify as their major priorities that, when submitted to the Comprehensive Continuous Improvement Plan (CCIP), automatically populate the needs assessment of the CCIP.

The DF asks essential questions to help districts, buildings, or community schools identify and analyze critical components (e.g., curriculum alignment and accessibility) for improving the academic performance of all students, including subgroup populations. The essential questions are organized around the following four levels:

LEVEL 1: Student Proficiency (Graduation Tests, Achievement Tests, KRA-L)
LEVEL 2: Instructional Management (Curriculum, Assessment and Instructional Practice; Educator Quality; Professional Development)
LEVEL 3: Expectations and Conditions (Leadership, Climate, Parent/Family, Students and Community Involvement)
LEVEL 4: Resource Management

Following completion of the DF, the DLT and/or BLT prioritizes areas of greatest concern, as well as causes contributing to those areas of concern. These decisions provide the foundation for creating a focused plan with a limited number of goals (two to three) and a limited number of strategies and actions for addressing the goals.

State Support Teams work with targeted, high support districts and schools. Educational Service Centers work with medium support districts and schools, and all others requesting assistance.

APPENDIX B.1.1

COMMON CORE STATE STANDARDS INITIATIVE MEMORANDUM OF AGREEMENT (MOU)

RATIONALE: REQUIRED EVIDENCE FOR (B)(1)(i).

REFERENCED IN:

(B)(1)
(B)(3)

The Council of Chief State School Officers and
The National Governors Association Center for Best Practices

Common Core Standards
Memorandum of Agreement

Purpose. This document commits states to a state-led process that will draw on evidence and lead to development and adoption of a common core of state standards (common core) in English language arts and mathematics for grades K-12. These standards will be aligned with college and work expectations, include rigorous content and skills, and be internationally benchmarked. The intent is that these standards will be aligned to state assessment and classroom practice. The second phase of this initiative will be the development of common assessments aligned to the core standards developed through this process.

Background. Our state education leaders are committed to ensuring all students graduate from high school ready for college, work, and success in the global economy and society. State standards provide a key foundation to drive this reform. Today, however, state standards differ significantly in terms of the incremental content and skills expected of students.

Over the last several years, many individual states have made great strides in developing high-quality standards and assessments. These efforts provide a strong foundation for further action. For example, a majority of states (35) have joined the American Diploma Project (ADP) and have worked individually to align their state standards with college and work expectations. Of the 15 states that have completed this work, studies show significant similarities in core standards across the states. States also have made progress through initiatives to upgrade standards and assessments, for example, the New England Common Assessment Program.

Benefits to States. The time is right for a state-led, nation-wide effort to establish a common core of standards that raises the bar for all students. This initiative presents a significant opportunity to accelerate and drive education reform toward the goal of ensuring that all children graduate from high school ready for college, work, and competing in the global economy and society. With the adoption of this common core, participating states will be able to:

- Articulate to parents, teachers, and the general public expectations for students;
- Align textbooks, digital media, and curricula to the internationally benchmarked standards;
- Ensure professional development to educators is based on identified need and best practices;
- Develop and implement an assessment system to measure student performance against the common core; and
- Evaluate policy changes needed to help students and educators meet the common core standards and "end-of-high-school" expectations.

An important tenet of this work will be to increase the rigor and relevance of state standards across all participating states; therefore, no state will see a decrease in the level of student expectations that exist in their current state standards.

Process and Structure

- **Common Core State-Based Leadership.** The Council of Chief State School Officers (CCSSO) and the National Governors Association Center for Best Practices (NGA Center) shall assume responsibility for coordinating the process that will lead to state adoption of a common core of standards (see attached timeline). These organizations represent governors and state commissioners of education who are charged with defining K-12 expectations at the state level.

As such, these organizations will facilitate a state-led process to develop common core standards in English language arts and mathematics that are:

- Fewer, clearer, and higher, to best drive effective policy and practice;
- Aligned with college and work expectations, so that all students are prepared for success upon graduating from high school;
- Inclusive of rigorous content and application of knowledge through high-order skills, so that all students are prepared for the 21st century;
- Internationally benchmarked, so that all students are prepared for succeeding in our global economy and society; and
- Research and evidence-based.

- **National Validation Committee.** CCSSO and the NGA Center will create an expert validation group that will serve a several purposes, including validating end-of-course expectations, providing leadership for the development of K-12 standards, and certifying state adoption of the common core standards. The group will be comprised of national and international experts on standards. Participating states will have the opportunity to nominate individuals to the group. The national validation committee shall provide an independent review of the common core standards. The national validation committee will review the common core as it is developed and offer comments, suggestions, and validation of the process and products developed by the standards development group. The group will use evidence as the driving factor in validating the common core standards.

- **Develop End-of-High-School Expectations.** CCSSO and the NGA Center will convene Achieve, ACT and the College Board in an open, inclusive, and efficient process to develop a set of end-of–high-school expectations in English language arts and mathematics based on evidence. We will ask all participating states to review and provide input on these expectations. This work will be completed by July 2009.

- **Develop K-12 Standards in English Language Arts and Math.** CCSSO and the NGA Center will convene Achieve, ACT, and the College Board in an open, inclusive, and efficient process to develop K-12 standards that are grounded in empirical research and draw on best practices in standards development. We will ask participating states to provide input into the drafting of the common core and work as partners in the common core standards development process. This work will be completed by December 2009.

- **Adoption.** The goal of this effort is to develop a true common core of state standards that are internationally benchmarked. Each state adopting the common core standards either directly or by fully aligning its state standards may do so in accordance with current state timelines for standards adoption not to exceed three (3) years.

  This effort is voluntary for states, and it is fully intended that states adopting the common core standards may choose to include additional state standards beyond the common core standards. States that choose to align their standards to the common core standards agree to ensure that the common core represents at least 85 percent of the state's standards in English language arts and mathematics.

  Further, the goal is to establish an ongoing development process that can support continuous improvement of this first version of the common core standards based on research and evidence-based learning and can support the development of assessments that are aligned to the common core standards across the states, for accountability and other appropriate purposes.

- **National Policy Forum.** CCSSO and the NGA Center will convene a National Policy Forum (Forum) comprised of signatory national organizations (e.g., the Alliance for Excellent Education, Business Roundtable, National School Boards Association, Council of Great City Schools, Hunt Institute, National Association of State Boards of Education, National Education Association, and others) to share ideas, gather input, and inform the common core standards initiative. The forum is intended as a place for refining our shared understanding of the scope and elements of a common core; sharing and coordinating the various forms of implementation of a common core; providing a means to develop common messaging between and among participating organizations; and building public will and support.

- **Federal Role.** The parties support a state-led effort and not a federal effort to develop a common core of state standards; there is, however, an appropriate federal role in supporting this state-led effort. In particular, the federal government can provide key financial support for this effort in developing a common core of state standards and in moving toward common assessments, such as through the Race to the Top Fund authorized in the American Recovery and Reinvestment Act of 2009. Further, the federal government can incentivize this effort through a range of tiered incentives, such as providing states with greater flexibility in the use of existing federal funds, supporting a revised state accountability structure, and offering financial support for states to effectively implement the standards. Additionally, the federal government can provide additional long-term financial support for the development of common assessments, teacher and principal professional development, other related common core standards supports, and a research agenda that can help continually improve the common core standards over time. Finally, the federal government can revise and align existing federal education laws with the lessons learned from states' international benchmarking efforts and from federal research.

Agreement. The undersigned state leaders agree to the process and structure as described above and attest accordingly by our signature(s) below.

Signatures	
Governor:	Ted Strickland
Chief State School Officer:	Gerald Tirozzi

APPENDIX B.1.2

LIST OF STATES PARTICIPATING IN THE COMMON CORE STATE STANDARDS INITIATIVE

RATIONALE: REQUIRED EVIDENCE FOR (B)(1)(i).

REFERENCED IN:
(B)(1)

News Release

09/01/2009

Fifty-One States And Territories Join Common Core State Standards Initiative

NGA Center, CCSSO Convene State-led Process to Develop Common English-language arts and Mathematics Standards

Contact: Jodi Omear, 202-624-5346
Office of Communications

WASHINGTON—The National Governors Association Center for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO) today released the names of the states and territories that have joined the Common Core State Standards Initiative: **Alabama; Arizona; Arkansas; California; Colorado; Connecticut; Delaware; District of Columbia; Florida; Georgia; Hawaii; Idaho; Illinois; Indiana; Iowa; Kansas; Kentucky; Louisiana; Maine; Maryland; Massachusetts; Michigan; Minnesota; Mississippi; Missouri; Montana; Nebraska; Nevada; New Hampshire; New Jersey; New Mexico; New York; North Carolina; North Dakota; Ohio; Oklahoma; Oregon; Pennsylvania; Puerto Rico; Rhode Island; South Carolina; South Dakota; Tennessee; Utah; Vermont; Virgin Islands; Virginia; Washington; West Virginia; Wisconsin; Wyoming**.

In the twenty-six years since the release of *A Nation at Risk,* states have made great strides in increasing the academic rigor of education standards. Yet, America's children still remain behind other nations in terms of academic achievement and preparedness to succeed.

By signing on to the common core state standards initiative, governors and state commissioners of education across the country are committing to joining a state-led process to develop a common core of state standards in English language arts and mathematics for grades K-12. These standards will be research and evidence-based, internationally benchmarked, aligned with college and work expectations and include rigorous content and skills.

"To maintain America's competitive edge, we need all of our students to be prepared and ready to compete with students from around the world," said **NGA Vice Chair Vermont Gov. Jim Douglas**. "Common standards that allow us to internationally benchmark our students' performance with other top countries have the potential to bring about a real and meaningful transformation of our education system to the benefit of all Americans."

"As state school chiefs, we have been discussing and building momentum for state-led, voluntary common standards that are both rigorous and internationally benchmarked for the past two years," stated **CCSSO President and Arkansas Commissioner of Education Ken James**. "The broad level of commitment we have received from states across the nation for this unprecedented effort is both gratifying and exciting. It also clearly illustrates that this is an idea whose time has arrived."

The Common Core State Standards Initiative is being jointly led by the NGA Center and CCSSO in partnership with Achieve, Inc; ACT and the College Board. It builds directly on recent efforts of leading

organizations and states that have focused on developing college- and career-ready standards and ensures that these standards can be internationally benchmarked to top-performing countries around the world. The goal is to have a common core of state standards that states can voluntarily adopt. States may choose to include additional standards beyond the common core as long as the common core represents at least 85 percent of the state's standards in English language arts and mathematics.

"Measuring our students against international benchmarks is an important step," said **Virginia Gov. Timothy Kaine**. "Today, we live in a world without borders. It not only matters how Virginia students compare to those in surrounding states – it matters how we compete with countries across the world."

"Only when we agree about what all high school graduates need to be successful will we be able to tackle the most significant challenge ahead of us: transforming instruction for every child," said **CCSSO President-Elect and Maine Education Commissioner Sue Gendron**. "Common standards will provide educators clarity and direction about what all children need to succeed in college and the workplace and allow states to more readily share best practices that dramatically improve teaching and learning. Our graduates and frankly, the future of our economy, cannot wait any longer for our educational practices to give equal opportunity for success to every student."

The NGA Center and CCSSO are coordinating the process to develop these standards and have created an expert validation committee to provide an independent review of the common core state standards, as well as the grade-by-grade standards. This committee will be composed of nationally and internationally recognized and trusted education experts who are neutral to – and independent of – the process. The college- and career-ready standards are expected to be completed in September 2009. The grade-by-grade standards work is expected to be completed in January 2010.

###

Founded in 1908, the National Governors Association (NGA) is the collective voice of the nation's governors and one of Washington, D.C.'s most respected public policy organizations. Its members are the governors of the 50 states, three territories and two commonwealths. NGA provides governors and their senior staff members with services that range from representing states on Capitol Hill and before the Administration on key federal issues to developing and implementing innovative solutions to public policy challenges through the NGA Center for Best Practices. For more information, visit www.nga.org.

The Council of Chief State School Officers (CCSSO) is a nonpartisan, nationwide, nonprofit organization of public officials who head departments of elementary and secondary education in the states, the District of Columbia, the Department of Defense Education Activity, and five U.S. extra-state jurisdictions. CCSSO provides leadership, advocacy, and technical assistance on major educational issues. The Council seeks member consensus on major educational issues and expresses their views to civic and professional organizations, federal agencies, Congress, and the public. www.ccsso.org.

Please note that this printable version may not contain the full text of any PDF files or other attachments.

Printed from the NGA web site.

APPENDIX B.1.3

DRAFT COMMON CORE STATE STANDARDS INCLUDING AN INTERNATIONAL DOCUMENTATION

RATIONALE: REQUIRED EVIDENCE FOR (B)(1)(I). INCLUDES DRAFT STANDARDS AND DOCUMENTATION OF INTERNATIONAL BENCHMARKING.

REFERENCED IN:
(B)(1)

College and Career Readiness Standards for Reading, Writing, and Speaking and Listening

Draft for Review and Comment

September 21, 2009

College and Career Readiness Standards for Reading, Writing, and Speaking and Listening

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Core Standards for Reading, Writing, and Speaking and Listening

The Core Standards identify essential college- and career-ready skills and knowledge in reading, writing, and speaking and listening across the disciplines. While the English language arts classroom has often been seen as the proper site for literacy instruction, this document acknowledges that the responsibility for teaching such skills must also extend to the other content areas. Teachers in the social and natural sciences, the humanities, and mathematics need to use their content area expertise to help students acquire the discipline-specific skills necessary to comprehend challenging texts and develop deep knowledge in those fields. At the same time, English language arts teachers not only must engage their students in a rich array of literature but also must help develop their students' ability to read complex works of nonfiction independently.

What is taught is just as important as how it is taught; the Core Standards should be accompanied by a comprehensive, content-rich curriculum. While this document defines the outcomes all students need to reach to be college and career ready, many important decisions about curriculum will necessarily be left to states, districts, schools, teachers, professional organizations, and parents. For example, while the standards require that students read texts of sufficient complexity, quality, and range, this document does not contain a required reading list. If states and districts choose to develop one, they should look at the Reading exemplars provided here to get a sense of the level of complexity students must be able to handle independently when they read. Educators can also model their efforts on reading lists from around the nation and the world as long as the texts ultimately included meet the range and content standards in this document.

Standards today must ready students for competition and collaboration in a global, media-saturated environment. Colleges and universities have become international meetinghouses where people from across the globe learn with and from one another. At the same time, business today is truly a worldwide enterprise. Media-related technology helps shape what goes on in both college and the workplace; indeed, it has in some important ways reshaped the very nature of communication. Students who meet the Core Standards will have the reading, writing, speaking, and listening skills to flourish in the diverse, rapidly changing environments of college and careers.

Although reading, writing, and speaking and listening are articulated separately in the standards that follow, these divisions are made for the sake of clarity and manageability. In reality, the processes of communication are tightly interrelated and often reciprocal. The act of reading can no more be separated from the written word than the act of listening can be from the spoken word. When reading, students demonstrate their comprehension most commonly through a spoken or written interpretation of the text. As students solve problems, share insights, and build the knowledge they need for college and career success, they draw simultaneously on their capacities to read, write, speak, and listen.

Student Practices in Reading, Writing, and Speaking and Listening

The following practices in reading, writing, and speaking and listening undergird and help unify the rest of the standards document. They are the "premises"—broad statements about the nature of college and career readiness in reading, writing, and speaking and listening—that underlie the individual standards statements and cut across the various sections of the document. Every idea introduced here is subsequently represented in one or more places within the larger document.

* * *

Students who are college and career ready exhibit the following capacities in their reading, writing, and speaking and listening:

1. *They demonstrate independence as readers, writers, speakers, and listeners.*

   Students can, without significant scaffolding or support, comprehend and evaluate complex text across a range of types and disciplines, and they can construct effective arguments and clearly convey intricate or multifaceted information. Likewise, students are independently able to discern a speaker's key points as well as ask questions and articulate their own ideas.

2. *They build strong content knowledge.*

   Students build a base of knowledge across a wide range of subject matter by engaging with works of quality and substance. They demonstrate their ability to become proficient in new areas through research and study. They read purposefully and listen attentively to gain both general knowledge and the specific in-depth expertise needed to comprehend subject matter and solve problems in different fields. They refine their knowledge and share it through substantive writing and speaking.

3. *They respond to the varying demands of audience, task, purpose, and discipline.*

   Students consider their reading, writing, and speaking and listening in relation to the contextual factors of audience, task, purpose, and discipline. They appreciate nuances, such as how the composition and familiarity of the audience should affect tone. They also know that different disciplines call for different types of evidence (e.g., documentary evidence in history, experimental evidence in the natural sciences).

4. *They comprehend as well as critique.*

   Students are engaged and open-minded—but skeptical—readers and listeners. They work diligently to understand precisely what an author or speaker is saying, but they also question an author's or speaker's assumptions and assess the veracity of claims.

5. *They privilege evidence.*

   Students cite specific textual evidence when offering an oral or written interpretation of a piece of writing. They use relevant evidence when supporting their own points in writing and speaking, making their reasoning clear to the reader or listener, and they constructively evaluate others' use of evidence.

6. *They care about precision.*

   Students are mindful of the impact of specific words and details, and they consider what would be achieved by different choices. Students pay especially close attention when precision matters most, such as in the case of reviewing significant data, making important distinctions, or analyzing a key moment in the action of a play or novel.

7. *They craft and look for structure.*

   Students attend to structure when organizing their own writing and speaking as well as when seeking to understand the work of others. They understand and make use of the ways of presenting information typical of different disciplines. They observe, for example, how authors of literary works craft the structure to unfold events and depict the setting.

8. *They use technology strategically and capably.*

   Students employ technology thoughtfully to enhance their reading, writing, speaking, and listening. They tailor their searches online to acquire useful information efficiently, and they integrate what they learn using technology with what they learn offline. They are familiar with the strengths and limitations of various technological tools and mediums and can select and use those best suited to their communication goals.

Introductory Evidence Statement for Reading, Writing, and Speaking and Listening Standards

To develop college- and career-ready standards for Reading, Writing, and Speaking and Listening that are rigorous, relevant, and internationally benchmarked, the work group consulted evidence from a wide array of sources. These included standards documents from high-performing states and nations; student performance data (including assessment scores and college grades); academic research; frameworks for assessments, such as NAEP; and results of surveys of postsecondary instructors and employers regarding what is most important for college and career readiness.

The evidence strongly suggests that similar reading, writing, speaking, and listening skills are necessary for success in both college and the workplace. A review of the standards of high-performing nations also suggests that many of these skills are already required in secondary schools internationally. The work group has endeavored to articulate these skills in the Core Standards, focusing educators, students, parents, and resources on what matters most.

Given that a set of standards cannot be simplistically "derived" from any body of evidence, the work group sometimes relied on reasoned judgment to interpret where the evidence was most compelling. For example, there is not a consensus among college faculty about the need for incoming students to be able to comprehend graphs, charts, and tables and to integrate information in these data displays with the information in the accompanying text. Although some evidence suggests that this skill is critical in the workplace and in some entry-level courses, college faculties from the various disciplines disagree on its value (with science and economics faculty rating it more highly than English and humanities professors do). The work group ultimately included a standard on the integration of text and data because the preponderance of the evidence suggests the skill's importance in meeting the demands of the twenty-first-century workplace and some college classrooms.

In most cases, the evidence is clearer. In writing, for example, there is unequivocal value placed on the logical progression of ideas. The expectation that high school graduates will be able to produce writing that is logical and coherent is found throughout the standards of top-performing countries and states. This ability is also valued highly by college faculty and employers. In response to such clear evidence, the work group included Writing student performance standard #5: "Create a logical progression of ideas or events, and convey the relationships among them."

A bibliography of some of the sources the work group drew upon most is included at the end of this document. The reader should also refer to the Core Standards Web site (http://www.corestandards.org), which contains a list of standards linked to relevant sources of evidence.

Finally, while the standards reflect the best evidence available to date, the decisions the work group made are necessarily provisional. The core should be reexamined periodically as additional research on college and career readiness emerges. Indeed, this document may serve as an agenda for such research.

How to Read the Document

This document is divided into three main sections: strands, applications, and supporting materials.

Strands
There are three *strands*: Reading, Writing, and Speaking and Listening. Although each strand is presented discretely for ease of understanding, the document should be considered a coherent whole.

The three strands are each in turn divided into two sections: *Standards for Range and Content* and *Standards for Student Performance*.

> **Standards for Range and Content**
> The Standards for Range and Content in each strand describe the contexts in which college- and career-ready students must be able to read, write, speak, and listen. Rather than merely supplement or illustrate the numbered list of Standards for Student Performance, the Standards for Range and Content are themselves required and carry equal force.
>
> **Standards for Student Performance**
> The Standards for Student Performance in each strand enumerate the essential skills and understandings that students who are college and career ready in reading, writing, speaking, and listening must have no later than the end of high school.

Applications
The clearest examples of the integrated nature of communication are the *Applications of the Core* for Research and Media. The Core Standards for Reading, Writing, and Speaking and Listening have been designed to include the essential skills and knowledge that students need to apply to college and career tasks, such as research and media. Rather than having an additional set of standards that would largely duplicate those already in Reading, Writing, and Speaking and Listening, the document includes the Research and Media applications that draw upon standards already in those strands. This both reaffirms the centrality of the core processes of reading, writing, speaking, and listening and shows how those processes can be combined and extended to describe key communicative acts in the classroom and workplace.

In the Research and Media applications, specific Reading, Writing, and Speaking and Listening standards are identified with a letter or letters corresponding to the relevant strand (R for Reading, W for Writing, and S&L for Speaking and Listening) and a number or letter corresponding to the statement within that strand. For example, R-14 refers to the fourteenth statement in the Standards for Student

Performance in Reading, and W-A refers to the first statement of the Standards for Range and Content in Writing.

Supporting Materials: Reading and Writing Exemplars
Reading and Writing exemplars, and their accompanying annotations, are used to lend further specificity to the standards.

> **Reading Exemplars**
> The Reading exemplars, representing a range of subject areas, time periods, cultures, and formats, illustrate the level of text complexity students ready for college and careers must be able to handle on their own. The exemplars are mostly excerpts or representations of larger works. To be truly college and career ready, students must be able to handle full texts—poems, short stories, novels, technical manuals, research reports, and the like. Annotations accompanying the exemplars explain how each text meets the criterion of high text complexity. The annotations also provide brief performance examples that further clarify the meaning and application of the standards.
>
> ~~Writing Exemplars~~ **- Coming in the next draft**
> ~~The Writing exemplars are authentic samples of student writing created across the nation under a variety of conditions and for a variety of purposes and audiences. Annotations accompanying the exemplars indicate how these samples meet the Standards for Student Performance in Writing.~~

Core Standards for Reading Informational and Literary Texts

Standards for the Range and Content of Student Reading

A. **Complexity:** A crucial factor in readiness for college and careers is students' ability to comprehend complex texts independently. In college and careers, students will need to read texts characterized by demanding vocabulary, subtle relationships among ideas or characters, a nuanced rhetorical style and tone, and elaborate structures or formats. These challenging texts require the reader's close attention and often demand rereading in order to be fully understood.

B. **Quality:** The literary and informational texts chosen for study should be rich in content and in a variety of disciplines. All students should have access to and grapple with works of exceptional craft and thought both for the insights those works offer and as models for students' own thinking and writing. These texts should include classic works that have broad resonance and are alluded to and quoted often, such as influential political documents, foundational literary works, and seminal historical and scientific texts. Texts should also be selected from among the best contemporary fiction and nonfiction and from a diverse range of authors and perspectives.

C. **Vocabulary:** To be college and career ready, students must encounter and master a rich vocabulary. Complex texts often use challenging words, phrases, and terms that students typically do not encounter in their daily lives. Specific disciplines and careers have vocabularies of their own. Attentive reading of sophisticated works in a wide range of fields, combined with close attention to vocabulary, is essential to building comprehension and knowledge.

D. **Range:** Students must be able to read a variety of literature, informational texts, and multimedia sources in order to gain the knowledge base they need for college and career readiness.

> ***Literature:*** Literature enables students to access through imagination a wide range of experiences. By immersing themselves in literature, students enlarge their experiences and deepen their understanding of their own and other cultures. Careful reading of literature entails attentiveness to craft and details of design, which has broad value for students' work in college and career environments.
>
> ***Informational Text:*** Because most college and workplace reading is nonfiction, students need to hone their ability to acquire knowledge from informational texts. Workplace and discipline-specific reading will often require students to demonstrate persistence as they encounter a large amount of unfamiliar and often technical vocabulary and concepts. Students must demonstrate facility with the features of texts particular to a variety of disciplines, such as history, science, and mathematics.
>
> ***Multimedia Sources:*** Students must be able to integrate what they learn from reading text with what they learn from audio, video, and other digital media. Many of the same critical issues that students face when reading traditional printed texts will arise as they seek to comprehend multimedia, such as determining where the author has chosen to focus, evaluating evidence, and comparing different accounts of similar subjects.

E. **Quantity:** Students must have the capacity to handle independently the quantity of reading material, both in print and online, required in college and workforce training. Studies show that the amount of reading students face in high school is often far lower than that required for typical first-year college courses. Students need to be able to perform a close reading of a much higher volume of texts and to sort efficiently through large amounts of print and online information in search of specific facts or ideas.

Note: *The essential role of independence in college and career readiness:* The significant scaffolding that often accompanies reading in high school usually disappears in college and workforce training environments. Students must therefore have developed their ability to read texts of sufficient complexity, quality, and range on their own. To become independent, students must encounter unfamiliar texts presented without supporting materials.

Core Standards for Reading Informational and Literary Texts

Standards for Student Performance

1. Determine both what the text says explicitly and what can be inferred logically from the text.
2. Support or challenge assertions about the text by citing evidence in the text explicitly and accurately.
3. Discern the most important ideas, events, or information, and summarize them accurately and concisely.
4. Delineate the main ideas or themes in the text and the details that elaborate and support them.
5. Determine when, where, and why events unfold in the text, and explain how they relate to one another.
6. Analyze the traits, motivations, and thoughts of individuals in fiction and nonfiction based on how they are described, what they say and do, and how they interact.
7. Determine what is meant by words and phrases in context, including connotative meanings and figurative language.
8. Analyze how specific word choices shape the meaning and tone of the text.
9. Analyze how the text's organizational structure presents the argument, explanation, or narrative.
10. Analyze how specific details and larger portions of the text contribute to the meaning of the text.
11. Synthesize data, diagrams, maps, and other visual elements with words in the text to further comprehension.
12. Extract key information efficiently in print and online using text features and search techniques.
13. Ascertain the origin, credibility, and accuracy of print and online sources.
14. Evaluate the reasoning and rhetoric that support an argument or explanation, including assessing whether the evidence provided is relevant and sufficient.
15. Analyze how two or more texts with different styles, points of view, or arguments address similar topics or themes.
16. Draw upon relevant prior knowledge to enhance comprehension, and note when the text expands on or challenges that knowledge.
17. Apply knowledge and concepts gained through reading to build a more coherent understanding of a subject, inform reading of additional texts, and solve problems.
18. Demonstrate facility with the specific reading demands of texts drawn from different disciplines, including history, literature, science, and mathematics.

Note: *These Standards for Student Performance, as is the case for every strand, must be demonstrated across the range and content from the preceding page.* They are meant to apply to fiction and nonfiction. For example:

- "Determine when, where, and why events unfold" applies to plot and setting in literature as well as the sequence of a scientific procedure.
- "Analyze the traits, motivations, and thoughts of individuals" applies to studying characters in fiction and figures in historical texts.

Core Standards for Writing

Standards for the Range and Content of Student Writing

A. **Purpose:**

Make an Argument: While many high school students have experience presenting their opinions, they need to be able to make arguments supported by evidence in order to be ready for careers and college. Students must be able to frame the debate over a claim, present the reasoning and evidence for the argument, and acknowledge and address its limitations. In some cases, students will make arguments to gain entry to college or to obtain a job, laying out their qualifications or experience. In college, students might defend an interpretation of a work of literature or of history; in the workplace, employees might write to recommend a course of action.

Inform or Explain: In college and in workforce training, writing is a key means for students to show what they know and to share what they have seen. Writing to inform or explain often requires students to integrate complex information from multiple sources in a lucid fashion. Explanations can take the form of laying out facts about a new technology or documenting findings from historical research; well-crafted explanations often make fresh connections and express ideas creatively.

B. **Audience:** Students must adapt their writing so that it is appropriate to the audience by choosing words, information, structures, and formats that conform to the conventions of the discipline in which they are writing. The form and use of evidence in literary analysis, for example, are likely to be quite different from those in geology or business. Students must also be able to consider their audience's background knowledge and potential objections to an argument.

C. **Situation:**

On-demand Writing: Students must have the flexibility, concentration, and fluency to produce high-quality first-draft text under a tight deadline. College and career readiness requires that students be able to write effectively to a prompt on an exam or respond quickly yet thoughtfully to a supervisor's urgent request for information.

Writing over Time: Students must be able to revisit and make improvements to a piece of their writing over multiple drafts when circumstances encourage or require it. To improve writing through revision, students must be capable of distinguishing good changes from ones that would weaken the writing.

D. **Technology and Collaboration:** Technology offers students powerful tools for producing, editing, and distributing writing as well as for collaboration. Especially in the workplace, writers often use technology to produce documents and to provide feedback.

E. **Quantity:** The evidence is clear that, in order to become better writers, students must devote significant time to producing writing. Students must practice writing several analytical pieces each term if they are to achieve the deep analysis and interpretation of content expected for college and careers.

Note on narrative writing:

Narrative writing is an important mode of writing; it is also a component of making an argument and writing to inform or explain. Telling an interesting story effectively or providing an accurate account of a historical incident requires the skillful use of narrative techniques. Narrative writing requires that students present vivid, relevant details to situate events in a time and place and also craft a structure that lends a larger shape and significance to those details. As an easily grasped and widely used way to share information and ideas with others, narrative writing is a principal stepping-stone to writing forms directly relevant to college and career readiness.

Core Standards for Writing

Standards for Student Performance

1. Establish and refine a topic or thesis that addresses the specific task and audience.
2. Gather the information needed to build an argument, provide an explanation, or address a research question.
3. Sustain focus on a specific topic or argument.
4. Support and illustrate arguments and explanations with relevant details, examples, and evidence.
5. Create a logical progression of ideas or events, and convey the relationships among them.
6. Choose words and phrases to express ideas precisely and concisely.
7. Use varied sentence structures to engage the reader and achieve cohesion between sentences.
8. Develop and maintain a style and tone appropriate to the task, purpose, and audience.
9. Demonstrate command of the conventions of standard written English, including grammar, usage, and mechanics.
10. Represent and cite accurately the data, conclusions, and opinions of others, effectively incorporating them into one's own work while avoiding plagiarism.
11. Assess the quality of one's own writing, and, when necessary, strengthen it through revision.
12. Use technology as a tool to produce, edit, and distribute writing.

When **writing to inform or explain**, students must also do the following:

13. Synthesize information from multiple relevant sources, including graphics and quantitative information when appropriate, to provide an accurate picture of that information.
14. Convey complex information clearly and coherently to the audience through purposeful selection and organization of content.
15. Demonstrate understanding of content by reporting facts accurately and anticipating reader misconceptions.

When **writing arguments**, students must also do the following:

16. Establish a substantive claim, distinguishing it from alternate or opposing claims.
17. Link claims and evidence with clear reasons, and ensure that the evidence is relevant and sufficient to support the claims.
18. Acknowledge competing arguments or information, defending or qualifying the initial claim as appropriate.

Note: "The conventions of standard written English" encompass a range of commonly accepted language practices designed to make writing clear and widely understood. When formal writing contains errors in grammar, usage, and mechanics, its meaning is obscured, its message is too easily dismissed, and its author is often judged negatively. Proper sentence structure, correct verb formation, careful use of verb tense, clear subject-verb and pronoun-antecedent agreement, conventional usage, and appropriate punctuation are of particular importance to formal writing.

Core Standards for Speaking and Listening

Standards for the Range and Content of Student Speaking and Listening

A. **Group and One-to-One Situations:** Students are expected to be able to speak and listen effectively in both groups and one-to-one. Success in credit-bearing college coursework, whether in the humanities, mathematics, or the sciences, depends heavily on being able to take in and respond to the concepts and information conveyed in lectures and class discussions. Success in the workplace is similarly dependent on listening attentively to colleagues and customers and expressing ideas clearly and persuasively.

These speaking and listening skills may need to be applied differently in different settings. The immediate communication between two people might be replaced by formal turn taking in large-group discussions. When working in classroom or workplace teams, students should be able to ask questions that initiate thoughtful discussions, gain the floor in respectful ways, and build on the contributions of others to complete tasks or reach consensus.

B. **Varied Disciplinary Content:** Students must adapt their speaking and listening to a range of disciplines to communicate effectively. Each academic discipline and industry has its own vocabulary and conventions; for instance, evidence is handled and discussed differently in literary analysis than in history or medicine or the sciences. College- and career-ready students must develop a foundation of disciplinary knowledge and conventions in order not only to comprehend the complexity of information and ideas but also to present and explain them.

C. **Multimedia Comprehension:** New technologies expand the role that speaking and listening skills will play in acquiring and sharing knowledge. Students will need to view and listen to diverse media to gain knowledge and also must integrate this information with what they learn through reading text online as well as in print. When speaking, students can draw on media to illustrate their points, make data and evidence vivid, and engage their audience. Multimedia accelerates the speed at which connections between reading, writing, speaking, and listening can be made, requiring students to be ready to use these skills nearly simultaneously.

Core Standards for Speaking and Listening

Standards for Student Performance

1. Select and use a format, organization, and style appropriate to the topic, purpose, and audience.
2. Present information, findings, and supporting evidence clearly and concisely.
3. Make strategic use of multimedia elements and visual displays of data to gain audience attention and enhance understanding.
4. Demonstrate command of formal Standard English when appropriate to task and audience.
5. Listen to complex information, and discern the main ideas, the significant details, and the relationships among them.
6. Follow the progression of the speaker's message, and evaluate the speaker's point of view, reasoning, and use of evidence and rhetoric.
7. Ask relevant questions to clarify points and challenge ideas.
8. Respond constructively to advance a discussion and build on the input of others.

Note: "Style appropriate to the topic, purpose, and audience" includes word choice specific to the demands of the discipline as well as delivery techniques such as gestures and eye contact that contribute to effective message delivery.

"Evaluate the speaker's point of view, reasoning, and use of evidence and rhetoric" includes distinguishing facts from opinions and determining whether the speaker is biased and evidence has been distorted.

Application of the Core: Research

The Core Standards for Reading, Writing, and Speaking and Listening have been designed to include the essential skills and knowledge that students need to apply to college and career tasks such as research. This section shows how standards in the core incorporate the skills of research.

To be college and career ready, students must engage in research and present their findings in writing and orally, in print and online. The ability to conduct research independently and effectively plays a fundamental role in gaining knowledge and insight in college and the workplace.

Research as described here is not limited to the formal, extended research paper nor simply to gathering information from books; rather, research encompasses a flexible yet systematic approach to resolving questions and investigating issues through the careful collection, analysis, synthesis, and presentation of information from a wide range of print and digital sources, such as historical archives and online interviews. With well-developed research skills, students have the tools to engage in sustained inquiry as well as the sort of short, focused research projects that typify many assignments in college and the workplace.

Research in the digital age offers new possibilities as well as new or heightened challenges. While the Internet provides ready access to unprecedented amounts of primary and secondary source material (such as oral histories, historical documents, maps, and scientific reports), students sorting through this wealth of data must be skilled at and vigilant in determining the origin and credibility of these sources.

The following Core Standards pertain to elements of the research process and particular research skills required for college and career readiness:

Formulate research questions:
- Establish and refine a topic or thesis that addresses the specific task and audience. (W-1)
- Establish a substantive claim, distinguishing it from alternate or opposing claims. (W-16)

Gather and evaluate relevant information from a range of sources:
- Gather the information needed to build an argument, provide an explanation or address a research question. (W-2)
- Extract key information efficiently in print and online using text features and search techniques. (R-12)
- Ascertain the origin, credibility, and accuracy of print and online sources. (R-13)
- Evaluate the reasoning and rhetoric that support an argument or explanation, including assessing whether the evidence provided is relevant and sufficient. (R-14)
- Follow the progression of the speaker's message and evaluate the speaker's point of view, reasoning, and use of evidence and rhetoric. (S&L-6)

Analyze research sources:
- Delineate the main ideas or themes in the text and the details that elaborate and support them. (R-6)
- Listen to complex information and discern the main ideas, the significant details, and the relationships among them. (S&L-5)
- Discern the most important ideas, events, or information and summarize them accurately and concisely. (R-3)
- Synthesize data, diagrams, maps, and other visual elements with words in the text to further comprehension. (R-11)
- Synthesize information from multiple relevant sources, including graphics and quantitative information when appropriate, to provide an accurate picture of that information. (W-13)
- Analyze how two or more texts with different styles, points of view, or arguments address similar topics or themes. (R-15)
- Acknowledge competing arguments or information, defending or qualifying the initial claim as appropriate. (W-18)

Report findings:
- Link claims and evidence with clear reasons and ensure that the evidence is relevant and sufficient to support the claims. (W-17)
- Convey complex information clearly and coherently to the audience through purposeful selection and organization of the content. (W-14)
- Demonstrate understanding of the content by reporting the facts accurately and anticipating reader misconceptions. (W-15)
- Present information, findings, and supporting evidence, clearly and concisely. (S&L-2)
- Support and illustrate arguments and explanations with relevant details, examples, and evidence. (W-4)
- Represent and cite accurately the data, conclusions, and opinions of others, effectively incorporating them into one's own work while avoiding plagiarism. (W-10)

Application of the Core: Media

The Core Standards for Reading, Writing, and Speaking and Listening have been designed to include the essential skills and knowledge that students need to apply to college and career tasks such as media analysis and creation. This section shows how standards in the core apply to media.

Rapidly evolving technologies are powerful tools—but only for those who have the skills to put them to work. As the capability of the technology grows, students' command of these skills must only increase.

At the core of media mastery are the same fundamental capacities as are required offline in traditional print forms: an ability to access, understand, and evaluate complex materials and messages and to produce clear, effective communications. Media mastery does, however, call upon students to apply these core skills in new ways and contexts. Media enable students to communicate quickly with a large, often unknown, and broadly diverse audience. Whereas in the past, students may have had days or weeks to digest new information and formulate a response, the online environment pushes students to exercise judgment and present their responses in a matter of minutes.

Speed is not the only new factor. In the electronic world, reading, writing, speaking, and listening are uniquely intertwined. Multimedia forms force students to engage with constantly changing combinations of elements, such as graphics, images, hyperlinks, and embedded video and audio. The technology itself is changing quickly, creating new urgency for adaptation and flexibility on the part of students.

The following Core Standards describe the particular reading, writing, speaking, and listening skills that students will need in order to use media effectively in college and careers:

Standards for Range and Content drawn from each strand

Multimedia Sources: Students must be able to integrate what they learn from reading text with what they learn from audio, video, and other digital media. Many of the same critical issues that students face when reading traditional printed texts will arise as they seek to comprehend multimedia, such as determining where the author has chosen to focus, evaluating evidence, and comparing different accounts of similar subjects. [R-D]

Technology and Collaboration: Technology offers students powerful tools for producing, editing, and distributing writing as well as for collaboration. Especially in the workplace, writers often use technology to produce documents and to provide feedback. [W-D]

Multimedia Comprehension: New technologies expand the role that speaking and listening skills will play in acquiring and sharing knowledge. Students will need to view and listen to diverse media to gain knowledge and integrate this information with what they learn through reading text online as well as in print. When speaking, students can draw on media to illustrate their points, make data and evidence vivid, and engage their audiences. Multimedia accelerates the speed at which connections between reading, writing, and speaking and listening can be made, requiring students to be ready to use these skills nearly simultaneously. [S&L-C]

Standards for Student Performance drawn from each strand

Gather information from a wide array of electronic sources and multimedia:
- Extract key information efficiently in print and online using text features and search techniques. (R-12)
- Synthesize data, diagrams, maps, and other visual elements with words in the text to further comprehension. (R-11)
- Listen to complex information and discern the main ideas, the significant details, and the relationships among them. (S&L-5)

Evaluate information from digital media:
- Ascertain the origin, credibility, and accuracy of print and online sources. (R-13)
- Evaluate the reasoning and rhetoric that support an argument or explanation, including assessing whether the evidence provided is relevant and sufficient. (R-14)
- Follow the progression of the speaker's message and evaluate the speaker's point of view, reasoning, and use of evidence and rhetoric. (S&L-6)

Create and distribute media communications:
- Use technology as a tool to produce, edit, and distribute writing. (W-12)
- Synthesize information from multiple relevant sources, including graphics and quantitative information when appropriate, to provide an accurate picture of that information. (W-13)
- Make strategic use of multimedia elements and visual displays of data to gain audience attention and enhance understanding. (S&L-3)

Illustrative Texts

Exemplars of Reading Text Complexity

As described in the Standards for the Range and Content of Student Reading, college- and career-ready students must be able to read texts of sufficient complexity on their own. Studies show that many students who are unable to read sufficiently challenging texts independently by the end of high school struggle with the reading demands of college; many twenty-first-century careers likewise demand that people be able to obtain, search through, and comprehend large amounts of often technical information.

To develop that ability, students should engage with high-quality texts that provide strong models of thinking and writing, that challenge them intellectually, and that introduce them to rich content, sophisticated vocabulary, and examples of exceptional craft. The reading students do should be broad and deep, allowing them to extend their knowledge of particular subjects as well as learn about the features of texts written for different disciplines, audiences, and purposes. While no sampling can do justice to the numerous ways in which different authors craft complex prose, as a collection the exemplar texts below illustrate the level of complexity that college- and career-ready students should be able to handle independently by the end of high school. Texts in translation have not been included in this draft but will be part of future drafts.

How Text Complexity was Determined

In addition to surveys of required reading in twelfth grade and the first year of college as well as consultations with experts, two leading measurement systems were used to help make the selections below. The first system—a methodology described by Jeanne Chall and her coauthors in *The Qualitative Assessment of Text Difficulty*—employs trained raters to measure the sophistication of vocabulary, density of ideas, and syntactic complexity in a text as well as the general and subject-specific knowledge and the level of reasoning required for understanding it. The second system, Coh-Metrix, incorporates into its computer-based analysis more than sixty specific indices of syntax, semantics, readability, and cohesion to assess text complexity. Central to its assessment are measures of text cohesiveness, which is the degree to which the text uses explicit markers to link ideas. By analyzing the degree to which those links are missing in a text—and therefore the degree to which a reader must make inferences to connect ideas—this measure gauges a key factor in the comprehension demand of a text.

The two methods described above have limitations. The complexity of poems (such as "O Captain! My Captain!") cannot be assessed by Coh-Metrix because poetry adheres to different rules of construction than does prose. Similarly, while individual stories in the sample *New York Times* front pages can be measured for complexity by Coh-Metrix, the method does not capture how the electronic environment enhances or detracts from readability. However, for those exemplar texts whose complexity could be measured by both systems, comparable results were yielded by Coh-Metrix and the Chall method.

Note: The samples of complex text are supplemented by brief performance examples that further clarify the meaning of the standards. These illustrate specifically the application of the performance standards to texts of sufficient complexity, quality, and range. Relevant standards are noted in brackets following each sample performance.

Notes on Illustrative Text #1

Pride and Prejudice by Jane Austen

Jane Austen's *Pride and Prejudice* is a sophisticated literary text featuring multiple plotlines, a style and word choice reflective of its time period and setting, and subtle relationships among characters; the excerpt here can only illustrate some of the complexities that readers of the full work will encounter. The novel's opening sentence—"It is a truth universally acknowledged, that a single man in possession of a good fortune, must be in want of a wife"—signals that today's readers will need to employ literary imagination and historical context to re-create for themselves a world largely in the past. The novel's style is elaborate, with many lengthy and, to the modern ear, formal-sounding sentences typical of the period during which the novel was written. While the dialogue is less formal than much of the surrounding text, words and phrases such as *let* (to mean "rent" or "lease") and *chaise and four* (referring to a type of carriage) mark the novel's setting. The excerpt suggests also the kind of close reading of the subtleties of character that readers must perform. The banter between Mr. and Mrs. Bennet reveals both affection and difference of opinion, and it offers clues to the mores of well-to-do English society in the early nineteenth century.

Sample performance aligned with the Core Standards

Students analyze the first impressions given of Mr. and Mrs. Bennet in the first chapter of *Pride and Prejudice* based on how the characters are described, what they say and do, and how they interact. Students compare these first impressions with their later understanding based on how the characters develop throughout the novel. [R-6]

Illustrative Text #1

from *Pride and Prejudice*

Chapter 1

It is a truth universally acknowledged, that a single man in possession of a good fortune, must be in want of a wife.

However little known the feelings or views of such a man may be on his first entering a neighbourhood, this truth is so well fixed in the minds of the surrounding families that he is considered as the rightful property of some one or other of their daughters.

"My dear Mr. Bennet," said his lady to him one day, "have you heard that Netherfield Park is let at last?"

Mr. Bennet replied that he had not.

"But it is," returned she; "for Mrs. Long has just been here, and she told me all about it."

Mr. Bennet made no answer.

"Do not you want to know who has taken it?" cried his wife impatiently.

"*You* want to tell me, and I have no objection to hearing it."

This was invitation enough.

"Why, my dear, you must know, Mrs. Long says that Netherfield is taken by a young man of large fortune from the north of England; that he came down on Monday in a chaise and four to see the place, and was so much delighted with it, that he agreed with Mr. Morris immediately; that he is to take possession before Michaelmas, and some of his servants are to be in the house by the end of next week."

"What is his name?"

"Bingley."

"Is he married or single?"

"Oh! single, my dear, to be sure! A single man of large fortune; four or five thousand a year. What a fine thing for our girls!"

"How so? how can it affect them?"

"My dear Mr. Bennet," replied his wife, "how can you be so tiresome! You must know that I am thinking of his marrying one of them."

"Is that his design in settling here?"

"Design! nonsense, how can you talk so! But it is very likely that he *may* fall in love with one of them, and therefore you must visit him as soon as he comes."

"I see no occasion for that. You and the girls may go, or you may send them by themselves, which perhaps will be still better, for as you are as handsome as any of them, Mr. Bingley might like you the best of the party."

"My dear, you flatter me. I certainly *have* had my share of beauty, but I do not pretend to be any thing extraordinary now. When a woman has five grown-up daughters she ought to give over thinking of her own beauty."

"In such cases a woman has not often much beauty to think of."

"But, my dear, you must indeed go and see Mr. Bingley when he comes into the neighbourhood."

"It is more than I engage for, I assure you."

"But consider your daughters. Only think what an establishment it would be for one of them. Sir William and Lady Lucas are determined to go, merely on that account, for in general, you know, they visit no new-comers. Indeed you must go, for it will be impossible for us to visit him if you do not."

"You are over-scrupulous surely. I dare say Mr. Bingley will be very glad to see you; and I will send a few lines by you to assure him of my hearty consent to his marrying whichever he chuses of the girls: though I must throw in a good word for my little Lizzy."

"I desire you will do no such thing. Lizzy is not a bit better than the others; and I am sure she is not half so handsome as Jane, nor half so good-humoured as Lydia. But you are always giving *her* the preference."

"They have none of them much to recommend them," replied he; "they are all silly and ignorant, like other girls; but Lizzy has something more of quickness than her sisters."

"Mr. Bennet, how can you abuse your own children in such a way! You take delight in vexing me. You have no compassion on my poor nerves."

"You mistake me, my dear. I have a high respect for your nerves. They are my old friends. I have heard you mention them with consideration these twenty years at least."

"Ah! you do not know what I suffer."

"But I hope you will get over it, and live to see many young men of four thousand a year come into the neighbourhood."

"It will be no use to us if twenty such should come, since you will not visit them."

"Depend upon it, my dear, that when there are twenty, I will visit them all."

Mr. Bennet was so odd a mixture of quick parts, sarcastic humour, reserve, and caprice, that the experience of three-and-twenty years had been insufficient to make his wife understand his character. *Her* mind was less difficult to develop. She was a woman of mean understanding, little information, and uncertain temper. When she was discontented she fancied herself nervous. The business of her life was to get her daughters married; its solace was visiting and news.

Notes on Illustrative Text #2

"O Captain! My Captain!" by Walt Whitman

Though poetry's complexity cannot be assessed by the measures of readability used for the prose exemplars, "O Captain! My Captain!" by Walt Whitman clearly has many of the features of complex texts listed in the Standards for the Range and Content of Student Reading. Modern readers must work to understand what would have been obvious to readers in 1865: "O Captain! My Captain!" is an extended-metaphor poem intended to convey Whitman's and the North's grief over the assassination of Abraham Lincoln so near the conclusion of hostilities in the Civil War. Every element in the poem stands for something else, with the captain representing Lincoln, the ship representing the Union (or the "ship of state"), the voyage representing the war, and so on. Historical context, along with skill in reading literature, is thus particularly important to interpreting this text.

Sample performance aligned with the Core Standards

Students apply knowledge gained from reading the *New York Times* articles on Lincoln's assassination to their understanding of the poem "O Captain! My Captain!". Specifically, students draw on the description of the crowd's response to the attack on Lincoln to inform their understanding of Whitman's poem. [R-17]

Illustrative Text #2

"O Captain! My Captain!" by Walt Whitman

O Captain! my Captain! our fearful trip is done,
The ship has weather'd every rack, the prize we sought is won,
The port is near, the bells I hear, the people all exulting,
While follow eyes the steady keel, the vessel grim and daring,
But O heart! heart! heart!
O the bleeding drops of red,
Where on the deck my Captain lies,
Fallen cold and dead.

O Captain! my Captain! rise up and hear the bells;
Rise up—for you the flag is flung—for you the bugle trills,
For you bouquets and ribbon'd wreaths—for you the shores a-crowding,
For you they call, the swaying mass, their eager faces turning,
Here, Captain! dear father!
This arm beneath your head;
It is some dream that on the deck
You've fallen cold and dead.

My Captain does not answer, his lips are pale and still
My father does not feel my arm, he has no pulse nor will,
The ship is anchor'd safe and sound, its voyage closed and done,
From fearful trip, the victor ship comes in with object won;
Exult, O shores, and ring O bells!
But I with mournful tread
Walk the deck my Captain lies,
Fallen cold and dead.

Notes on Illustrative Text #3

The front page of the *New York Times*, April 15, 1865

The challenge posed to a modern reader by the front page of the *New York Times* on April 15, 1865, is significant in terms of format, timeliness, and point of view. Unlike the graphically heavy front page of modern newspapers, this 1865 *New York Times* front page is mostly uninterrupted columns of text. The reader is obviously expected to proceed from top to bottom and left to right across the page, but little other guidance is provided. Because the assassination of Lincoln was still "breaking news" as this edition of the *Times* would have gone to press, some details of the event would have not yet been known; readers will have to sort out what they know about the assassination from what the people reading the paper on that Saturday morning would just have been learning. Three accounts of the events rather than one are provided here, and the sourcing and tone vary greatly. Certain details found in one place are contradicted in another: the "Detail of the Occurrence," for example, suggests that Lincoln may not have been mortally wounded, but the main headline in the top left-hand corner of the page states "No Hopes Entertained of His Recovery." While the first two accounts aim at a certain objectivity, the third begins with a flourish that may surprise readers more used to a restrained style of journalism: "A stroke from Heaven laying the whole of the city in instant ruin could not have startled us as did the word that broke from Ford's Theatre a half hour ago that the President had been shot."

Sample performance aligned with the Core Standards

Students analyze how the three different accounts on the front page portray Lincoln's assassination, including which details are similar or different. [R-15]

Illustrative Text #3: The front page of the *New York Times*, April 15, 1865

http://timesmachine.nytimes.com/browser/1865/04/15/P1

The New-York Times.

NEW-YORK, SATURDAY, APRIL 15, 1865

PRICE FOUR CENTS

AWFUL EVENT.

President Lincoln Shot by an Assassin.

The Head Done at Ford's Theater Last Night.

THE ACT OF A DESPERATE DEMON.

The President Still Alive at Last Accounts.

In Hope Entertained of His Recovery.

Attempted Assassination of Secretary Seward.

DETAILS OF THE DREADFUL TRAGEDY.

[OFFICIAL.]

War Department, Washington, April 15- 1:30 A.M.

Maj.-Gen. Dix.

This evening at about 9:30 P.M., at Ford's Theater, the President, while sitting in his private box with Mrs. Lincoln, Mrs. Harris, and Major Rathburn, was shot by an assassin, who suddenly entered the box and approached behind the President.

The assassin then leaped upon the stage, brandishing a large dagger or knife, and made his escape in the rear of the theater.

EUROPEAN NEWS.

ANOTHER ACCOUNT.

Special Dispatch to the New-York Times.

Washington, Friday, April 14, 11:15 P.M.

A stroke from Heaven laying the whole of the city in instant ruin could not have startled us as did the word that broke from Ford's Theater a half hour ago that the President had been shot. It flew everywhere in five minutes, and set fire thousand people in swift and incised motion on the instant.

DETAIL OF THE OCCURRENCE.

Washington, Friday, April 14- 12:30 A.M.

The President was shot in a theater tonight, and is, perhaps, mortally wounded. Secretary Seward was also assassinated.

SECOND DISPATCH.

Washington, Friday, April 14- President Lincoln and wife, with other friends, this evening visited Ford's Theater for the purpose of witnessing the performance of the "American Cousin."

Notes on Illustrative Text #4

The Declaration of Independence

The Declaration of Independence represents the kind of rich primary source material students should be able to read on their own by the end of high school. Though some of the lines ("We hold these truths . . .") are familiar to most American readers, the case against Great Britain that the Declaration lays out, expressed in elevated, sometimes archaic language (*unalienable, hath, usurpations*), requires careful examination to follow in its particulars. The beginning of the document, excerpted here, poses a reading challenge partly because of its philosophical abstractness. The first three sentences, although formally divided, are one continuous list of propositions ("truths") about the nature of government and the rights of the people. Further complicating the reading is that there is little explicit cohesion between sentences—links supplied by words and phrases such as "for example," "moreover," or "in addition"—to help readers understand the relationship between the ideas being expressed.

Sample performance aligned with the Core Standards

Students compare the argument that the Declaration makes justifying revolution to Martin Luther King, Jr.'s defense of civil disobedience in *Letter from Birmingham Jail*. [R-15]

Illustrative Text #4

from The Declaration of Independence

When in the Course of human events, it becomes necessary for one people to dissolve the political bands which have connected them with another, and to assume among the powers of the earth, the separate and equal station to which the Laws of Nature and of Nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to the separation.

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness. —That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed, —That whenever any Form of Government becomes destructive to these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its foundation on such principles and organizing its powers in such form, as to them shall seem most likely to effect their Safety and Happiness. Prudence, indeed, will dictate that Governments long established should not be changed for light and transient causes; and accordingly all experience hath shewn, that mankind are more disposed to suffer, while evils are sufferable, than to right themselves by abolishing the forms to which they are accustomed. But when a long train of abuses and usurpations, pursuing invariably the same Object evinces a design to reduce them under absolute Despotism, it is their right, it is their duty, to throw off such Government, and to provide new guards for their future security. —Such has been the patient sufferance of these Colonies; and such is now the necessity which constrains them to alter their former Systems of Government. The history of the present King of Great Britain is a history of repeated injuries and usurpations, all having in direct object the establishment of an absolute Tyranny over these States. To prove this, let Facts be submitted to a candid world.

Notes on Illustrative Text #5

Letter from Birmingham Jail by Martin Luther King, Jr.

Martin Luther King, Jr.'s, *Letter from Birmingham Jail* presents many challenges to the reader in terms of its format, purpose, tone, use of allusions, and language. Apart from letters to the editor (most of which are relatively short), public letters such as King's are uncommon today. The purpose of the text may also be confusing: King is ostensibly addressing his "Fellow Clergymen," but skilled readers will reasonably infer that King's message is intended for a broader audience. Though the tone of the text is measured, King's passion for his cause comes through. The author frequently points outside the *Letter* itself through allusions to other texts, including the Hebrew and Christian scriptures. Moreover, King uses sophisticated vocabulary (*cognizant, mutuality, provincial, gainsaying*) and figurative language (*garment of destiny*) throughout his text. However, the piece is both coherent in that its sequence is signaled ("While confined here . . . But more basically . . . Moreover, I am cognizant . . .") and cohesive in that its clauses and sentences are logically linked for the reader ("Just as the prophets . . . and just as the Apostle Paul . . . so am I compelled . . .").

Sample performance aligned with the Core Standards

Students evaluate the reasoning and rhetoric of the three very different arguments King makes to defend his being in Birmingham. Students assess the different kinds of evidence he uses to support each argument. [R-14]

Illustrative Text #5

from *Letter from Birmingham Jail**

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My Dear Fellow Clergymen:

While confined here in the Birmingham city jail, I came across your recent statement calling my present activities "unwise and untimely." Seldom do I pause to answer criticism of my work and ideas. If I sought to answer all the criticisms that cross my desk, my secretaries would have little time for anything other than such correspondence in the course of the day, and I would have no time for constructive work. But since I feel that you are men of genuine good will and that your criticisms are sincerely set forth, I want to try to answer your statements in what I hope will be patient and reasonable terms.

I think I should indicate why I am here in Birmingham, since you have been influenced by the view which argues against "outsiders coming in." I have the honor of serving as president of the Southern Christian Leadership Conference, an organization operating in every southern state, with headquarters in Atlanta, Georgia. We have some eighty-five affiliated organizations across the South, and one of them is the Alabama Christian Movement for Human Rights. Frequently we share staff, educational and financial resources with our affiliates. Several months ago the affiliate here in Birmingham asked us to be on call to engage in a nonviolent direct-action program if such were deemed necessary. We readily consented, and when the hour came we lived up to our promise. So I, along with several members of my staff, am here because I was invited here I am here because I have organizational ties here.

But more basically, I am in Birmingham because injustice is here. Just as the prophets of the eighth century B.C. left their villages and carried their "thus saith the Lord" far beyond the boundaries of their home towns, and just as the Apostle Paul left his village of Tarsus and carried the gospel of Jesus Christ to the far corners of the Greco-Roman world, so am I, compelled to carry the gospel of freedom beyond my own home town. Like Paul, I must constantly respond to the Macedonian call for aid.

Moreover, I am cognizant of the interrelatedness of all communities and states. I cannot sit idly by in Atlanta and not be concerned about what happens in Birmingham. Injustice anywhere is a threat to justice everywhere. We are caught in an inescapable network of mutuality, tied in a single garment of destiny. Whatever affects one directly, affects all indirectly. Never again can we afford to live with the narrow, provincial "outside agitator" idea. Anyone who lives inside the United States can never be considered an outsider anywhere within its bounds.

*As reprinted in *Why We Can't Wait* by King, Jr., M. L. (2000). New York City: Signet Classics.

Notes on Illustrative Text #6

Toni Morrison's Nobel lecture, 1993

Toni Morrison's Nobel lecture, though originally delivered orally, can be read on the page as a complex work of analysis and criticism. Its structure, syntax, imagery, language, and density of ideas contribute to the challenge of studying it in this manner. As this excerpt shows, Morrison begins with a folktale. While the "once upon a time" opening may lead readers into thinking that the lecture will primarily be in narrative form, Morrison uses the tale mainly as a springboard for an abstract, allegorical discussion of language, writing, and those who have no voice in society. Morrison often employs sophisticated sentences that require patience and concentration to follow. Readers may recognize places where Morrison varies sentence patterns to change pace and rhythm—particularly important to the oral delivery of the text. The images Morrison creates are powerful and poetic, the diction is elevated and academic, and the word choice is metaphorical and unconventional: "Official language smitheryed to sanction ignorance and preserve privilege is a suit of armor polished to shocking glitter, a husk from which the knight departed long ago." The richness and abstractness of the ideas in the lecture mean that rereadings may be necessary to comprehend and evaluate the ideas fully.

Sample performance aligned with the Core Standards

Students determine what Morrison means when she compares language to "a bird in the hand," including the different connotations of this phrase that she develops throughout the lecture. Students also explore what Morrison means by saying that both the bird and language can be "dead or alive." [R-7]

Illustrative Text #6

from Toni Morrison's Nobel lecture, 1993

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"Once upon a time there was an old woman. Blind but wise." Or was it an old man? A guru, perhaps. Or a griot soothing restless children. I have heard this story, or one exactly like it, in the lore of several cultures.

"Once upon a time there was an old woman. Blind. Wise."

In the version I know the woman is the daughter of slaves, black, American, and lives alone in a small house outside of town. Her reputation for wisdom is without peer and without question. Among her people she is both the law and its transgression. The honor she is paid and the awe in which she is held reach beyond her neighborhood to places far away; to the city where the intelligence of rural prophets is the source of much amusement.

One day the woman is visited by some young people who seem to be bent on disproving her clairvoyance and showing her up for the fraud they believe she is. Their plan is simple: they enter her house and ask the one question the answer to which rides solely on her difference from them, a difference they regard as a profound disability: her blindness. They stand before her, and one of them says, "Old woman, I hold in my hand a bird. Tell me whether it is living or dead."

She does not answer, and the question is repeated. "Is the bird I am holding living or dead?"

Still she doesn't answer. She is blind and cannot see her visitors, let alone what is in their hands. She does not know their color, gender or homeland. She only knows their motive.

The old woman's silence is so long, the young people have trouble holding their laughter.

Finally she speaks and her voice is soft but stern. "I don't know", she says. "I don't know whether the bird you are holding is dead or alive, but what I do know is that it is in your hands. It is in your hands."

Her answer can be taken to mean: if it is dead, you have either found it that way or you have killed it. If it is alive, you can still kill it. Whether it is to stay alive, it is your decision.

Whatever the case, it is your responsibility.

For parading their power and her helplessness, the young visitors are reprimanded, told they are responsible not only for the act of mockery but also for the small bundle of life sacrificed to achieve its aims. The blind woman shifts attention away from assertions of power to the instrument through which that power is exercised.

Speculation on what (other than its own frail body) that bird-in-the-hand might signify has always been attractive to me, but especially so now thinking, as I have been, about the work I do that has brought me to this company. So I choose to read the bird as language and the woman as a practiced writer. She is worried about how the language she dreams in, given to her at birth, is handled, put into service, even withheld from her for certain nefarious purposes. Being a writer she thinks of language partly as a system, partly as a living thing over which one has control, but mostly as agency—as an act with consequences. So the question the children put to her: "Is it living or dead?" is not unreal because she thinks of language as susceptible to death, erasure; certainly imperiled and salvageable only by an effort of the will. She believes that if the bird in the hands of her visitors is dead the custodians are responsible for the corpse. For her a dead language is not only one no longer spoken or written, it is unyielding language content to admire its own paralysis. Like statist language, censored and censoring. Ruthless in its policing duties, it has no desire or purpose other than maintaining the free range of its own narcotic narcissism, its own exclusivity and dominance. However moribund, it is not without effect for it actively thwarts the intellect, stalls conscience, suppresses human potential. Unreceptive to interrogation, it cannot form or tolerate new ideas, shape other thoughts, tell another story, fill baffling silences. Official language smitheryed to sanction ignorance and preserve privilege is a suit of armor polished to shocking glitter, a husk from which the knight departed long ago. Yet there it is: dumb, predatory, sentimental. Exciting reverence in schoolchildren, providing shelter for despots, summoning false memories of stability, harmony among the public.

Notes on Illustrative Text #7

***Inquiry into Life*, 12th edition, by Sylvia S. Mader**

These excerpts, and the prominent college-level biology textbook from which they are drawn, represent some of the challenges presented by complex writing in natural science, including discipline-specific terms (*covalent bond, plasma membrane, neurotransmitter*), everyday language used in specialized ways (*shell, channel*), abbreviations (H^+, *AChE*), and chains of cause-effect relationships that together describe sometimes elaborate processes. Although the figures the author, Sylvia S. Mader, refers to in the text are not included with these excerpts, students reading the larger work will have to integrate words, illustrations, and diagrams to make full sense of the ideas and concepts she describes. For these reasons and others, comprehension may be difficult for readers who have not had experience independently reading similar kinds of text and who lack a knowledge base in the subject. The author does employ a number of cohesive features to help readers understand the terminology and to link ideas. She repeats content words to let readers follow the flow of ideas; she sets up contrastive situations to illustrate the ideas (within, for example, the first and the third paragraphs below); and she uses transitional links ("In some synapses . . . In other synapses . . .") to help readers construct meaning.

Sample performance aligned with the Core Standards

Students discern the most important information in the description of covalent bonding and provide an accurate summary of the concept. [R-3]

Illustrative Text #7

from *Inquiry into Life*, 12th edition

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A **covalent bond** results when two atoms share electrons in such a way that each atom has an octet of electrons in the outer shell. In a hydrogen atom, the outer shell is complete when it contains two electrons. If hydrogen is in the presence of a strong electron acceptor, it gives up its electron to become a hydrogen ion (H^+). But if this is not possible, hydrogen can share with another atom and thereby have a completed outer shell. For example, one hydrogen atom will share with another hydrogen atom. Their two orbitals overlap, and the electrons are shared between them. Because they share the electron pair, each atom has a completed outer shell.

* * * * * * * *

The passage of salt (NaCl) across a plasma membrane is of primary importance to most cells. The chloride ion (Cl^-) usually crosses the plasma membrane because it is attracted by positively charged sodium ions (Na^+). First sodium ions are pumped across a membrane, and then chloride ions simply diffuse through channels that allow their passage.

As noted in Figure 4.2*a*, the genetic disorder cystic fibrosis results from a faulty chloride channel. Ordinarily, after chloride ions have passed though the membrane, sodium ions (Na^+) and water follow. In cystic fibrosis, Cl^- transport is reduced, and so is the flow of Na^+ and water.

* * * * * * * *

Once a neurotransmitter has been released into a synaptic cleft and has initiated a response, it is removed from the cleft. In some synapses, the postsynaptic membrane contains enzymes that rapidly inactivate the neurotransmitter. For example, the enzyme **acetylcholinesterase (AChE)** breaks down acetylcholine. In other synapses, the presynaptic membrane rapidly reabsorbs the neurotransmitter, possibly for repackaging in synaptic vesicles or for molecular breakdown. The short existence of neurotransmitters at a synapse prevents continuous stimulation (or inhibition) of postsynaptic membranes.

Notes on Illustrative Text #8

Sample business memo (ACT WorkKeys Reading for Information Test)

Though not a typical kind of reading in high school classrooms, the business communication, such as the one sampled here, is a form that career-ready students will need to be able to comprehend independently. This text, taken from ACT's WorkKeys Reading for Information Test, is challenging in large part because, like many such communications, it contains important, detailed information intended for a specialized audience. Structurally, the text offers little guidance on how it should be read. Potentially vital details appear throughout and are mingled with other details irrelevant to some readers (e.g., those without children). Even the paragraphing is somewhat inconsistent, especially between the first and second paragraphs. While the sentences are not particularly long and the language is not overly technical, the density of information and its lack of prioritization make this a complex text.

Sample performance aligned with the Core Standards

Students infer from the memo the conditions under which children who are under nineteen are not covered by the health plan. [R-1]

Illustrative Text #8

Sample business memo

WorkKeys Reading for Information Test has been reproduced with permission of ACT, Inc.

DETERMINING ELIGIBILITY FOR MEDICAL COVERAGE

All full-time employees of the company who work an average of at least 30 hours per week are eligible under this plan. Coverage begins on the first day of the month following the 30 days of active full-time employment. If employees enroll within 31 days of the date they are eligible, medical evidence of good health is not required. Temporary and part-time employees are not eligible. Employees are no longer eligible under this plan one month after the date they begin active duty in the armed forces of any country and continuing for the duration of their service.

If employees enroll their dependents within 31 days of the date they become eligible, medical evidence of good health is not required. If they do not, they will be required to submit evidence of good health for each dependent, at their expense, which is satisfactory to the company.

The following dependents are eligible under this plan: employees' spouses, employees' unmarried children under age 19, employees' unmarried dependent children under age 23 who are attending trade school, college, or university on a full-time basis, or employees' unmarried disabled children age 19 and over. Coverage ceases when spouses or children cease to be dependent upon employees for support. In the case of employees' spouses this is if they are legally separated or divorced. In the case of disabled children, this is when they are no longer disabled. Coverage will cease when dependents have served in the armed forces of any country for more than one month, or when maximum benefits have been paid.

Notes on Illustrative Text #9

FedViews, July 9, 2009, by Mary C. Daly (The Federal Reserve Bank of San Francisco's Web site)

This text illustrates some of the difficulties posed by integrating information gained from words and graphics. This sort of challenge is common in writing designed to inform or explain, including writing in the workplace. The bullet point format used here means that the kind of explicit transitions between ideas typically found in prose are missing; readers will have to infer relationships between the points made by the author, Mary C. Daly, and synthesize the information into a coherent whole. Readers will furthermore have to analyze both the words and the graphics, integrate the information, and check to see whether each source of information supports the other. Daly also uses a great deal of specialized language; the terms *feedback loop, credit availability,* and *barriers to credit* all appear in just the first bullet point here.

Sample performance aligned with the Core Standards

Students synthesize information drawn from the text as well as the graphs in order to gain an overarching view of the economy on July 9, 2009. [R-11]

Illustrative Text #9

from FedViews, July 9, 2009

Reprinted from the Federal Reserve Bank of San Francisco's FedViews of July 9, 2009. The opinions expressed in this article do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco, or of the Board of Governors of the Federal Reserve System.

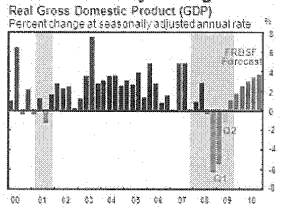
Mary C. Daly, vice president and director of the Center for the Study of Innovation and Productivity at the Federal Reserve Bank of San Francisco, states her views on the current economy and the outlook.

- Financial markets are improving, and the crisis mode that has characterized the past year is subsiding. The adverse feedback loop, in which losses by banks and other lenders lead to tighter credit availability, which then leads to lower spending by households and businesses, has begun to slow. As such, investors' appetite for risk is returning, and some of the barriers to credit that have been constraining businesses and households are diminishing.
- Income from the federal fiscal stimulus, as well as some improvement in confidence, has helped stabilize consumer spending. Since consumer spending accounts for two-thirds of all economic activity, this is a key factor affecting our forecast of growth in the third quarter.
- The gradual nature of the recovery will put additional pressure on state and local budgets. Following a difficult 2009, especially in the West, most states began the 2010 fiscal year on July 1 with even larger budget gaps to solve.
- Still, many remain worried that large fiscal deficits will eventually be inflationary. However, a look at the empirical link between fiscal deficits and inflation in the United States shows no correlation between the two. Indeed, during the 1980s, when the United States was running large deficits, inflation was coming down.

Modest recovery to begin in Q3

Real Gross Domestic Product (GDP)

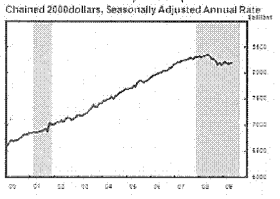
Percent change at seasonally adjusted annual rate



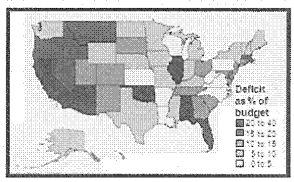
Consumers hanging on

Real Personal Consumption Expenditures

Chained 2000dollars, Seasonally Adjusted Annual Rate



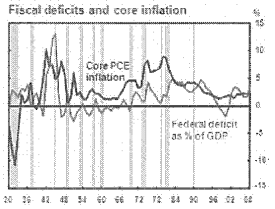
State budget gaps pervasive in 2009



27

No link between deficits and inflation

Fiscal deficits and core inflation



28

Notes on Illustrative Text #10

The front page of the *New York Times*, Web version, August 18, 2009, 9:03 a.m. ET

The challenge offered by this online text and others like it is very different from that offered by a complex continuous text in, say, the sciences. The brief passages are not conceptually difficult, the language is not technical or esoteric, and the sentences are not particularly complex. But these characteristics belie the complexity of the reading task. An online text of this kind requires readers to apply their print-reading skills in tandem with their knowledge of how to use online periodicals. The editors and designers have assigned levels of importance to individual stories and images, as measured by their size and position in the layout. The page itself uses words, numbers, icons, and other visual elements (e.g., line, color, and shape) to guide readers further. Headings in various colors direct readers to particular sections (OPINION, MARKETS, HEALTH), while links direct readers to particular stories ("Taliban Talks Are Key Issue in Afghan Vote"). Time markers ("3 minutes ago") help readers assess how new the information in a given story is. The text requires readers to make choices about which links to follow based on their understanding of how online text is typically structured and on a minimum of additional information (e.g., an icon of a camera, a drop-down menu in an ad).

Sample performance aligned with the Core Standards

Students select an article and use search terms and other features of the online text to research a specific aspect of the subject in more depth. [R-12]

Illustrative Text #10

The front page of the *New York Times*, Web version, August 18, 2009, 9:03 a.m. ET

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Sample of Works Consulted

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Readiness.

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B. **British Columbia, Canada:** *English Language Arts Integrated Resource Package, Prescribed Learning Outcomes*, 2007. (PDF)

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D. **England:** *English Programme of Study for Key stage 4*, 2007. (PDF)

E. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003. (PDF)

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College and Career Readiness Standards for Mathematics

Draft for Review and Comment

September 21, 2009

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Introduction

The *College and Career Readiness Standards for Mathematics* consist of three interconnected parts: a Standard for Mathematical Practice, ten Standards for Mathematical Content, and a set of Example Tasks.

The Standard for Mathematical Practice has six Core Practices that describe the way proficient students approach mathematics. Proficient students attend to precision, construct viable arguments, make sense of complex problems and persevere in solving them, look for hidden structure, note regularity in repeated reasoning, and use technology intelligently. This approach to mathematics is an essential part of being ready for college and career.

The Standards for Mathematical Content form the backbone of this document. Each of these ten standards consists of Core Concepts, Core Skills, and a description of the student's Coherent Understanding. Students who encounter the subject with a focus on coherence will be better able to learn more mathematics at a deeper level and be better able to access and apply the mathematics they know. The ten Standards for Mathematical Content pull together topics previously studied and look ahead toward topics in further coursework and training programs.

The Standards for Mathematical Content are designed to draw greater attention to powerful organizing principles in mathematics, such as functional relationships or the laws of arithmetic. They also allow important distinctions to be made more clearly, such as that between Expressions and Equations. And they surface the deep connections that often underlie mathematical coherence, such as the blending of algebra with geometry represented by Coordinates. These ten are not categories or buckets of topics to cover; they are standards. They describe the coherence students need and deserve as they go forward to their mathematical futures.

The third component of the *College and Career Readiness Standards for Mathematics* is a Web-based collection of Example Tasks that exemplifies the variety of performances required. High standards demand that students *use* their knowledge, skills and good practices to solve problems from a variety of contexts, both within mathematics and from the world outside. Example Tasks exemplify the range and variety of use that is expected. Teachers and designers of curriculum and assessment will find in the collection of examples a guide to what these standards mean. Over time, the collection of tasks will grow.

Together, these three components establish an evidence-based standard for college and career readiness. The *College and Career Readiness Standards for Mathematics* have been created with attention to the expectations of the highest achieving countries. They have focus and depth, emphasizing the understanding of and connections among topics that are most important for success regardless of a student's pathway after reaching these standards.

A primary goal of developing these standards is to enable students to achieve *mathematical proficiency* (see sidebar). Students are expected to understand the knowledge described in the Core Concepts and in the Coherent Understandings at a depth that enables them to reason with that knowledge—to analyze, interpret and evaluate mathematical problems, make deductions, and justify results. The Core Skills are meant to be used strategically and adaptively to solve problems. Students' knowledge and skills come to life and take their value when melded with the ways they approach mathematics—as described by the Core Practices.

The specific verbs used to describe concepts and skills in these standards are not meant to limit or indicate levels of any taxonomy. Although using verbs to indicate levels of depth has been a common practice in this country's standards writing, high performing nations do not use verbs in this way. They describe depth and practices first in separate sections of their syllabi. We have adopted the high performing countries' practice of focusing on a clear statement of what mathematics should be learned when writing standards for knowledge and skills.

Instruction, curriculum and assessment designed to achieve these standards should range over all strands of proficiency in *Adding It Up*, all depths of knowledge in Norman L. Webb's Depth of Knowledge taxonomy, all levels of Bloom's Taxonomy, and all levels of cognitive demand. In the Core Skills and Core Practices we have sometimes used terms like "explore" to indicate a lighter treatment with a goal of awareness and experience rather than proficiency. We have used Example Tasks to show the depth of knowledge and deployment of skills expected.

From *Adding it up: Helping children learn mathematics* (National Research Council, 2001, p. 116):

Recognizing that no term captures completely all aspects of expertise, competence, knowledge, and facility in mathematics, we have chosen mathematical proficiency to capture what we believe is necessary for anyone to learn mathematics successfully. Mathematical proficiency, as we see it, has five components, or strands:

- conceptual understanding—comprehension of mathematical concepts, operations, and relations
- procedural fluency—skill in carrying out procedures flexibly, accurately, efficiently, and appropriately
- strategic competence—ability to formulate, represent, and solve mathematical problems
- adaptive reasoning—capacity for logical thought, reflection, explanation, and justification
- productive disposition—habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy.

These standards are measurable; that is, they are observable and verifiable through the broad spectrum of student performances that may be assessed during classroom observation, school-based examinations and large-scale testing. The *College and Career Readiness Standards for Mathematics* can guide the development of assessment frameworks that distribute the assessment responsibilities across multiple levels of the educational system: state, district, school and teacher.

Students reaching these levels will be prepared for non-remedial college mathematics courses and will be prepared for training programs for career-level jobs; however, the *College and Career Readiness Standards for Mathematics* should not be construed as grade twelve exit standards. Students interested in STEM fields, and those who wish to go beyond for other reasons, will need to reach these standards before their senior year in order to have time to include additional mathematics. A number of pathways for advanced learning are possible and may be integrated throughout the high school experience and beyond.

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The Common Core State Standards Initiative

The *College and Career Readiness Standards for Mathematics* will anchor the next phase of the Common Core State Standards Initiative: development of K–12 Mathematics Standards. Those K–12 Standards are in turn expected to guide the development of a next generation of assessments, developed collaboratively by multiple states. The K–12 Mathematics Standards will serve as a guide and tool for aligning instruction, curriculum, assessment, teacher supports, and systems of accountability. To ensure alignment, the Standard for Mathematical Practice, the Standards for Mathematical Content, and the Example Tasks should all be taken into account.

Overview of the Mathematical Practice Standard

Attend to precision.
Construct viable arguments.
Make sense of complex problems and persevere in solving them.
Look for structure.
Look for and express regularity in repeated reasoning.
Make strategic decisions about the use of technological tools.

Overview of the Mathematical Content Standards

Number. Procedural fluency in operations with real numbers and strategic competence in approximation are grounded in an understanding of place value. The rules of arithmetic govern operations on numbers and extend to operations in algebra.

Quantity. A quantity is an attribute of an object or phenomenon that can be specified using a number and a unit, such as 2.7 centimeters, 42 questions or 28 miles per gallon.

Expressions. Expressions use numbers, variables and operations to describe computations. The rules of arithmetic, the use of parentheses and the conventions about order of operations assure that the computation has a well-determined value.

Equations. An equation is a statement that two expressions are equal. Solutions to an equation are the values of the variables in it that make it true.

Functions. Functions model situations where one quantity determines another. Because nature and society are full of dependencies, functions are important tools in the construction of mathematical models.

Modeling. Modeling uses mathematics to help us make sense of the real world—to understand quantitative relationships, make predictions, and propose solutions.

Shape. From only a few axioms, the deductive method of Euclid generates a rich body of theorems about geometric objects, their attributes and relationships.

Coordinates. Applying a coordinate system to Euclidean space connects algebra and geometry, resulting in powerful methods of analysis and problem solving.

Probability. Probability assesses the likelihood of an event in a situation that involves randomness. It quantifies the degree of certainty that an event will happen as a number from 0 through 1.

Statistics. Decisions or predictions are often based on data—numbers in context. These decisions or predictions would be easy if the data always sent a clear message, but the message is often obscured by variability in the data.

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How Evidence Informed Decisions in Drafting the Standards

The Common Core State Standards Initiative builds on a generation of standards efforts led by states and national organizations. On behalf of the states, we have taken a step toward the next generation of standards that are aligned to college- and career-ready expectations and are internationally benchmarked. These standards are grounded in evidence from many sources that shows that the next generation of standards in mathematics must be focused on deeper, more thorough understanding of more fundamental mathematical ideas and higher mastery of these fewer, more useful skills.

The evidence that supports this new direction comes from a variety of sources. International comparisons show that high performing countries focus on fewer topics and that the U.S. curriculum is "a mile wide and an inch deep." Surveys of college faculty show the need to shift away from high school courses that merely survey advanced topics, toward courses that concentrate on developing an understanding and mastery of ideas and skills that are at the core of advanced mathematics. Reviews of data on student performance show the large majority of U.S. students are not mastering the mile wide list of topics that teachers cover.

The evidence tells us that in high performing countries like Singapore, the gap between what is taught and what is learned is relatively smaller than in Malaysia or the U.S. states. Malaysia's standards are higher than Singapore's, but their performance is much lower. One could interpret the narrower gap in Singapore as evidence that they actually use their standards to manage instruction; that is, Singapore's standards were set within the reach of hard work for their system and their population. Singapore's Ministry of Education flags its webpage with the motto, "Teach Less, Learn More." We accepted the challenge of writing standards that could work that way for U.S. teachers and students: By providing focus and coherence, we could enable more learning to take place at all levels.

However, a set of standards cannot be simplistically "derived" from any body of evidence. It is more accurate to say that we used evidence to inform our decisions. A few examples will illustrate how this was done.

For example, systems of linear equations are covered by all states, yet students perform surprisingly poorly on this topic when assessed by ACT. We determined that systems of linear equations have high coherence value, mathematically; that this topic is included by all high performing nations; and that it has moderately high value to college faculty. Result: We included it in our standards.

A different and more complex pattern of evidence appeared with families of functions. Again we found that students performed poorly on problems related to many advanced functions (trigonometric, logarithmic, quadratic, exponential, and so on). Again we found that a number of states cover them, even though college faculty rated them lower in value. High performing countries include this material, but with different degrees of demand. We decided that we had to carve a careful line through these topics so that limited teaching resources could focus where most important. We decided that students should

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develop deep understanding and mastery of linear and exponential functions. They should also have familiarity with other families of functions, and apply their algebraic, modeling and problem solving skills to them—but not develop in-depth technical mastery and understanding. Thus we defined two distinct levels of attention and identified which families of functions got which level of attention.

Why were exponential functions selected for intensive focus in the Functions standard instead of, say, quadratic functions? What tipped the balance was the high coherence value of exponential functions in supporting modeling and their wide utility in work and life. Quadratic functions were also judged to be well supported by expectations defined under Expressions and Equations.

These examples indicate the kind of reasoning, informed by evidence, that it takes to design standards aligned to the demands of college and career readiness in a global economy. We considered inclusion in international standards, requirements of college and the workplace, surveys of college faculty and the business community, and other sources of evidence. As we navigated these sometimes conflicting signals, we always remained aware of the finiteness of instructional resources and the need for deep mathematical coherence in the standards.

At the end of this document, there is a listing of a number of sources that played a role in the deliberations described above and more generally throughout the process to inform our decisions. A hyperlinked version of the bibliography can be found online at www.corestandards.org.

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Mathematical Practice

Proficient students expect mathematics to make sense. They take an active stance in solving mathematical problems. When faced with a non-routine problem, they have the courage to plunge in and try something, and they have the procedural and conceptual tools to carry through. They are experimenters and inventors, and can adapt known strategies to new problems. They think strategically.

Students who engage in these practices discover ideas and gain insights that spur them to pursue mathematics beyond the classroom walls. They learn that effort counts in mathematical achievement.[a] These are practices that expert mathematical thinkers encourage in apprentices. Encouraging these practices in our students should be as much a goal of the mathematics curriculum as is teaching specific content topics and procedures.[b] Taken together with the Standards for Mathematical Content, they support productive entry into college courses or career pathways.

Core Practices · Students can and do:

1 Attend to precision.

Mathematically proficient students organize their own ideas in a way that can be communicated precisely to others, and they analyze and evaluate others' mathematical thinking and strategies noting the assumptions made. They clarify definitions. They state the meaning of the symbols they choose, are careful about specifying units of measure and labeling axes, and express their answers with an appropriate degree of precision. Rather than saying, "let *v* be speed and let *t* be time," they would say "let *v* be the speed in meters per second and let *t* be the elapsed time in seconds from a given starting time." They recognize that when someone says the population of the United States in June 2008 was 304,059,724, the last few digits indicate unwarranted precision.

2 Construct viable arguments.

Mathematically proficient students understand and use stated assumptions, definitions and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They break things down into cases and can recognize and use counterexamples. They use logic to justify their conclusions, communicate them to others and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose.

3 Make sense of complex problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They consider analogous problems, try special cases and work on simpler forms. They evaluate their progress and change course if necessary. They try putting algebraic expressions into different forms or try changing the viewing window on their calculator to get the information they need. They look for correspondences between equations, verbal descriptions, tables, and graphs. They draw diagrams of relationships, graph data, search for regularity and trends, and construct mathematical models. They check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?"

4 Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern. For example, in $x^2 + 5x + 6$ they can see the 5 as $2 + 3$ and the 6 as 2×3. They recognize the significance of an existing line in a geometric figure and can add an auxiliary line to make the solution of a problem clear. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects. For example, by seeing $8 - 3(x - y)^2$ as 8 minus a positive number times a square, they see that it cannot be more than 8 for any real numbers x and y.[b]

5 Look for and express regularity in repeated reasoning.

Mathematically proficient students pay attention to repeated calculations as they carry them out, and look both for general algorithms and for shortcuts. For example, by paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, they might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel in the expansions of $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ leads to the general formula for the sum of a geometric series. As they work through the solution to a problem, proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.[b]

6 Make strategic decisions about the use of technological tools.

Mathematically proficient students consider the available tools when solving a mathematical problem, whether pencil and paper, ruler, protractor, graphing calculator, spreadsheet, computer algebra system, statistical package, or dynamic geometry software. They are familiar enough with all of these tools to make sound decisions about when each might be helpful. They use mathematical understanding and estimation strategically, attending to levels of precision, to ensure appropriate levels of approximation and to detect possible errors. They are able to use these tools to explore and deepen their understanding of concepts.

(a) For the importance of students' beliefs about effort, see the National Mathematics Advisory Panel's Report of the Task Group on Learning Processes, p. 4-10 (2008). (b) Cirucci, A., Goldenberg, E. P., and Mark, J., *Journal of Mathematical Behavior*, 15 (4), 375-402, 1996; *Focus in High School Mathematics*. Reston, VA: NCTM, in press; Harel, G., What is Mathematics? A Pedagogical Answer to a Philosophical Question. In R. B. Gold & R. Simons (Eds.), *Current Issues in the Philosophy of Mathematics From the Perspective of Mathematicians*, Mathematical Association of America, 2006.

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Number

Core Concepts · Students understand that:

A The real numbers include the rational numbers and are in one-to-one correspondence with the points on the number line.

B Quantities can be compared using division, yielding rates and ratios.

C A fraction can represent the result of dividing the numerator by the denominator; equivalent fractions have the same value.

D Place value and the rules of arithmetic form the foundation for efficient algorithms.

A Coherent Understanding of Number. Procedural fluency in operations with real numbers and strategic competence in approximation are grounded in an understanding of place value. The rules of arithmetic govern operations on numbers and extend to operations in algebra:

- Numbers can be added in any order with any grouping and multiplied in any order with any grouping.
- Adding 0 and multiplying by 1 both leave a number unchanged.
- All numbers have additive inverses, and all numbers except zero have multiplicative inverses.
- Multiplication distributes over addition.

Subtraction and division are defined in terms of addition and multiplication, so are also governed by these rules.

The place value system bundles units into 10s, then 10s into 100s, and so on, providing an efficient way to name large numbers. Subdividing in a similar way extends this to the decimal system, which provides an address system for locating all real numbers on the number line with arbitrarily high accuracy. Place value is the basis for efficient algorithms, reducing much computation to single-digit arithmetic. Mental computation strategies also make opportunistic use of the rules of arithmetic, as when the product $5 \times 177 \times 2$ is computed at a glance to obtain 1770, rather than methodically working from left to right.

An estimate may be more appropriate than an exact value, for example, when you want to know the number of calories in a meal. Often a result is reported using fewer digits than were calculated. A mature number sense includes having rules of thumb about how much accuracy is appropriate and understanding that accuracy to more than a few decimal places often takes substantial effort. Estimation and approximation are also useful in checking calculations.

Rational numbers represented as fractions can be located on the number line by seeing them as numbers expressed in different units; for example, 3/5 is 3 units, where each unit is 1/5. However, rational numbers do not fill out the number line. There are also irrational numbers, such as π or $\sqrt{2}$. Each point on the number line then corresponds to a real number that is either rational or irrational.

Connections to Expressions, Functions and Coordinates. The rules of arithmetic govern the manipulations of expressions and functions. Two perpendicular number lines define the coordinate plane.

Core Skills · Students can and do:

1 Compare numbers and make sense of their magnitude.

Include positive and negative numbers expressed as fractions, decimals, powers, and roots. Limit to square and cube roots. Include very large and very small numbers and the use of scientific notation.

2 Know when and how to use standard algorithms, and perform them flexibly, accurately and efficiently.*

3 Use mental strategies and technology to formulate, represent and solve problems.**

4 Solve multi-step problems involving fractions and percentages.

Include situations such as simple interest, tax, markups/markdowns, gratuities and commissions, fees, percent increase or decrease, percent error, expressing rent as a percentage of take-home pay, and so on.

5 Use estimation and approximation to solve problems.

Include evaluating answers for their reasonableness, detecting errors, and giving answers to an appropriate level of precision.

* This aligns with the concept of procedural fluency as in the National Research Council report *Adding It up: Helping children learn mathematics*. Specifically, "*Procedural fluency* refers to knowledge of procedures, knowledge of when and how to use them appropriately, and skill in performing them flexibly, accurately, and efficiently" (p. 121).

** This aligns with the concept of strategic competence as described in *Adding It up*. "*Strategic competence* refers to the ability to formulate mathematical problems, represent them, and solve them" (p. 124).

Quantity

Core Concepts · Students understand that:

A The value of a quantity is not specified unless the units are named or understood from the context.

B Quantities can be added and subtracted only when they are of the same type (length, area, speed, etc.).

C Quantities can be multiplied or divided to create new types of quantities, called derived quantities.

A Coherent Understanding of Quantity. A quantity is an attribute of an object or phenomenon that can be specified using a number and a unit, such as 2.7 centimeters, 42 questions or 28 miles per gallon.

The length of a football field and the speed of light are both quantities. If we choose units of miles per second, then the speed of light has a value of approximately 186,000 miles per second. But the speed of light need not be expressed in miles per second; it may be approximated by 3×10^8 meters per second or in any other unit of speed. Bare numerical values such as 186,000 do not describe quantities unless they are paired with units.

Speed (distance divided by time), rectangular area (length multiplied by length), density (mass divided by volume), and population density (number of people divided by land area) are examples of derived quantities, obtained by multiplying or dividing quantities.

It can make sense to add two quantities, such as when a child 51 inches tall grows 3 inches to become 54 inches tall. To be added or subtracted, quantities must be of the same type (length, area, speed, etc.); to add or subtract their values, the quantities must be expressed in the same units. Converting quantities to have the same units is like converting fractions to have a common denominator before adding or subtracting. But, even when quantities have the same units it does not always make sense to add them. For example, if a wooded park with 300 trees per acre is next to a field with 30 trees per acre, they do not have 330 trees per acre.

Doing algebra with units in a calculation reveals the units of the answer, and can help reveal a mistake if, for example, the answer comes out to be a distance when it should be a speed.

Connections to Number, Expressions, Equations, Functions, Modeling and Statistics. Operations described under Number and Expressions govern the operations one performs on quantities, including the units involved. Quantity is an integral part of any application of mathematics, and has connections to solving problems using data, equations, functions and modeling.

Core Skills · Students can and do:

1 Know when and how to convert units in computations.

Include the addition and subtraction of quantities of the same type expressed in different units; averaging data given in mixed units; converting units for derived quantities such as density and speed.

2 Use and interpret quantities and units correctly in algebraic formulas.

Include specifying units when defining variables and attending to units when writing expressions and equations.

3 Use and interpret quantities and units correctly in graphs and data displays.

Include function graphs, data tables, scatterplots and other visual displays of dimensioned data.

4 Use units as a way to understand problems and to guide the solution of multi-step problems.

Include examples such as acceleration; currency conversions; people-hours; social science measures, such as deaths per 100,000; and general rates, such as points per game.

Expressions

Core Concepts · Students understand that:

A Expressions are constructions built up from numbers, variables, and operations, which have a numerical value when each variable is replaced with a number.

B Complex expressions are made up of simpler expressions.

C The rules of arithmetic can be applied to transform an expression without changing its value.

D Rewriting expressions in equivalent forms serves a purpose in solving problems.

A Coherent Understanding of Expressions. Expressions use numbers, variables and operations to describe computations. The rules of arithmetic, the use of parentheses and the conventions about order of operations assure that the computation has a well-determined value.

Reading an expression with comprehension involves analysis of its underlying structure, which may suggest a different but equivalent way of writing it that exhibits some different aspect of its meaning. For example, $p + 0.05p$ can be interpreted as the addition of a 5% tax to a price p. But rewriting $p + 0.05p$ as $1.05p$ shows that adding a tax is the same as multiplying by a constant factor.

Algebraic manipulations are based on the conventions of algebraic notation and the rules of arithmetic. Heuristic mnemonic devices are not a substitute for procedural fluency. For example, factoring, expanding, collecting like terms, the rules for interpreting minus signs next to parenthetical sums, and adding fractions with a common denominator are all instances of the distributive law; the definitions for negative and rational exponents are based on the extension of the exponent laws for positive integers. The laws of exponents connect multiplication of numbers to addition of exponents and thus express the deep relationship between addition and multiplication captured by the parallel nature of the rules of arithmetic for these operations.

Complex expressions are made up of simpler expressions using arithmetic operations and substitution. When simple expressions within more complex expressions are treated as single quantities, or chunks, the underlying structure of the larger expression may be more evident.

Connections to Equations and Functions. Setting expressions equal to each other leads to equations. Expressions can define functions of the variables that appear in them, with equivalent expressions defining the same function.

Core Skills · Students can and do:

1 See structure in expressions.

For example, recognize: that the expressions $x^4 - y^4$ and $(x+y)^2 - (x-y)^2$ are differences of squares; that there are different ways to rewrite the latter expression, e.g., by expanding and collecting like terms or by factoring as a difference of squares; that p is a common factor in $p + 0.025p$; that an expression in the form $(x-3)^2 + 14$ reveals its minimum value.

2 Manipulate simple expressions.

Show procedural fluency in the following cases: factoring out common terms; factoring expressions with quadratic structure; writing in standard form sums, differences, and products of polynomials. Include completing the square and rewriting in standard form sums, differences, products, and quotients of simple rational expressions; rewriting expressions with negative exponents and those involving square or cube roots of a single term involving exponents.

3 Define variables and write an expression to represent a quantity in a problem.

Include contextual problems.

4 Interpret an expression that represents a quantity in terms of the context.

Include interpreting parts of an expression, such as terms, factors and coefficients.

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Equations

Core Concepts · Students understand that:

A An equation is a statement that two expressions are equal.

B The solutions of an equation are the values of the variables that make the resulting numerical statement true.

C The steps in solving an equation are guided by understanding and justified by logical reasoning.

D Equations not solvable in one number system may have solutions in a larger number system.

A Coherent Understanding of Equations. An equation is a statement that two expressions are equal. Solutions to an equation are the values of the variables in it that make it true. If the equation is true for all values of the variables, then we call it an identity; identities are often discovered by manipulating one expression into another.

The solutions of an equation in one variable form a set of numbers; the solutions of an equation in two variables form a set of ordered pairs, which can be graphed in the plane. Equations can be combined into systems to be solved simultaneously.

An equation can be solved by successively transforming it into one or more simpler equations. The process is governed by deductions based on the properties of equality. For example, one can add the same constant to both sides without changing the solutions, but squaring both sides might lead to extraneous solutions. Strategic competence in solving includes looking ahead for productive manipulations and anticipating the nature and number of solutions.

Some equations have no solutions in a given number system, stimulating the formation of expanded number systems (integers, rational numbers, real numbers and complex numbers).

A formula is a type of equation. The same solution techniques used to solve equations can be used to rearrange formulas. For example, the formula for the area of a trapezoid, $A = \left(\frac{b_1+b_2}{2}\right)h$, can be solved for h using the same deductive process.

Inequalities can be solved in much the same way as equations. Many, but not all, of the properties of equality extend to the solution of inequalities.

Connections to Functions, Coordinates, and Modeling. Equations in two variables may define functions. Asking when two functions have the same value leads to an equation; graphing the two functions allows for the approximate solution of the equation. Equations of lines involve coordinates, and converting verbal descriptions to equations is an essential skill in modeling.

Core Skills · Students can and do:

1 Understand a problem and formulate an equation to solve it.

Extend to inequalities and systems.

2 Solve equations in one variable using manipulations guided by the rules of arithmetic and the properties of equality.

Solve linear equations with procedural fluency. For quadratic equations, include solution by inspection, by factoring, or by using the quadratic formula. Understand that the quadratic formula comes from completing the square. Include simple absolute value equations solvable by direct inspection and by understanding the interpretation of absolute value as distance.

3 Rearrange formulas to isolate a quantity of interest.

Exclude cases that require extraction of roots or inverse functions.

4 Solve systems of equations.

Focus on pairs of simultaneous linear equations in two variables. Include algebraic techniques, graphical techniques and solving by inspection.

5 Solve linear inequalities in one variable and graph the solution set on a number line.

Emphasize solving the associated equality and determining on which side of the solution of the associated equation the solutions to the inequality lie.

6 Graph the solution set of a linear inequality in two variables on the coordinate plane.

Emphasize graphing the associated equation, using a dashed or solid line as appropriate and shading to indicate the half-plane on which the solutions to the inequality lie.

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Functions

Core Concepts · Students understand that:

A A function is a rule, often defined by an expression, that assigns a unique output for every input.

B The graph of a function f is a set of ordered pairs $(x, f(x))$ in the coordinate plane.

C Functions model situations where one quantity determines another.

D Common functions occur in families where each member describes a similar type of dependence.

A Coherent Understanding of Functions. Functions model situations where one quantity determines another. For example, the return on $10,000 invested at an annualized percentage rate of 4.25% is a function of the length of time the money is invested. Because nature and society are full of dependencies between quantities, functions are important tools in the construction of mathematical models.

In school mathematics, functions usually have numerical inputs and outputs and are often defined by an algebraic expression. For example, the time in hours it takes for a plane to fly 1000 miles is a function of the plane's average ground speed in miles per hour, v; the rule $T(v) = 1000/v$ expresses this relationship algebraically and defines a function whose name is T.

The set of possible inputs to a function is called its domain. We often infer the domain to be all inputs for which the expression defining a function has a value, or for which the function makes sense in a given context. The graph of a function is a useful way of visualizing the relationship the function models, and manipulating the expression for a function can throw light on the function's properties.

Two important families of functions characterized by laws of growth are linear functions, which grow at a constant rate, and exponential functions, which grow at a constant percent rate. Linear functions with an initial value of zero describe proportional relationships.

Connections to Expressions, Equations, Modeling and Coordinates. Determining an output value for a particular input involves evaluating an expression; finding inputs that yield a given output involves solving an equation. The graph of a function f is the same as the solution set of the equation $y = f(x)$. Questions about when two functions have the same value lead to equations, whose solutions can be visualized from the intersection of the graphs. Since functions describe relationships between quantities, they are frequently used in modeling. Sometimes functions are defined by a recursive process, which can be modeled effectively using a spreadsheet or other technology.

Core Skills · Students can and do:

1 Recognize proportional relationships and solve problems involving rates and ratios.

Include being able to express proportional relationships as functions.

2 Describe the qualitative behavior of common types of functions using graphs and tables.

Identify: intercepts; intervals where the function is increasing, decreasing, positive or negative; relative maximums and minimums; symmetries; end behavior; and periodicity. Use technology to explore the effects of parameter changes on the graphs of linear, power, quadratic, polynomial, simple rational, exponential, logarithmic, sine and cosine, absolute value and step functions.

3 Analyze functions using symbolic manipulation.

Include slope-intercept and point-slope form of linear functions; vertex form of quadratic functions to identify symmetry and find maximums and minimums; factored form to find zeros. Use manipulations as described under Expressions.

4 Use the families of linear and exponential functions to solve problems.

For linear functions $f(x) = mx + b$, understand b as the intercept or initial value and m as the slope or rate of change. For exponential functions $f(x) = a\,b^x$, understand a as the intercept or initial value and b as the growth factor.

5 Find and interpret rates of change.

Compute the rate of change of linear functions and make qualitative observations about how the rate of change varies for nonlinear functions.

Modeling

Core Concepts · Students understand that:

A Mathematical models involve choices and assumptions that abstract key features from situations to help us solve problems.

B Even very simple models can be useful.

A Coherent Understanding of Modeling. Modeling uses mathematics to help us make sense of the real world—to understand quantitative relationships, make predictions, and propose solutions.

A model can be very simple, such as a geometric shape to describe a physical object like a coin. Even so simple a model involves making choices. It is up to us whether to model the solid nature of the coin with a three-dimensional cylinder, or whether a two-dimensional disk works well enough for our purposes. For some purposes, we might even choose to adjust the right circular cylinder to model more closely the way the coin deviates from the cylinder.

In any given situation, the model we devise depends on a number of factors: How precise an answer do we want or need? What aspects of the situation do we most need to understand, control, or optimize? What resources of time and tools do we have? The range of models we can create and analyze is constrained as well by the limitations of our mathematical and technical skills. For example, modeling a physical object, a delivery route, a production schedule, or a comparison of loan amortizations each requires different sets of tools. Networks, spreadsheets and algebra are powerful tools for understanding and solving problems drawn from different types of real-world situations. One of the insights provided by mathematical modeling is that essentially the same mathematical structure might model seemingly different situations.

The basic modeling cycle is one of (1) identifying the key features of a situation, (2) creating geometric, algebraic or statistical objects that describe key features of the situation, (3) analyzing and performing operations on these objects to draw conclusions and (4) interpreting the results of the mathematics in terms of the original situation. Choices and assumptions are present throughout this cycle.

Connections to Quantity, Equations, Functions, Shape, Coordinates and Statistics. Modeling makes use of shape, data, graphs, equations and functions to represent real-world quantities and situations.

Core Skills · Students can and do:

1 Model numerical situations.

Include readily applying the four basic operations in combination to solve multi-step quantitative problems with dimensioned quantities; making estimates to introduce numbers into a situation and get problems started; recognizing proportional or near-proportional relationships and analyzing them using characteristic rates and ratios.

2 Model physical objects with geometric shapes.

Include common objects that can reasonably be idealized as two- and three-dimensional geometric shapes. Identify the ways in which the actual shape varies from the idealized geometric model.

3 Model situations with equations and inequalities.

Include situations well described by a linear inequality in two variables or a system of linear inequalities defining a region in the plane.

4 Model situations with common functions.

Include situations well described by linear, quadratic or exponential functions; and situations that can be well described by inverse variation ($f(x) = k/x$). Include identifying a family of functions that models features of a problem, and identifying a particular function of that family and adjusting it to fit by changing parameters. Understand the recursive nature of situations modeled by linear and exponential functions.

5 Model situations using probability and statistics.

Include using simulations to model probabilistic situations; describing the shape of a distribution of values and summarizing a distribution with measures of center and variability; modeling a bivariate relationship using a trend line or a regression line.

6 Interpret the results of applying a model and compare models for a particular situation.

Include realizing that models seldom fit exactly and so there can be error; identifying simple sources of error and being careful not to over-interpret models. Include recognizing that there can be many models that relate to a situation, that they can capture different aspects of the situation, that they can be simpler or more complex, and that they can have a better or worse fit to the situation and the questions being asked.

Shape

Core Concepts · Students understand that:

A Shapes and their parts, attributes, and measurements can be analyzed deductively.[4]

B Congruence, similarity, and symmetry can be analyzed using transformations.

C Mathematical shapes model the physical world, resulting in practical applications of geometry.

D Right triangles and the Pythagorean theorem are central to geometry and its applications, including trigonometry.

A Coherent Understanding of Shape. From only a few axioms, the deductive method of Euclid generates a rich body of theorems about geometric objects, their attributes and relationships. Once understood, those attributes and relationships can be applied in diverse practical situations—interpreting a schematic drawing, estimating the amount of wood needed to frame a sloping roof, rendering computer graphics, or designing a sewing pattern for the most efficient use of material.

Understanding the attributes of geometric objects often relies on measurement: a circle is a set of points in a plane at a fixed distance from a point; a cube is bounded by six squares of equal area; when two parallel lines are crossed by a transversal, pairs of corresponding angles are congruent.

The concepts of congruence, similarity and symmetry can be united under the concept of geometric transformation. Reflections and rotations each explain a particular type of symmetry, and the symmetries of an object offer insight into its attributes—as when the reflective symmetry of an isosceles triangle assures that its base angles are congruent. Applying a scale transformation to a geometric figure yields a similar figure. The transformation preserves angle measure, and lengths are related by a constant of proportionality. If the constant of proportionality is one, distances are also preserved (so the transformation is a rigid transformation) and the figures are congruent.

The definitions of sine, cosine and tangent for acute angles are founded on right triangle similarity, and, with the Pythagorean theorem, are fundamental in many practical and theoretical situations.

Connections to Coordinates, Functions and Modeling. The Pythagorean theorem is a key link between geometry, measurement and distance in the coordinate plane. Parameter changes in families of functions can be interpreted as transformations applied to their graphs and those functions, as well as geometric objects in their own right, can be used to model contextual situations.

[4] In this document, deductive analysis aligns with the notion of adaptive reasoning as defined in *Adding It Up*, and includes empirical exploration, informal justification, and formal proof.

Core Skills · Students can and do:

1 Use multiple geometric properties to solve problems involving geometric figures.

Properties include: measures of interior angles of a triangle sum to 180°; vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; measures of supplementary angles sum to 180°; two lines parallel to a third are parallel to each other; points on a perpendicular bisector of a segment are exactly those equidistant from the segment's endpoints; and a line tangent to a circle is perpendicular to the radius meeting it.

2 Prove theorems, test conjectures and identify logical errors.

Include theorems establishing the properties in Core Skill 1 and other theorems about angles, parallel and perpendicular lines, similarity and congruence of triangles.

3 Construct and interpret representations of geometric objects.

Include classical construction techniques and construction techniques supported by modern technologies. Include moving between two-dimensional representations and the three-dimensional objects they represent, such as in schematics, assembly instructions, perspective drawings and multiple views.

4 Solve problems involving measurements.

Include measurement (length, angle measure, area, surface area, and volume)[3] of a variety of figures and shapes in two- and three-dimensions. Compute measurements using formulas and by decomposing complex shapes into simpler ones.

5 Solve problems involving similar triangles and scale drawings.

Include computing actual lengths, areas and volumes from a scale drawing and reproducing a scale drawing at a different scale.

6 Apply properties of right triangles and right triangle trigonometry to solve problems.

Include using the Pythagorean theorem and properties of special right triangles, and applying sine, cosine and tangent to determine lengths and angle measures of right triangles. Use right triangles and their properties to solve real-world problems. Limit angle measures to degrees.

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Coordinates

Core Concepts · Students understand that:

A Locations in the plane or in space can be specified by pairs or triples of numbers called coordinates.

B Coordinates link algebra with geometry and allow methods in one domain to solve problems in the other.

C The set of solutions to an equation in two variables forms a curve in the coordinate plane—such as a line, parabola, circle—and the solutions to systems of equations correspond to intersections of these curves.

A Coherent Understanding of Coordinates. Applying a coordinate system to Euclidean space connects algebra and geometry, resulting in powerful methods of analysis and problem solving.

Just as the number line associates numbers with locations in one dimension, a pair of perpendicular axes associates pairs of numbers with locations in two dimensions. This correspondence between numerical coordinates and geometric points allows methods from algebra to be applied to geometry and vice versa. The solution set of an equation becomes a geometric curve, making visualization a tool for doing and understanding algebra. Geometric shapes can be described by equations, making algebraic manipulation into a tool for geometric understanding, modeling and proof.

Coordinate geometry is a rich field for exploration. How does a geometric transformation such as a translation or reflection affect the coordinates of points? How is the geometric definition of a circle reflected in its equation?

Adding a third perpendicular axis associates three numbers with locations in three dimensions and extends the use of algebraic techniques to problems involving the three-dimensional world we live in.

Connections to Shape, Quantity, Equations and Functions. Coordinates can be used to reason about shapes. In applications, coordinate values often have units (such as meters and bushels). A one-variable equation of the form $f(x) = g(x)$ may be solved in the coordinate plane by finding intersections of the curves $y = f(x)$ and $y = g(x)$.

Core Skills · Students can and do:

1 Translate fluently between lines in the coordinate plane and their equations.

Include predicting visual features of lines by inspection of their equations, determining the equation of the line through two given points, and determining the equation of the line with a given slope passing through a given point.

2 Identify the correspondence between parameters in common families of equations and the location and appearance of their graphs.

Include common families of equations—the graphs of $Ax + By = C$, $y = mx + b$ and $x = a$ are straight lines; the graphs of $y = a(x - h)^2 + k$ and $y = Ax^2 + Bx + C$ are parabolas; and the graph of $(x - h)^2 + (y - k)^2 = r^2$ is a circle.

3 Use coordinates to solve geometric problems.

Include proving simple theorems algebraically, using coordinates to compute perimeters and areas for triangles and rectangles, finding midpoints of line segments, finding distances between pairs of points and determining when two lines are parallel or perpendicular.

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Probability

Core Concepts · Students understand that:

A Probability models outcomes for situations in which there is inherent randomness, quantifying the degree of uncertainty in terms of relative frequency of occurrence.

B The law of large numbers provides the basis for estimating certain probabilities by use of empirical relative frequencies.

C The laws of probability govern the calculation of probabilities of combined events.

D Interpreting probabilities contextually is essential to rational decision-making in situations involving randomness.

A Coherent Understanding of Probability. Probability assesses the likelihood of an event in a situation that involves randomness. It quantifies the degree of certainty that an event will happen as a number from 0 through 1. This number is generally interpreted as the relative frequency of occurrence of the event over the long run.

The structure of a probability model begins by listing or describing the possible outcomes for a random situation (the sample space) and assigning probabilities based on an assumption about long-run relative frequency. In situations such as flipping a coin, rolling a number cube, or drawing a card, it is reasonable to assume various outcomes are equally likely.

Compound events constructed from these simple ones can be represented by tree diagrams and by frequency or relative frequency tables. The probabilities of compound events can be computed using these representations and by applying the additive and multiplicative laws of probability. Interpreting these probabilities relies on an understanding of independence and conditional probability, approachable through the analysis of two-way tables.

Converting a verbally-stated problem into the symbols and relations of probability requires careful attention to words such as *and*, *or*, *if*, and *all*, and to grammatical constructions that reflect logical connections. This is especially true when applying probability models to real-world problems, where simplifying assumptions are also usually necessary in order to gain at least an approximate solution.

Connections to Statistics and Expressions. Probability is the foundation for drawing valid conclusions from sampling or experimental data. Counting has an advanced connection with Expressions through Pascal's triangle and binomial expansions.

Core Skills · Students can and do:

1 Compute theoretical probabilities by systematically counting points in the sample space.

Make use of symmetry and equally likely outcomes. Include permutation and combination problems as long as small numbers are involved or technology is used, so that formulas are not required.

2 Interpret probabilities of compound events using concepts of independence and conditional probability.

Include reading conditional probabilities from two-way tables.

3 Compute probabilities of compound events.

Make use of the additive and multiplicative laws of probability, tree diagrams and frequency or relative frequency tables in real contexts. Do not emphasize fluency with the related formulas.

4 Estimate probabilities empirically.

Include using data from simulations carried out with technology to estimate probabilities.

5 Identify and explain common misconceptions regarding probability.

Include misconceptions about long-run versus short-run behavior of relative frequencies (the law of large numbers). Include attention to the use and misuse of probability in the media, especially in terms of interpreting charts and tables and in the contextual meaning of terms connected to probability, such as 'odds' or 'risk.'

6 Adapt probability models to solve real-world problems.

Include the use of conditional probability to assess subsets of data (e.g., what does the data say about males and females separately). Include the use of independence as a simplifying assumption (e.g., find the probability that two students both contract the disease this year).

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Statistics

Core Concepts · Students understand that:

A Statistical methods take variability into account to support making informed decisions based on quantitative studies designed to answer specific questions.

B Visual displays and summary statistics condense the information in data sets into usable knowledge.

C Randomness is the foundation for using statistics to draw conclusions when testing a claim or estimating plausible values for a population characteristic.

D The design of an experiment or sample survey is of critical importance to analyzing the data and drawing conclusions.

A Coherent Understanding of Statistics. Decisions or predictions are often based on data—numbers in context. These decisions or predictions would be easy if the data always sent a clear message, but the message is often obscured by variability in the data. Statistics provides tools for describing variability in data and for making informed decisions that take variability into account.

Data are gathered, displayed, summarized, examined and interpreted to discover patterns. Data can be summarized by a statistic measuring center, such as mean or median, and a statistic measuring spread, such as interquartile range or standard deviation. Different distributions can be compared numerically using these statistics or visually using plots. Which statistics to compare, and what the results of a comparison might mean, depend on the question to be investigated and the real-life actions to be taken.

Randomization has two important uses in drawing statistical conclusions. First, collecting data from a random sample of a population makes it possible to draw valid conclusions about the whole population, taking variability into account. Second, randomly assigning individuals to different treatments allows a fair comparison of the effectiveness of those treatments. A statistically significant outcome is one that is unlikely to be due to chance and this can be evaluated only under the condition of randomness.

In critically reviewing uses of statistics in public media and other reports, it is important to consider the study design, how the data were collected, and the analyses employed as well as the data summaries and the conclusions drawn.

Connections to Probability, Functions and Modeling. Valid conclusions about a population depend on designed simulations or other statistical studies using random sampling or assignment and rely on probability for their interpretation. Functional models may be used to approximate data. If the data are approximately linear, the relationship may be modeled with a trend line and the strength and direction of such a relationship may be expressed through a correlation coefficient. Technology facilitates the study of statistics by making it possible to simulate many possible outcomes in a short amount of time, and by generating plots, function models, trend lines and correlation coefficients.

Core Skills · Students can and do:

1 Formulate questions that can be addressed with data. Identify the relevant data, collect and organize it to respond to the question.

Include determining whether a question can best be addressed through a sample survey, randomized experiment or observational study. Include unbiased selection for a sample and randomization of assignment to treatment for an experiment.

2 Use appropriate displays and summary statistics for data.

Include univariate, bivariate, categorical and quantitative data. Include the thoughtful selection of displays and measures of center and spread to summarize data.

3 Interpret data displays and summaries critically; draw conclusions and develop recommendations.

Include paying attention to the context of the data, interpolating or extrapolating judiciously, and examining the effects of extreme values of the data on summary statistics of center and spread. Include data sets that follow a normal distribution. Include observing and interpreting linear trends in bivariate quantitative data.

4 Draw statistical conclusions involving population means or proportions using sample data.

Conclusions should be based on simulations or other informal techniques, rather than formulas.

5 Evaluate reports based on data.

Include looking for bias or flaws in the way the data were gathered or presented, as well as unwarranted conclusions, such as claims that confuse correlation with causation.

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English Language Arts

K–12

Introduction

The *Standards for English Language Arts K–12* are the culmination of an extended, broad-based effort to fulfill the charge issued by the states to create the next generation of English language arts (ELA) standards. Its companion document, *Standards for Literacy in History and Science 6–12*, extends the same principle to communication skills in other content areas. The present work, led by the Council of Chief State School Officers (CCSSO) and the National Governors Association (NGA), builds on the foundation laid by states in their decades-long work on crafting high-quality education standards. The *Standards* also draw upon the most important international models as well as research and input from numerous sources, including scholars, assessment developers, professional organizations, and educators from kindergarten through college. In their design and content, the *Standards* represent a synthesis of the best elements of standards-related work to date and an important advance over that previous work.

As specified by CCSSO and NGA, the *Standards* are (1) research and evidence based, (2) aligned with college and work expectations, (3) rigorous, and (4) internationally benchmarked. A particular standard was to be included in the document only when the best available evidence indicated that its mastery was essential for students to be college and career ready in a twenty-first-century, globally competitive society. As new and better evidence emerges, the *Standards* will be revised accordingly.

The *Standards* are an extension of a prior initiative led by CCSSO and NGA to develop college and career readiness (CCR) standards in reading, writing, and speaking and listening as well as in mathematics. The CCR Reading, Writing, and Speaking and Listening Standards, released in draft form in September 2009, served as a touchstone for the present work. While the format, structure, content, and purpose of that earlier document differ in some ways from this document, the basic aims and concepts are clearly connected. The main difference is that while the earlier CCR document defined a goal toward which education efforts should aim—college and career readiness for all students—the current document describes the progressive development of skills and understandings across the grades necessary for all students to reach that goal. Just as feedback on the September 2009 CCR draft has greatly influenced the design and development of the K–12 standards, so too will the response to the K–12 standards help guide subsequent revisions to the CCR standards. In their final forms, both documents—CCR and K–12—will be tightly aligned and mutually supporting.

While the *Standards* treat college and career readiness for all students as the end point—an ambitious goal in its own right—many students will reach this point before the end of high school. For them, advanced work in literature, composition, language, history, science, and so on should be available. It is beyond the scope of the *Standards* to describe what such advanced work should consist of, but it needs to provide the next logical step up from the college and career readiness baseline established here.

As a natural outgrowth of meeting the charge to define college and career readiness, the *Standards* also lay out a vision of what it means to be a literate person in the twenty-first century. Indeed, the skills and understandings students must demonstrate have broad applicability outside of the classroom or workplace. The *Standards* insist upon the sort of close, attentive reading that is at the heart of understanding and appreciating the aesthetics of literature. They require the sort of critical reading that is necessary to sift carefully through the staggering amount of information available today in print and online. They demand the sort of wide, deep, and thoughtful engagement with high-quality literary and informational text that builds knowledge, enlarges experience, and broadens world views. They mandate the sort of cogent reasoning and use of evidence that is essential to both private deliberation and responsible citizenship in a democratic republic. In short, they promote the development of skills in reading, writing, speaking, and listening that are the foundation for any creative and purposeful expression in language.

Key design considerations

A blend of cross-cutting and specific standards

The Reading, Writing, and Speaking and Listening strands include two levels of standards. The cross-cutting Core Standards are the same across the two *Standards* documents, their commonality emphasizing the broad responsibility within the school for meeting the standards and also facilitating schoolwide professional development. Then there are specific Standards that are unique to a given content area, which respects the particular demands of reading, writing, speaking, and listening in ELA and in other disciplines.

A focus on results rather than means

The *Standards* define what all students must learn, not everything that teachers are allowed to teach. By focusing on required achievements, the *Standards* leave room for teachers, curriculum developers, and states to determine how those goals should be reached and what additional topics should be addressed. The *Standards* require, for example, that all students be able to produce writing in a variety of situations, including those that allow time for revision. The *Standards* do not, however, specify a particular writing process that students must use (although certain elements common to process-writing approaches, particularly revision, are embedded in the requirements). Teachers are thus freed—and obligated—to provide students with whatever tools and knowledge their professional judgment and experience identify as most helpful for those assignments that allow for multiple drafts. Similarly, the *Standards*, with their emphasis on observable outcomes, do not enumerate various metacognitive strategies that students may need to use to monitor and direct their thinking and learning.

Shared responsibility for literacy

The *Standards for English Language Arts K–12* and the *Standards for Literacy in History and Science 6–12* together establish the requirement that instruction in reading, writing, speaking, listening, and language use be a shared responsibility. The *Standards* present reading instruction in K–5 as fully integrative, including a rich blend of narratives, drama, poetry, and informational text. ELA-specific instruction in grades 6 and above includes fiction, poetry, and drama but also a particular form of informational text: literary exposition and argument (e.g., speeches, essays, and historical documents with significant cultural importance and literary merit). Teachers in other content areas must use their unique disciplinary expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language use in their respective field. Progress toward college and career readiness and building a rich knowledge base require that at least half of the reading students do must focus on history, science and related disciplines. This distributed approach honors the unique place of English language arts instruction in literacy development while ensuring that students have communication skills tailored to the demands of other disciplines. It also reflects the reality that students must communicate effectively in a wide range of disciplines, not just ELA.

Grade bands to describe growth, grades to focus instruction

Evidence consulted in creating the *Standards* suggests that beyond the earliest grades, major developments in students' literacy skills typically occur across spans of grades rather than within individual grades. This document stays true to that evidence by organizing standards after grade 3 into multiyear bands (grades 4–5, 6–8, 9–10, and 11–CCR). At the same time, the work of educating students does proceed on a day-to-day, year-to-year basis. Any standards document must therefore provide guidance to educators on what each year's instruction and assessment should look like. To make the grade specific focuses for instruction clear, after the descriptions of the standards in each area of ELA, we provide a one page summary of the grade specific focuses for each grade from fourth grade onwards, including how the grade specific focus in each area relates to the grade band requirements. The Standards offer that focus through several grade-specific elements:

- Single-grade standards in many areas of kindergarten and grades 1, 2, and 3
- Text complexity expectations in Reading, beginning at grade 2
- Areas of focus in Writing, beginning at grade 4

- Areas of focus in the Conventions section of Language Development, beginning at grade 4

Research and media skills integrated into the standards as a whole

To be ready to meet the challenges of the twenty-first century, students need a mix of the communication skills that have served literate people for millennia and new competencies necessary in an information- and media-saturated world. To be ready for college, workforce training, and life in a technological society, students need the ability to gather, comprehend, evaluate, synthesize, report on, and create a high volume and extensive range of print and nonprint texts in media forms old and new. Just as the need to research and to consume and produce media are embedded into every element of today's curriculum, so too are the associated skills and understandings embedded throughout the *Standards* rather than treated separately. Web links to sample media texts are included selectively among the reading text exemplars in Appendix B to reinforce the point that print and online materials can be used together instructionally to enhance students' understanding.

An integrated model of English language arts

Although the *Standards* divide the English language arts into Reading, Writing, Speaking and Listening, and Language Development strands for conceptual purposes, the processes of communication are in theory and practice an undivided whole. As illustrated in the graphic that introduces each grade or grade band and as embodied in the content of the standards themselves, reading, writing, speaking, listening, and language development are tightly interrelated and often reciprocal.

Central features of the document

Reading and Literature: Text complexity and the growth of comprehension

As students advance through the grades, they must be able to handle independently texts of steadily increasing complexity and be able to gain more from what they read. Beginning formally at grade 2, the *Standards* specify what proportion of texts students read should be within grade band and, at some grades, above grade band. (Additional material in Appendix A of the *Standards* defines and explains text complexity in more detail.) Whatever texts they are reading, students must also show a steadily increasing ability to discern more from and make fuller use of text. This means, for example, finding and making an increasing number of connections among ideas and between texts; considering a wider range of textual evidence; and becoming more sensitive to inconsistencies, ambiguities, and poor reasoning in texts. The *Standards* place growing demands on students' comprehension at each higher grade or grade band to ensure that all students are college- and career-ready readers no later than the end of high school.

Writing and Research: Text types, grade-level focuses, and research

While some writing skills, such as the ability to reflect audience, purpose, and task in what one writes, are important for many types of writing, others are more properly part of writing in specific text types: narrative, informative and explanatory text, and argument. Beginning at grade 4, the *Standards* specify the sorts of writing over extended and shorter timeframes that students in each grade must be able to produce in response to sources. Although conducting research calls upon reading, speaking, listening, and language skills, writing is typically central to analyzing information and presenting findings. The *Standards* pair writing and research to signal that close connection.

Speaking and Listening: Flexible communication

Including but not limited to skills necessary for formal presentations, the Speaking and Listening strand requires students to develop a range of broadly useful oral communication and interpersonal skills: listening attentively, participating productively, exchanging information, and speaking effectively. Students must learn to sift through and evaluate multiple points of view; listen thoughtfully in order to build on and constructively question the ideas of others while contributing their own ideas; and, where appropriate, reach agreement and common goals through teamwork.

Language Development: Conventions and vocabulary

The Conventions standards in the Language Development strand include the essential "rules" of formal written and spoken English, but they also approach language as a matter of craft and informed choice among alternatives. Thus, standards pertaining to grammar and usage, mechanics, and the fundamentals of language and writing are accompanied by standards on word choice and style. The Vocabulary standards focus both on understanding words and their nuances and on acquiring new words through conversation and reading and by being taught them directly. Rather than require that students use one particular skill or another to determine a word's meaning, the Vocabulary standards insist only that students get the proper meaning, with the means (context, word analysis, and so on) to be chosen flexibly based on the situation.

Appendices

The *Standards* include a range of supporting materials that help explain and enrich the main document:

- Appendix A contains a model of text complexity, including both qualitative and quantitative measures of how easy or hard a text is to read, as well as supplementary statements about instruction in writing, language conventions, and vocabulary
- Appendix B consists of text exemplars at all grades/bands to illustrate appropriate complexity and quality in the text types required by the Reading standards
- Appendix C consists of annotated writing samples to show how grade- or grade-band-appropriate writing embodies the relevant Writing standards

January 2010

Student Practices in Reading, Writing, Speaking, Listening, and Language Use

The following Student Practices in reading, writing, speaking, listening, and language use undergird and help unify the rest of the *Standards*. The Student Practices are not themselves standards: every idea introduced here is subsequently represented in one or more places within the larger document. They are, rather, the "premises" — broad statements about the nature of college and career readiness in reading, writing, speaking, listening, and language use — that underlie the individual standards and cut across the various sections of the document.

* * *

As students progress toward being college and career ready, they exhibit with increasing fullness and regularity the following capacities in their reading, writing, speaking, listening, and language use:

1. They demonstrate independence as readers, writers, speakers, listeners, and language users.

Students can, without significant scaffolding or support, comprehend and evaluate complex text across a range of types and disciplines, and they can construct effective arguments and clearly convey intricate or multifaceted information. Likewise, students are independently able to discern a speaker's key points as well as ask questions, build on others' ideas, and articulate their own ideas. They apply language conventions without prompting. On their own, they determine the meaning of words in context and acquire and use new words.

2. They build strong content knowledge.

Students build a base of knowledge across a wide range of subject matter by engaging with works of quality and substance. They demonstrate their ability to become proficient in new areas through research and study. They read purposefully and listen attentively to gain both general knowledge and the discipline-specific expertise needed to comprehend subject matter and solve problems in different fields. They refine their knowledge and share it through substantive writing and speaking.

3. They respond to the varying demands of audience, task, purpose, and discipline.

Students consider their reading, writing, speaking, listening, and language use in relation to the contextual factors of audience, task, purpose, and discipline. They appreciate nuances, such as how the composition and familiarity of the audience should affect tone and how the connotations of words affect meaning. They also know that different disciplines call for different types of evidence (e.g., documentary evidence in history, experimental evidence in the sciences).

4. They comprehend as well as critique.

Students are engaged and open-minded — but skeptical — readers and listeners. They work diligently to understand precisely what an author or speaker is saying, but they also question an author's or speaker's assumptions and assess the veracity of claims.

5. They privilege evidence.

Students cite specific evidence when offering an oral or written interpretation of a text. They use relevant evidence when supporting their own points in writing and speaking, making their reasoning clear to the reader or listener, and they constructively evaluate others' use of evidence.

6. They care about precision.

Students are mindful of the impact of specific words and details, and they consider what would be achieved by different choices. Students pay especially close attention when precision matters most, such as in the case of reviewing significant data, making important distinctions, or analyzing a key moment in the action of a play or novel.

7. They craft and look for structure.

Students attend to structure when organizing their own writing and speaking as well as when seeking to understand the work of others. They understand and make use of the ways of presenting information typical of different disciplines. They observe, for example, how authors of literary works craft the structure to unfold events and depict the setting.

8. They use technology strategically and capably.

Students employ technology thoughtfully to enhance their reading, writing, speaking, listening, and language use. They tailor their searches online to acquire useful information efficiently, and they integrate what they learn using technology with what they learn offline. They are familiar with the strengths and limitations of various technological tools and mediums and can select and use those best suited to their communication goals.

9. They come to understand other perspectives and cultures.

Students appreciate that the twenty-first-century classroom and workplace are diverse settings in which people from often widely divergent backgrounds must learn and work together. They actively seek to understand other perspectives and cultures through reading and listening. They do not simply adopt other points of view as their own but rather evaluate them critically and constructively. Literature can play a special role in expanding students' horizons in this way: through reading great classic and contemporary works, students can vicariously inhabit worlds and experiences much different than their own.

English Language Learners

The *Standards* articulate rigorous grade-level expectations in the areas of speaking, listening, reading and writing to prepare students to be college and career ready. English language learners (ELLs) must be held to the same high standards expected of students who are already proficient in English. However, because these students are acquiring English language proficiency and content area knowledge concurrently, some students will require additional time and all will require appropriate instructional support and aligned assessments.

ELLs are a heterogeneous group with differences in ethnic background, first language, socio-economic status, quality of prior schooling, and levels of English language proficiency. Effectively educating these students requires adjusting instruction and assessment in ways that consider these factors. For example ELLs who are literate in a first language that shares cognates with English can apply first-language vocabulary knowledge when reading in English; likewise ELLs with high levels of schooling can bring to bear conceptual knowledge developed in their first language when reading in a second language. On the other hand, ELLs with limited or interrupted schooling will need to acquire background knowledge prerequisite to educational tasks at hand. As they become acculturated to US schools, ELLs who are newcomers will need sufficiently scaffolded instruction and assessments to make sense of content delivered in a second language and display this content knowledge.

While some ELLs are economically and educationally advantaged, this is not the case for many of these students. Moreover, once in the U.S., the majority of ELLs attend high poverty schools with high percentages of other ELLs. These schools often lack the resources and capacity needed to help ELLs reach high academic standards. However, schools and districts can be assisted in providing a positive learning environment that capitalizes on the linguistic and cultural diversity of the student body.

To help ELLs meet high academic standards in reading, writing, speaking, listening and language use it is essential that ELLs have access to:

- The requisite coursework to prepare them for post-secondary education or the workplace;
- Coursework that is made comprehensible for students learning content in a second language, through specific pedagogical techniques and additional resources;
- Teachers, as well as school-level and district personnel, who are well prepared and qualified to support English-language learners;
- Well designed opportunities for classroom discourse and interaction to enable ELLs to develop communicative strengths in language arts
- Speakers of English who know the language well enough to provide the ELLs with models and support; and
- Ongoing assessment and feedback to guide learning.

It is also worth noting that instruction for these students is additionally guided by language proficiency standards that language arts teachers can use in conjunction with the English language arts standards to help ELLs become fully proficient and literate in English.

Access for Students with Disabilities

The *Standards* articulate rigorous expectations in the areas of reading, writing, speaking, listening, and language use in order to prepare students to be college and career ready. These standards identify the knowledge and skills students must acquire in order to be successful. Research shows that students with disabilities are capable of high levels of learning and should not be limited by low expectations and watered down curriculum. The vast majority of this population of students, including students with intellectual impairments,[1] *can* achieve proficiency when they receive high-level instruction and accommodations. It is imperative that these highly capable students regardless of their disability are held to the same expectations articulated in the Core Standards as other students.

However, *how* these high standards are taught is of the utmost importance in reaching students with special needs. When acquiring the knowledge and skills represented in the Core Standards, students with disabilities may need accommodations[2] or—in exceptional cases—modified goals, incorporated in an individualized education program (IEP),[3] to help them access information or demonstrate their knowledge. In instances when a standard asks students to perform actions they are physically incapable of, students will need to be presented with alternative options to demonstrate similar knowledge and skills within the range of their abilities. Accommodations based on individual needs allow students of all disability levels to learn within the framework of the *Standards*.

Meeting English Language Arts (ELA) Standards

Reading, writing, speaking, listening, and language use standards—given the nature of the standards themselves—often require accommodations for students with disabilities. For example, a standard that calls for "listening" should be interpreted to include reading sign language. "Speaking" should be read broadly to include "communication" or "self-expression." "Reading" should allow for students' use of Braille, screen reader technology, or other assistive devices to demonstrate comprehension skills. In a similar vein, "writing" should not preclude the use of a scribe, computer, or speech-to-text technology. With appropriate accommodations and support, students with all levels of disabilities can participate in the general education curriculum and achieve grade-level proficiency with regard to the ELA content and skills articulated in the *Standards*.

In short, while the *Standards* set and retain high expectations for all students, they may need to be translated and occasionally modified to apply appropriately to students with disabilities, including all levels of intellectual impairment. Promoting a culture of high expectations for all students is a fundamental goal of the *Standards*. Achieving this goal requires the inclusion of students with disabilities.

[1] Less than two percent of the population of all students and less than 20% of the population of students with disabilities.

[2] See the Council of Chief State School Officers, (2005). *Testing Students and State Personnel on Accommodations: A Study of State Practices, Challenges, and Resources* at http://www.ccsso.org/publications/details.cfm?PublicationID=221 for further explanation and evidence around accommodations.

[3] According to the Individuals with Disabilities Act (IDEA), an IEP includes appropriate accommodations that are necessary to measure the individual achievement and functional performance of a child.

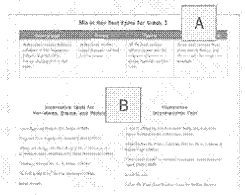
How to Read This Document

The *Standards* are divided into an ELA-specific document (*Standards for English Language Arts K–12*) and a literacy document for history and science (*Standards for Literacy in History and Science 6–12*). The ELA document includes standards for and examples of history and science reading in K–5.

The ELA-specific document is organized by grade (kindergarten and grades 1, 2, and 3) and grade band (grades 4–5, 6–8, 9–10, and 11–CCR). The *Standards for Literacy in History and Science* are organized by grade band (grades 4–5, 6–8, 9–10, and 11–CCR). Each grade/band is divided into strands—Reading, Writing, Speaking and Listening, and Language Development.

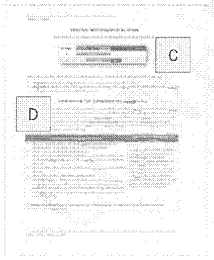
While all strands contain standards statements, each strand also has its own specific features.

Reading and Literature (ELA)/Reading (History/Science)

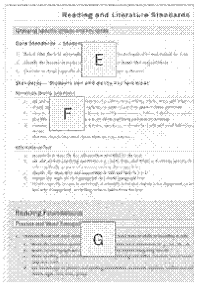


Kindergarten and grade 1 begin with the **mix of key text types (A)**, which identifies the genres and subgenres of reading material appropriate for each grade. This is followed by a list of **illustrative texts (B)** in the key text types. This list is suggestive of the sorts of texts appropriate for the grade in terms of complexity and quality; excerpts appear in Appendix B.

Grades 2–3, 4–5, 6–8, 9–10, and 11–CCR include this information immediately after a graphic specifying **required text complexity by grade (C)**—in brief, the proportion of texts within and above grade band that students must read each year. (For example, 70% of the texts that grade 3 students read should come from the grades 2–3 text complexity band, while the other 30% should come from the grades 4–5 band.) An overview of the method for **determining text complexity (D)** in the particular grade band follows. (A fuller treatment is provided in Appendix A.)

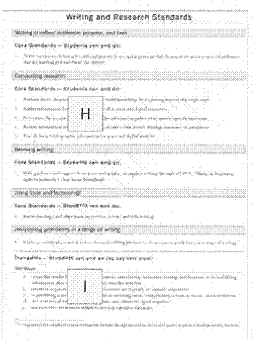


All grades/bands organize standards under a number of boxed subheadings (e.g., "Grasping specific details and key ideas"). The standards at all grade levels are divided into **cross-cutting Core Standards (E)**, which are numbered and applicable to many types of reading, and more specific **Standards (F)**, which are lettered and organized by text type (e.g., "Narratives, Drama, and Poetry"). Kindergarten and grades 1, 2, and 3 also include boxed sections of **reading foundations (G)**, which enumerate basic concepts of print and other foundational skills in reading that very young students must acquire.



Writing and Research

Cross-cutting **Core Standards (H)**, which are numbered and apply to many types of writing, are organized under a number of boxed subheadings (e.g., "Writing to reflect audience, purpose, and task"). **Standards (I)** specific to writing in particular text types narrative, informative and explanatory text, and argument are lettered and follow in a separate section. In kindergarten through grade 5, writing arguments takes the form of opinion writing, hence the parenthetical notation next to "Arguments" in those grades/bands.

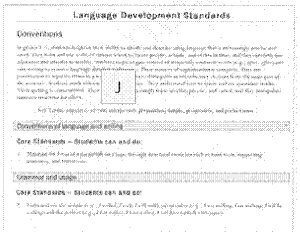


Speaking and Listening

Cross-cutting **Core Standards**, which are numbered and apply to speaking and listening in many situations, are grouped with lettered **Standards**, which set requirements for speaking and listening in key communication (e.g., "Presentation of Ideas and Information").

Language Development

This strand is organized differently in the ELA and history/science documents. The ELA strand comprises two full sections: Conventions and Vocabulary. Each section includes numbered **Core Standards** organized under a number of boxed subheadings (e.g., "Mechanics") and introduced by a brief summative paragraph and list of **key terms (J)** intended to be taught explicitly in grade-appropriate ways. ELA Vocabulary consists of three subsections determining the meaning of words, understanding the nuances of words, and acquiring vocabulary under each of which numbered Core Standards appear. Language Development in the history/science document consists of the summative paragraphs for Conventions and all of the Vocabulary section found in ELA except for nuances in word meaning.

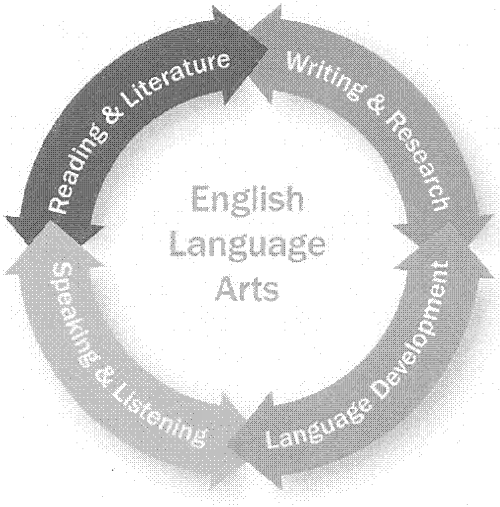


Focus for Instruction

Beginning with grade 4, a page summarizing grade-level responsibility, including grade-specific areas of focus, is provided to help distinguish responsibilities within multiyear bands.

English Language Arts

Kindergarten



Mix of Key Text Types for Kindergarten

Narratives	Drama	Poetry	Informational Text
At this level, includes children's adventure stories, biographies, folktales, legends, fables, fantasy, realistic fiction, and myth.	*At this level, includes staged dialogue and brief familiar scenes.*	*At this level, includes nursery rhymes and the subgenres of narrative poems, limericks, and free verse.*	*At this level, includes books about science, history, and the arts and other nonfiction materials.*

Illustrative Texts for Narratives, Drama, and Poetry[4]

Are You My Mother? by P.D. Eastman (1960)

Put Me in the Zoo by Robert Lopshire (1960)

"Mix a Pancake" by Christina Rosetti (1986)

Wouldn't You?" by John Ciardi (1986)

Illustrative Informational Texts

My Five Senses by Aliki (1962)

Read Alouds:

Amazing Whales! by Sarah L. Thomson (2005)

The Year at Maple Hill Farm by Alice and Martin Provensen (1978)

[4] See Appendix B for other texts illustrative of Kindergarten-Grade 1 text complexity. This list includes read-alouds.

Reading and Literature Standards[5]

Grasping specific details and key ideas

Core Standards -- Students can and do:

1. Retell key details and information drawn from the text.
2. Explain the subject of the text or the problem the characters face.
3. Answer questions about characters and events that take place in the text.

Standards -- Students can and do (by key text type):

Narratives, Drama, and Poetry

a. retell the beginnings, middles, and endings of stories
b. ask and answer questions about details of a text
c. identify the problems that characters face in a story and the lessons learned
d. identify the feelings of characters and the reasons for their actions
e. differentiate between realistic and fantastical elements within a story

Informational Text

a. restate key information (e.g., events, subject, ideas) from a text
b. ask and answer questions about details of a text

Reading Foundations

Print Concepts

1. Students demonstrate understanding of the organization and basic features of print.
   a. identify basic features and conventions of books and other written texts (e.g., front cover, back cover, title, author)
   b. understand that print is left to right, top to bottom, and page by page
   c. understand that words are separated by spaces in print
   d. recognize and name all upper- and lowercase letters of the alphabet

Linguistic Awareness

2. Students gain awareness of spoken words, syllables, and phonemes.
   a. recognize, recite, and produce rhyming words
   b. count, pronounce, blend, and segment syllables in spoken words
   c. recognize, blend, and segment onset and rimes of spoken words (*/g/ – /at/*; */bl/ – /ock/*)
   d. count or place tokens for individual words in spoken phrases or simple sentences
   e. orally blend and segment individual phonemes in simple, one-syllable words
   f. demonstrate phonemic awareness by isolating and pronouncing the initial and final phonemes (sounds) in three-phoneme /CVC/ words without consonant blends (e.g., */rod/*, */save/*, */him/*)
   g. add or substitute individual phonemes in simple, one-syllable words to make new words (e.g., */at/* → */sat/* → */mat/* → */map/*.)

[5] The expectation is that students can fulfill these standards with texts they read independently as well as texts that are read aloud to them.

Observing craft and structure

Core Standards — Students can and do:

4. Identify the meanings of words and phrases as they are used in the text.
5. Identify important parts or sections of texts.
6. Compare and contrast characters or events from different stories.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. identify words and phrases that suggest feelings or appeal to the senses
b. identify similarities in beginning and ending sounds of words in children's poems and songs
c. identify parts of a story and parts of a poem as well as sections of informational picture books and tell how they are different
d. identify common characteristics of folktales and fairy tales, including their use of rhyme, rhythm, and repetition
e. participate (e.g., react, speculate, read along, act out) when familiar texts are read aloud
f. compare and contrast characters or events from different stories written by the same author or written about similar subjects

Informational Text

a. identify basic text features and what they mean, including titles and subtitles, table of contents, and chapters

Reading Foundations, continued

Phonics and Word Recognition

3. Students know and apply grade level phonics and word analysis skills in decoding words.
   a. demonstrate basic knowledge of letter-sound correspondences by producing the primary or most frequent sound for each consonant
   b. identify which letters represent the five major vowels and know the long and short sound of each
   c. blend letter sounds to decode short vowel CVC words (e.g., *cat, mop, sun*)
   d. read at least 25 very high frequency words by sight (e.g., *of, to, he, she, is, do, does*)

Developing Fluency

4. Students read with sufficient accuracy and fluency to support comprehension.
   a. read rebus and preprimer texts with purpose and understanding
   b. demonstrate increased accuracy and fluency on successive readings of a text

Integrating information and evaluating evidence

Core Standards — Students can and do:

7. Use text illustrations to predict or confirm what the text is about.
8. Identify words in a text that link ideas and events together.
9. Identify who is telling a story or providing information in the text.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. use pictures, illustrations, and context to make predictions about and confirm story content
b. identify words in a story that link events together (e.g., *first/second, then, next, before/after, later, finally*)
c. identify who is the speaker in a story or poem

Informational Text

a. identify words that link ideas together (e.g., *also, in addition, for example, but*)
b. identify the author and sources of information when provided by the text

Developing habits for reading text

Core Standards — Students can and do:

10. Begin to read independently and/or with a partner, sustaining effort necessary to build understanding.

Writing and Research Standards

Writing to reflect audience, purpose, and task

Core Standards — Students can and do:

1. Write narratives, informative and explanatory texts, and opinions that communicate to a familiar, known audience.

Conducting research

Core Standards — Students can and do:

2. Gather information from experiences or provided text sources.

Revising writing

Core Standards — Students can and do:

3. With specific guidance, add details to strengthen writing through revision.

Using tools and technology

Core Standards — Students can and do:

4. Gain familiarity with technology and other tools to produce, revise, and edit writing.

Standards — Students can and do (by key text type):[6]

Narratives

a. establish a situation in time and/or place
b. recount several loosely linked actions in a short, familiar event, controlling for chronological order
c. provide a reaction to what happened

Informative and Explanatory Texts

a. establish the topic in a title or first sentence
b. supply facts and information relevant to the topic

Arguments (opinions)

a. introduce the topic directly, or use the title of a book when writing about a text
b. express preferences or opinions (e.g., *My favorite book is . . .*) relevant to the topic
c. provide a reason for preference or opinion (e.g., *It reminded me of when I met my friend Carlos*)
d. use linking words that express causality (e.g., *I like . . . because . . .*)

Speaking and Listening Standards

Listening closely and participating productively

Core Standards — Students can and do:

1. Participate productively in group activities requiring speaking and listening.
2. Listen closely to and sustain attention on texts read aloud as well as other sources of information presented orally, visually, or multi-modally and confirm understanding by restating the information and answering pertinent questions.

Standards — Students can and do (by key communication type):

Classroom discussions and participating productively

a. initiate and participate in conversations with peers and adults through multiple exchanges, attending to the comments of others
b. confirm understanding by restating information or answering questions about what has been discussed
c. ask questions to get information, ask for help, or clarify something that is not understood
d. follow norms for conversation, such as listening to others and taking turns to speak

Exchanging information and speaking effectively

Core Standards — Students can and do:

[6] See Appendix D for samples of student writing that illustrate through annotations the level of quality required to meet the writing standards.

3. Share experiences and ideas that demonstrate an awareness of their listeners.
4. Speak audibly and clearly.

Standards — Students can and do (by key communication type):

Presentation of ideas and information

a. describe people, places, things, and events with relevant facts and examples
b. recite or read aloud poems, rhymes, songs, and stories, speaking clearly at an understandable pace

Language Development Standards

Conventions

In kindergarten, students learn to form letters and words in print and to relate sounds (phonemes) to one or more letters. They understand the notion of a sentence, that a sentence performs one of a few basic functions (make a statement, ask a question, or issue a command), and that end punctuation can signal the sentence's function or intensity. With prompting and assistance, they form and expand basic sentences in order to express thoughts, beginning the sentence with a capital letter. Students have a sense of what a noun is, of what singular and plural nouns are, and of how plural nouns are often formed. They also know how to use the most frequently occurring prepositions.

Key Terms: exclamation point, capital/uppercase and lowercase letter, singular and plural noun, period, punctuation, question mark, sentence

Conventions of language and writing

Core Standards — Students can and do:

1. Print all upper- and lowercase letters.
2. Write a letter or letters for each consonant and short-vowel sound (phoneme).

Grammar and usage

Core Standards — Students can and do:

3. Produce and expand complete sentences in shared writing and language activities.
4. Use and understand question words (e.g., *what, where, when, who, which, how*).
5. Form regular plural nouns by adding /s/ or /es/ (e.g., *dog, dogs; wish, wishes; baby, babies*).
6. Demonstrate understanding of the most frequently occurring prepositions (e.g., *to/from, in/out, on/off, for, of, by, with*).

Mechanics

Core Standards — Students can and do:

7. Capitalize the first word in a sentence and the pronoun *I*.
8. Identify end punctuation, including periods, question marks, and exclamation points.

9. Spell simple words phonetically using knowledge of sound-letter relationships.

Vocabulary

Key to students' vocabulary development is building rich and flexible word knowledge marked by multiple connections that link a word to similar words and to contexts and experiences that are related to that word as compared to simply a definition. In kindergarten, students learn about words in terms of like versus unlike and "similar but not quite the same," using objects and movements as aids. They learn to use descriptive language to distinguish one object from another and order and position words to describe sequences and spatial relationships. They acquire new words through interactive language use, including informal talk, discussion, listening to and responding to texts read aloud as well as by being taught the words directly.

Determining the meaning of words

Core Standards — Students can and do:

1. Sort common objects into categories (e.g., shapes, foods).

Understanding the nuances of words (denotations and connotations)

Core Standards — Students can and do:

2. Act out the meaning of verbs describing the same general action (e.g., *walk, march, strut, prance*) to gain a sense of their different meanings.
3. Demonstrate understanding of common adjectives by relating them to their opposites (antonyms).
4. Use common adjectives to distinguish objects (e.g., the *small blue* square, the *shy white* rabbit).

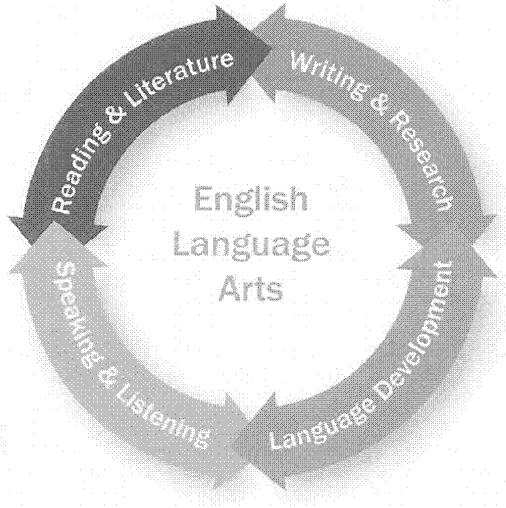
Acquiring vocabulary

Core Standards — Students can and do:

5. Demonstrate meaning of new vocabulary taught directly and gained through conversations and hearing texts read aloud.
6. Demonstrate understanding of words that express order and position (e.g., *first, middle, last; before, after; under, over*).

English Language Arts

Grade 1



Mix of Key Text Types for Grade 1

Narratives	Drama	Poetry	Informational Text
At this level, includes children's adventure stories, biographies, folktales, legends, fables, fantasy, realistic fiction, and myth.	*At this level, includes staged dialogue and brief, familiar scenes.*	*At this level, includes nursery rhymes and the subgenres of narrative poems, limericks, and free verse.*	*At this level, includes books about science, history, and the arts and other nonfiction materials.*

Illustrative Texts for Narratives, Drama, and Poetry[2]

Green Eggs and Ham by Dr. Seuss (1960)

Frog and Toad Together by Arnold Lobel (1971)

Henry and Mudge: The First Book of Their Adventures by Cynthia Rylant, illustrated by Sucie Stevenson (1987)

"Halfway Down" by A. A. Milne (1924)

"It Fell in the City" by Eve Merriam (1986)

Read alouds:

Little House in the Big Woods by Laura Ingalls Wilder, illustrated by Garth Williams (1932)

Zin! Zin! Zin! a Violin by Lloyd Moss, illustrated by Marjorie Priceman (1995)

Illustrative Informational Texts

A Tree Is a Plant by Clyde Robert Bulla, illustrated by Stacey Schuett (text: 1960/illus: 2001)

What Do You Do With a Tail Like This? by Steve Jenkins & Robin Page (2003)

"Our Good Earth" in *National Geographic Young Explorer*, April (2009)

Read alouds:

Follow the Water from Brook to Ocean by Arthur Dorros (1991)

Living Sunlight: How Plants Bring the Earth to Life by Molly Bang & Penny Chisholm, illustrated by Molly Bang (2009)

[2] See Appendix C for other texts illustrative of Kindergarten-Grade 1 text complexity. This list includes read-alouds.

Reading and Literature Standards[3]

Grasping specific details and key ideas

Core Standards — Students can and do:

1. Retell key details and information drawn from the text.
2. Explain the subject of the text or the problem the characters face.
3. Answer questions about characters and events that take place in the text.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. retell the beginnings, middles, and endings of stories
b. ask and answer questions about details of a text
c. identify the problems that characters face in a story and the lessons learned
d. identify the feelings of characters and the reasons for their actions
e. differentiate between realistic and fantastical elements within a story

Informational Text

a. restate key information (e.g., events, subject, ideas) from a text
b. ask and answer questions about details of a text

Reading Foundations

Linguistic Awareness

1. Students gain awareness of spoken words, syllables, and phonemes.
   a. aurally distinguish long from short vowel sounds in spoken single-syllable words (e.g., */tap/* vs. */tape/*; */sock/* vs. */soak/*; */at/* vs. */ate/*)
   b. produce single-syllable words by orally blending phonemes, including consonant blends (e.g., */cats/*, */black/*, */blast/*)
   c. isolate and pronounce initial, medial vowel, and final phonemes (sounds) in single-syllable words (e.g., *fast, fast, fast*)
   d. orally segment single-syllable words into their complete sequence of individual phonemes

[3] The expectation is that students can fulfill these standards with texts they read independently as well as texts that are read aloud to them.

Observing craft and structure

Core Standards — Students can and do:

4. Identify the meanings of words and phrases as they are used in the text.
5. Identify important parts or sections of texts.
6. Compare and contrast characters or events from different stories.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. identify words and phrases that suggest feelings or appeal to the senses
b. identify similarities in beginning and ending sounds of words in children's poems and songs
c. identify parts of a story and parts of a poem as well as sections of informational picture books and tell how they are different
d. identify common characteristics of folktales and fairy tales, including their use of rhyme, rhythm, and repetition
e. participate (e.g., react, speculate, read along, act out) when familiar texts are read aloud
f. compare and contrast characters or events from different stories written by the same author or written about similar subjects

Informational Text

a. identify basic text features and what they mean, including titles and subtitles, table of contents, and chapters

Reading Foundations, continued

Phonics and Word Recognition

2. Students know and apply grade-level phonics and word analysis skills in decoding words.

a. know the common spelling-sound correspondences for consonants (e.g., *wr-, sh, ck, ll*)
b. know vowel digraph and final-*e* conventions for representing long vowels
c. know spelling-sound correspondences for diphthongs and other common vowel teams (e.g., *loud, cow, book, loop, boy, boil*)
d. use knowledge of phonics and spelling conventions to decode regularly spelled one-syllable words (e.g., *stick, march, night, nice, bake, spring*)
e. understand that every syllable must have a vowel sound and use that knowledge to determine the number of syllables in a word
f. decode two-syllable words following basic patterns (e.g., *rabbit, magnet, napkin, pickle, butter*)
g. read words with inflectional endings (e.g., *-s, -es, ies, -ed, ied, -ing, -er, -est*)
h. use phonics to decode visually new words when reading
i. recognize grade-appropriate, irregularly spelled words by sight

Integrating information and evaluating evidence

Core Standards — Students can and do:

7. Use text illustrations to predict or confirm what the text is about.
8. Identify words in a text that link ideas and events together.
9. Identify who is telling a story or providing information in the text.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. use pictures, illustrations, and context to make predictions about and confirm story content
b. identify words in a story that link events together (e.g., *first/second, then, next, before/after, later, finally*)
c. identify who is the speaker in a story or poem

Informational Text

a. identify words that link ideas together (e.g., *also, in addition, for example, but*)
b. identify the author and sources of information when provided by the text

Developing habits for reading text

Core Standards — Students can and do:

10. Begin to read independently and/or with a partner, sustaining effort necessary to build understanding.

Reading Foundations, continued

Developing Fluency

3. Students read with sufficient accuracy and fluency to support comprehension.

a. demonstrate increased accuracy, fluency, and expression on successive readings of a text
b. use context to confirm or self-correct word recognition and understanding, rereading as necessary
c. read aloud, alone, or with a partner at least 15 minutes each day, in school or out

Writing and Research Standards

Writing to reflect audience, purpose, and task

Core Standards — Students can and do:

1. Write narratives, informative and explanatory texts, and opinions that communicate to a familiar, known audience.

Conducting research

Core Standards — Students can and do:

2. Gather information from experiences or provided text sources.

Revising writing

Core Standards — Students can and do:

3. With specific guidance, add details to strengthen writing through revision.

Using tools and technology

Core Standards — Students can and do:

4. Gain familiarity with technology and other tools to produce, revise, and edit writing.

Standards — Students can and do (by key text type):[9]

Narratives

a. establish a situation in time and/or place that is appropriate for the sequence of events to follow
b. develop appropriately sequenced actions within one or more events using linking words, phrases, or clauses to signal chronological ordering
c. provide a reaction to what happened
d. include dialogue if appropriate, and some details
e. provide a sense of closure and/or a reflective statement

Informative and Explanatory Texts

a. include some sort of beginning to establish the topic (beyond using the title of the piece)
b. supply facts and information relevant to the topic
c. use simple additive linking words (e.g., *and, first, second*) to create connections between the facts
d. provide examples relevant to the topic
e. provide a sense of closure

Arguments (opinions)

a. introduce the topic or book directly, or use the title of the book as an introduction
b. state opinions (e.g., *My best friend is . . .*) relevant to the topic
c. provide reasons for opinions and details to support them

[9] See Appendix C for samples of student writing that illustrate through annotations the level of quality required to meet the writing standards.

d. use linking words that express causality (e.g., *I like . . . because . . .*)
e. refer to the content of the text when writing about literature

Speaking and Listening Standards

Listening closely and participating productively

Core Standards — Students can and do:

1. Participate productively in group activities requiring speaking and listening.
2. Listen closely to and sustain attention on texts read aloud as well as other sources of information presented orally, visually, or multi-modally and confirm understanding by restating the information and answering pertinent questions.

Standards — Students can and do (by key communication type):

Classroom discussions and participating productively

a. initiate and participate in conversations with peers and adults through multiple exchanges, attending to the comments of others
b. confirm understanding by restating information or answering questions about what has been discussed
c. ask questions to get information, ask for help, or clarify something that is not understood
d. follow norms for conversation, such as listening to others and taking turns to speak

Exchanging information and speaking effectively

Core Standards — Students can and do:

3. Share experiences and ideas that demonstrate an awareness of their listeners.
4. Speak audibly and clearly.

Standards — Students can and do (by key communication type):

Presentation of ideas and information

a. describe people, places, things, and events with relevant facts and examples
b. recite or read aloud poems, rhymes, songs, and stories, speaking clearly at an understandable pace

Language Development Standards

Conventions

In grade 1, students gain increasing skill and independence in sentence formation and development. They have a sense of what a verb is and that its form changes to signal different time periods (past, present, and future). Their repertoire of prepositions continues to expand, and they use pronouns with regularity. Students capitalize names, places, and dates. They use end punctuation as well as commas in dates and in simple series of words. Their range of word-formation and spelling strategies grows.

Key Terms: comma, pronoun, verb

Grammar and usage

Core Standards — Students can and do:

1. Produce and expand complete sentences in response to questions and prompts.
2. Use subject, object, and possessive pronouns (e.g., *I, me, my; they, them, their*).
3. Use verbs to convey a sense of past, present, and future in writing and speaking (e.g., *Today I walk home; Yesterday I walked home; Tomorrow I will walk home*).
4. Demonstrate understanding of frequently occurring prepositions (e.g., *during, beyond, toward*).

Mechanics

Core Standards — Students can and do:

5. Capitalize names, places, and dates.
6. Use end punctuation for sentences, including periods, question marks, and exclamation points.
7. Use commas in dates and to separate single words in a series.
8. Form new words through addition, deletion, and substitution of sound and letters (e.g., *an* → *man* → *mat* → *mast* → *must* → *rust* → *crust*).
9. Use conventional spelling for words with common spelling patterns and common irregular words.
10. Use phonetic spellings for untaught words, drawing on phonemic awareness and spelling conventions.

Vocabulary

Key to students' vocabulary development is building rich and flexible word knowledge marked by multiple connections that link a word to similar words and to contexts and experiences that are related to that word as compared to simply a definition. In grade 1, students begin to sort words themselves into categories rather than the objects that they name. They are able to define familiar words (e.g., *duck*) in a two-step process of identifying a category (bird) to which it belongs and naming one or more attributes that distinguish this category member from others (able to swim). Students grasp that many words they know can mean different things depending on how the word is used, and they make distinctions between and among closely related verbs and adjectives in terms of manner and intensity. They acquire new words through interactive language use, including informal talk, discussion, listening to and responding to texts read aloud as well as by being taught the words direct.

Determining the meaning of words

Core Standards — Students can and do:

1. Sort words into categories (e.g., colors, clothing).
2. Define words by category and by one or more key attributes (e.g., a *duck* is a bird that swims; a *tiger* is a large cat with stripes).
3. Demonstrate understanding of the concept of multiple-meaning words (e.g., *match, kind, play*) by identifying various meanings of some grade-appropriate examples of such words.

Understanding the nuances of words (denotations and connotations)

Core Standards — Students can and do:

4. Define, choose, or act out the meaning of closely related verbs that differ in manner (e.g., *look, peek, glance, stare, glare, scowl; speak, shout, mumble, whine, whimper, murmur*).
5. Distinguish among closely related adjectives that differ in intensity (e.g., *large, gigantic; hot, scalding; tasty, delicious; quiet, silent*).

Acquiring vocabulary

Core Standards — Students can and do:

6. Acquire and use new vocabulary taught directly and gained through conversations and hearing texts read aloud.

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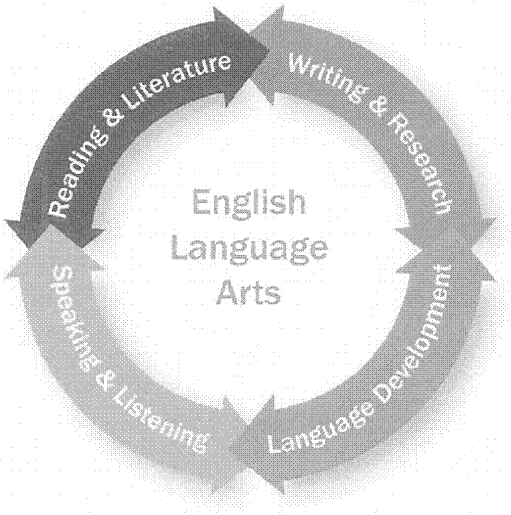
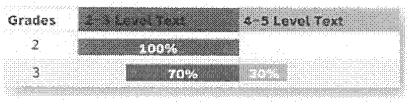
English Language Arts

Grade 2



Required Text Complexity by Grade

Proportion of Texts Within and Above Grade Band to be Read in Each Grade



While advancing through the grades, students must engage with texts of steadily increasing complexity.

- **In grade 2**, students focus on reading texts in the 2–3 grade band level with scaffolding likely required for texts at the high end of the range.

Determining Text Complexity for Grades 2–3

Text complexity is determined by a mix of qualitative and quantitative measures of the text itself refined by teachers professional judgment about the match of particular texts to particular students. The qualitative dimensions of text complexity are best understood as continua of increasing complexity rather than as representing discrete and easily defined stages. Most authentic texts will exhibit some but not all of the traits linked to a particular grade band; qualitatively assigning a text to a grade band is therefore a matter of "best fit," or determining which grade band's set of descriptors most accurately describes the text.

Qualitative Measures of Texts[10]	Quantitative Measures of Texts
• *Structure:* Explicit, simple, conventional; simple graphic representations are supplementary to meaning; texts are relatively short • *Purpose:* Single; explicitly stated • *Style and Language:* Familiar, accessible, plain; few literary devices; mostly clear, everyday language; limited use of Tier 2 and 3 words and figurative language • *Richness:* A few ideas/concepts; concrete; low information density • *Relationships:* A few connections; explicit • *Knowledge Demands:* Ability to handle simple themes and fantastical elements as well as draw upon common, everyday experiences; general background knowledge and familiarity with genre conventions required; some everyday and general content knowledge	A study is underway with Coh-Metrix, a nonprofit research organization, to identify roughly five to seven computer-measurable dimensions of text cohesion. These dimensions, paired with a Lexile score, will yield a robust quantitative assessment of text complexity that, along with both the qualitative dimensions and professional judgment, will round out the Core Standards model of complexity.
Professional Judgment that weighs students' prior knowledge and life experiences as well as their interests, motivations, and maturity level.	

[10] Adapted from ACT, Inc., (2005), Carnegie Council on Advancing Adolescent Literacy (2010), Chall, Bissex, Conrad, & Harris-Sharples (1996), and Hess and Biggam (2004)

Mix of Key Text Types for Grade 2

Narratives	Drama	Poetry	Informational Text
At this level, includes children's adventure stories, biographies, folktales, legends, fables, fantasy, realistic fiction, and myth.	*At this level, includes staged dialogue, scenes, and brief, familiar scenes.*	*At this level, includes nursery rhymes and the subgenres of narrative poems, limericks, and free verse.*	*At this level, includes books about science, history, and the arts and other nonfiction materials.*

Illustrative Texts for Narratives, Drama, and Poetry[11]

Crow Boy by Taro Yashima (1955)

The Stories Julian Tells by Ann Cameron (1981)

Tops and Bottoms by Janet Stevens (1995)

"Grandpa's Stories" by Langston Hughes (1958)

"Weather" by Eve Merriam (1969)

Read alouds:

The Cricket in Times Square by George Selden, illustrated by Garth Williams (1960)

"Fireflies" by Paul Fleischman, illustrated by Eric Beddows (1988)

Illustrative Informational Texts

Maps & Globes by Jack Knowlton, pictures by Harriet Barton (1985)

Sunshine Makes the Seasons by Franklyn M. Branley (1985)

From Seed to Plant by Gail Gibbons (1991)

Boy, Were We Wrong About Dinosaurs by Kathleen V. Kudlinski, illustrated by S.D. Schindler (2005)

[11] See Appendix B for other texts illustrative of Grades 2-3 text complexity.

Reading and Literature Standards

Grasping specific details and key ideas

Core Standards — Students can and do:

1. Retell what the text says explicitly and make inferences required to understand the text.
2. Identify the lessons or topics of the text and the key details that support them.
3. Describe in detail a specific character, event, or topic in the text.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. ask and answer clarifying questions (e.g., how, why, where, when, who, and what) concerning specific details in the text and refer explicitly to parts of a text to answer these questions
b. identify or infer the moral or lesson in well-known stories, fables, folktales, or myths
c. describe how major events in a story often lead from problem to solution
d. examine a specific incident in a story, narrative, or drama in depth and establish when, where, and why it occurs
e. describe characters based upon what they say and do

Informational Text

a. accurately restate the key information provided by the text
b. ask and answer clarifying questions (e.g., how, why, and what) concerning specific details in the text and refer explicitly to parts of a text to answer these questions
c. identify the main idea and supporting details and facts in a text
d. explain the topic of each paragraph in a multi-paragraph text
e. identify specific events in historical or scientific texts and discuss what happened, as well as where, when, and why it happened, according to facts taken from the text

Reading Foundations

Phonics and Word Recognition

1. Students know and apply grade-level phonics and word analysis skills in decoding words.
   a. know the common spelling-sound correspondences for consonants (e.g., *wr-, sh, -ck, -ll*)
   b. know vowel digraph and final-e conventions for representing long vowels
   c. know spelling-sound correspondences for diphthongs and other common vowel teams (e.g., *loud, cow, look, loop, boy, bail*)
   d. use knowledge of phonics and spelling conventions to decode regularly spelled one-syllable words (e.g., *sick, march, sight, slice, bake, spring*)

Observing craft and structure

Core Standards — Students can and do:

4. Explain the meanings of words and phrases as they are used in the text.
5. Gain familiarity with different ways of presenting stories and information in text.
6. Compare and contrast different versions of the same story or informational texts on the same subject.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. recognize sensory details and how they are used to describe events, feelings, and objects
b. describe the different ways poets use rhyme, rhythm, and sensory images to convey a topic or message
c. identify repetitions in phrases, refrains, or sounds in poems and songs
d. describe story elements, including characters, setting, the problem, and how it is resolved
e. discuss stories written by the same author about similar characters or compare different versions of similar well-known tales and myths from various cultures

Informational Text

a. locate key words, facts, or other details using features of texts (e.g., captions, headings, glossaries, indexes, electronic menus, and icons)
b. distinguish between writing that is based on real events and writing that is based on fantasy or fictional events
c. combine information from two different parts of a text and identify how they are related (e.g., chronology, causation)
d. after reading two passages on the same subject, combine the information to more fully describe a topic

Reading Foundations, continued

Developing Fluency

2. Students read with sufficient accuracy and fluency to support comprehension.
   a. demonstrate increased accuracy, fluency, and expression on successive readings of a text
   b. use context to confirm or self-correct word recognition and understanding, rereading as necessary
   c. read alone or with a partner at least 20 minutes each day, in school or out

Integrating information and evaluating evidence

Core Standards — Students can and do:

7. Locate and use information from graphs, illustrations, and electronic sources.
8. Identify and understand words and phrases that indicate logical relationships.
9. Identify who is telling the story or providing information at any given point in the text.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. efficiently navigate stories in print and electronic text and explain how images and illustrations connect to and clarify the content
b. identify who is telling the story or who is speaking in a drama

Informational Text

a. use information from visual elements of print and electronic texts (e.g., graphs, maps, charts, illustrations, photographs, diagrams) and explain how they help a reader understand the text
b. identify words (e.g., *such as, because, therefore, in order to, since*) that logically connect ideas in sentences and paragraphs

Developing habits for reading complex text

Core Standards — Students can and do:

10. Develop the habit of reading independently and productively, sustaining concentration and stamina to read increasingly demanding text.

Writing and Research Standards

Writing to reflect audience, purpose, and task

Core Standards — Students can and do:

1. Write narratives, informative and explanatory texts, and opinions that communicate to a familiar, known audience.

Conducting research

Core Standards — Students can and do:

2. Gather information from experiences or provided text sources.

Revising writing

Core Standards — Students can and do:

3. With specific guidance, strengthen writing through revision.

Using tools and technology

Core Standards — Students can and do:

4. Gain familiarity with technology and other tools to produce, revise, and edit writing.

Standards — Students can and do (by key text type):[12]

Narratives

a. establish a situation in time and/or place that is appropriate for the sequence of events to follow
b. recount a single well-elaborated event or sequence of events, managing chronological sequence with temporal words, phrases, and clauses
c. tell what the narrator thought or felt
d. include dialogue if appropriate and specific details
e. provide closure through reaction, commentary, or summation

Informative and Explanatory Texts

a. produce a brief introduction
b. create an organizational structure that presents similar information together, frequently patterned after chapter book headings or picture books
c. use adequate and specific facts and definitions to develop points
d. use linking words, such as *also, another, and,* and *more,* to connect ideas within categories of information, and headers to signal groupings
e. include a concluding sentence or section

Arguments (opinions)

a. introduce the topic or book(s) directly
b. state opinion(s) relative to the topic
c. provide reasons for opinions and details to support them
d. create a list-like structure for organization
e. use words to link and organize opinions and reason(s) (e.g., *because, another, and, also*)
f. refer to the text(s) when writing about literature
g. close with a concluding statement or recommendation

Speaking and Listening Standards

Listening closely and participating productively

Core Standards — Students can and do:

1. Participate productively in small groups and as a class, engaging in a series of oral exchanges about texts and topics.

[12] See Appendix C for samples of student writing that illustrate through annotations the level of quality required to meet the writing standards.

2. Sustain concentration on information presented orally, visually, or multi-modally and confirm understanding by paraphrasing the information.

Standards — Students can and do (by key communication type):

Classroom discussions and participating productively

a. engage in conversations on familiar topics
b. paraphrase the key information or ideas of others presented orally or through other media
c. inquire about oral or visual presentations to deepen understanding or clarify comprehension
d. link additions to conversation to the previous remarks of others
e. participate productively by listening politely to the ideas of others, taking turns speaking, and extending their ideas in light of discussions

Exchanging information and speaking effectively

Core Standards — Students can and do:

3. Share experiences and ideas, thinking about the needs of their listeners.
4. Speak audibly and clearly at an understandable pace.

Standards — Students can and do (by key communication type):

Presentation of ideas and information

a. recount stories or experiences with descriptive details by answering who, what, where, when, how, and why questions about them
b. report on a topic, including appropriate facts and details
c. use appropriate tone to express ideas, feelings, and needs clearly
d. recite or read aloud poems, rhymes, songs, and stories, speaking clearly at an understandable pace

Language Development Standards

Conventions

In grade 2, students create sentences of expanding length and complexity, though their control over these sentences is likely to be imperfect. Their command of noun and verb formation extends to common irregular forms. Students capitalize correctly in most situations. Their use of punctuation has grown to include commas in greetings and closings of letters as well as apostrophes to form contractions and to signal possession. Their spelling is increasingly conventional, and they now consult references, such as beginning dictionaries, to aid them when needed.

Key Terms: apostrophe, contraction, regular and irregular nouns and verb, possessive

Grammar and usage

Core Standards — Students can and do:

1. Generate and expand sentences with embedded, dependent, or conjoined clauses (e.g., *After we came home from school, I fed the gerbil and my sister cleaned the cage*).
2. Form common irregular plural nouns (e.g., *feet, children, teeth, mice, fish, women*).

3. Form the past tense of common irregular verbs (e.g., *sat, hid, told*).

Mechanics

Core Standards — Students can and do:

4. Capitalize holidays, product names, geographic names, and important words in titles.
5. Use commas in greetings and closings of letters.
6. Use apostrophes to punctuate contractions and to form common possessives.
7. Use conventional spelling for high-frequency and other studied words.
8. Generalize learned spelling patterns when writing words (e.g., *cage → badge; boy → boil; paper → copper*).
9. Use spelling rules for adding suffixes to base words (e.g., *sitting, smiled, cries, happiness*).
10. Consult reference materials, including beginning dictionaries, to check and correct spellings.

Vocabulary

In grade 2, students use a repertoire of strategies for dealing with unknown words. They can analyze the word itself, consider how it is used, consult reference materials, use the components of a compound word as clues to the word's meaning, or employ some combination of these strategies to determine or clarify word meanings. They figure out which meaning of a multiple-meaning word is most likely intended in a particular circumstance, and they differentiate among the connotations of related verbs and adjectives. They acquire new words through interactive language use, including informal talk, discussion, reading and responding to text as well as by being taught the words directly.

Determining the meaning of words

Core Standards — Students can and do:

1. Determine or clarify the meaning of an unknown word by using one or more of the following strategies:
   - identifying its base word when it has affixes (e.g., *happiness, finally, grimy, busily*)
   - determining how it is used in a sentence when reading, including whether it names or describes a thing or an action
   - consulting reference materials, including glossaries and beginning dictionaries, both print and digital
2. Determine the relevant meaning of multiple-meaning words by using context.
3. Explain the meaning of grade-appropriate compound words (e.g., *birdhouse, lighthouse, housefly; bookshelf, notebook, bookmark*).

Understanding the nuances of words (denotations and connotations)

Core Standards — Students can and do:

4. Distinguish among related verbs (e.g., *toss, throw, hurl*) to gain a sense of their shadings of meaning.
5. Distinguish among related adjectives (e.g., *thin, slender, skinny, scrawny; irritated, mad, angry, furious*) to gain a sense of their shadings of meaning.

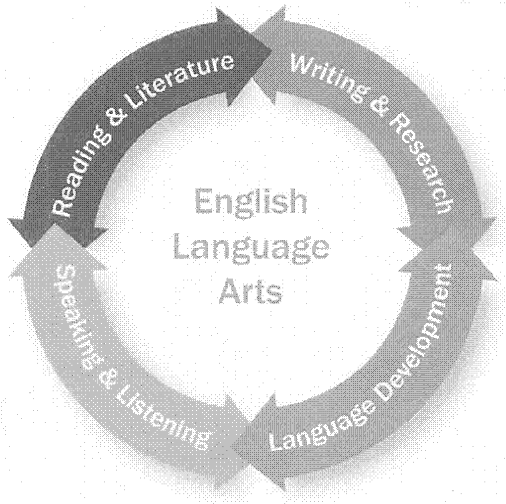
Acquiring vocabulary

Core Standards — Students can and do:

6. Acquire and use new vocabulary taught directly and gained through reading and conversations.

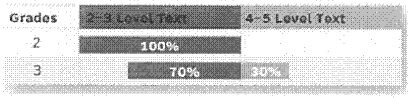
English Language Arts

Grade 3



Required Text Complexity by Grade

Proportion of Texts Within and Above Grade Band to be Read in Each Grade



While advancing through the grades, students must engage with texts of steadily increasing complexity.

- **In grade 3,** students focus on reading texts in the 2–3 grade band level text (70 percent) independently and are introduced to texts in the 4–5 grade band level as "stretch" texts (30 percent), which will likely require scaffolding.

Determining Text Complexity for Grades 2–3

Text complexity is determined by a mix of qualitative and quantitative measures of the text itself refined by teachers' professional judgment about the match of particular texts to particular students. The qualitative dimensions of text complexity are best understood as continua of increasing complexity rather than as representing discrete and easily defined stages. Most authentic texts will exhibit some but not all of the traits linked to a particular grade band; qualitatively assigning a text to a grade band is therefore a matter of "best fit," or determining which grade band's set of descriptors most accurately describes the text.

Qualitative Measures of Texts[13]	Quantitative Measures of Texts
• *Structure:* Explicit, simple, conventional; simple graphic representations are supplementary to meaning; texts are relatively short • *Purpose:* Single; explicitly stated • *Style and Language:* Familiar, accessible, plain; few literary devices; mostly clear, everyday language; limited use of Tier 2 and 3 words and figurative language • *Richness:* A few ideas/concepts; concrete; low information density • *Relationships:* A few connections; explicit • *Knowledge Demands:* Ability to handle simple themes and fantastical elements as well as draw upon common, everyday experiences; general background knowledge and familiarity with genre conventions required; some everyday and general content knowledge	A study is underway with Coh-Metrix, a nonprofit research organization, to identify roughly five to seven computer-measurable dimensions of text cohesion. These dimensions, paired with a Lexile score, will yield a robust quantitative assessment of text complexity that, along with both the qualitative dimensions and professional judgment, will round out the Core Standards model of complexity.
Professional Judgment that weighs students' prior knowledge and life experiences as well as their interests, motivations, and maturity level.	

[13] Adapted from ACT, Inc., (2003); Carnegie Council on Advancing Adolescent Literacy (2010); Chall, Bissex, Conrad, & Harris-Sharples (1996); and Hess and Biggam (2004)

Mix of Key Text Types for Grade 3

Narratives	Drama	Poetry	Informational Text
At this level, includes children's adventure stories, biographies, folktales, legends, fables, fantasy, realistic fiction, and myth.	*At this level, includes staged dialogue, scenes, and brief familiar scenes.*	*At this level, includes nursery rhymes, and the subgenres of narrative poems, limericks, and free verse.*	*At this level, includes books about science, history, and the arts and other nonfiction materials.*

Illustrative Texts for Narratives, Drama, and Poetry[14]

My Father's Dragon by Ruth Stiles Gannett, illustrated by Ruth Chrisman Gannett (1948)

Sarah, Plain and Tall by Patricia MacLachlan (1985)

The One-Eyed Giant (Book One of Tales from the Odyssey) by Mary Pope Osborne (2002)

"Knoxville, Tennessee" by Nikki Giovanni (1968)

"Eating While Reading" by Gary Soto (1995)

Read Alouds:

"How the Camel Got His Hump" in *Just So Stories* by Rudyard Kipling (1902)

Illustrative Informational Text

A Medieval Feast by Aliki (1983)

So You Want to Be President? by Judith St. George, illustrated by David Small (2000)

Bat Loves the Night by Nicola Davies, illustrated by Sarah Fox-Davies (2008)

Moonshot: The Flight of Apollo 11 by Brian Floca (2009)

[14] See Appendix B for other texts illustrative of Grades 2–3 text complexity.

Reading and Literature Standards

Grasping specific details and key ideas

Core Standards — Students can and do:

1. Retell what the text says explicitly and make inferences required to understand the text.
2. Identify lessons or topics of the text and the key details that support them.
3. Describe in detail a specific character, event, or topic in the text.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. ask and answer clarifying questions (e.g., how, why, where, when, who, and what) concerning specific details in the text and refer explicitly to parts of a text to answer these questions
b. identify or infer the moral or lesson in well-known stories, fables, folktales, or myths
c. describe how major events in a story often lead from problem to solution
d. examine a specific incident in a story, narrative, or drama in depth, and establish when, where, and why it occurs
e. describe characters based upon what they say and do

Informational Text

a. accurately restate key information provided by the text
b. ask and answer clarifying questions (e.g., how, why, and what) concerning specific details in the text and refer explicitly to parts of a text to answer these questions
c. identify the main idea and supporting details and facts in a text
d. explain the topic of each paragraph in a multi-paragraph text
e. identify specific events in historical or scientific texts and discuss what happened, as well as where, when, and why it happened, according to facts taken from the text

Reading Foundations

Phonics and Word Recognition

1. Students know and apply grade-level phonics and word analysis skills in decoding words.
   a. identify and know the meaning of the most common prefixes and derivational suffixes (e.g., *un-, re-, mis-, -ful, -tion, -able*)
   b. decode regularly spelled single-syllable and multi-syllable words (e.g., *vocabulary, refrigerator, terrible, frightening*)
   c. read grade-appropriate irregularly spelled words by sight
   d. use phonics and word analysis to identify visually new words when reading

Observing craft and structure

Core Standards — Students can and do:

4. Explain the meanings of words and phrases as they are used in the text.
5. Gain familiarity with different ways of presenting stories and information in text.
6. Compare and contrast different versions of the same story or informational texts on the same subject.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. recognize sensory details and how they are used to describe events, feelings, and objects
b. describe the different ways poets use rhyme, rhythm, and sensory images to convey a topic or message
c. identify repetitions in phrases, refrains, or sounds in poems and songs
d. describe story elements, including characters, setting, the problem, and how it is resolved
e. discuss stories written by the same author about similar characters or compare different versions of similar well-known tales and myths from various cultures

Informational Text

a. locate key words, facts, or other details using features of texts (e.g., captions, headings, glossaries, indexes, electronic menus, and icons)
b. distinguish between writing that is based on real events and writing that is based on fantasy or fictional events
c. combine information from two different parts of a text and identify how they are related (e.g., chronology, causation)
d. after reading two passages on the same subject, combine the information to more fully describe a topic

Integrating information and evaluating evidence

Core Standards — Students can and do:

7. Locate and use information from graphs, illustrations, and electronic sources.
8. Identify and understand words and phrases that indicate logical relationships.
9. Identify who is telling the story or providing information at any given point in the text.

Reading Foundations, continued

Developing Fluency

2. Students read with sufficient accuracy and fluency to support comprehension.
   a. demonstrate increased accuracy, fluency, and expression on successive readings of a text
   b. use context to confirm or self-correct word recognition and understanding, rereading as necessary
   c. read at least 20 minutes each day, in school or out

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. efficiently navigate stories in print and electronic text and explain how images and illustrations connect to and clarify the content
b. identify who is telling the story or who is speaking in a drama

Informational Text

a. use information from visual elements of print and electronic texts (e.g., graphs, maps, charts, illustrations, photographs, diagrams) and explain how they help a reader understand the text
b. identify words (e.g., *such as, because, therefore, in order to, since*) that logically connect ideas in sentences and paragraphs

Developing habits for reading complex text

Core Standards — Students can and do:

10. Develop the habit of reading independently and productively, sustaining concentration and stamina to read increasingly demanding text.

Writing and Research Standards

Writing to reflect audience, purpose, and task

Core Standards — Students can and do:

1. Write narratives, informative and explanatory texts, and opinions that communicate to a familiar, known audience.

Conducting research

Core Standards — Students can and do:

2. Gather information from experiences or provided text sources.

Revising writing

Core Standards — Students can and do:

3. With specific guidance, strengthen writing through revision.

Using tools and technology

Core Standards — Students can and do:

4. Gain familiarity with technology and other tools to produce, revise, and edit writing.

Standards — Students can and do (by key text type):[15]

Narratives

a. set the time, indicate a location, introduce characters, or enter immediately into the story line to engage the reader
b. recount a single, well-elaborated event or a sequence of events that unfold naturally using temporal words, phrases, and clauses
c. tell what the narrator thought or felt
d. develop a focus, provide pacing, and include only relevant information
e. develop a character through the description of external behavior
f. provide descriptive details
g. employ dialogue and other narrative strategies
h. provide a satisfying conclusion that is reflective and/or that effectively ties up loose ends

Informative and Explanatory Texts

a. produce an introduction that names the topic and provides at least one general detail about it
b. create an organizational structure that presents similar information together, frequently patterned after chapter book headings or picture books
c. use adequate, relevant, and specific facts and definitions to develop points
d. logically categorize details and facts drawn from personal experience and other sources
e. use linking words, such as *also, another, and,* and *more,* to connect ideas within categories of information, and use headers to signal groupings
f. include only appropriate information
g. include a concluding sentence or section

Arguments (opinions)

a. introduce the topic or book(s) directly, and attempt to capture the reader's interest
b. state an opinion relative to the topic (e.g., *This is a good book* or *John is a good friend*)
c. provide facts and details to support the opinion
d. create a list-like organizing structure that provides reasons for the opinion
e. use appropriate words to link and organize opinions and reason(s) (e.g., *because, another, and, also*)
f. refer to the text(s) when writing about literature
g. provide a concluding statement, reflection, and/or recommendation

[15] See Appendix C for samples of student writing that illustrate through annotations the level of quality required to meet the writing standards.

Speaking and Listening Standards

Listening critically and participating productively

Core Standards — Students can and do:

1. Participate productively in small groups and as a class, engaging in a series of oral exchanges about texts and topics.
2. Sustain concentration on information presented orally, visually, or multi-modally and confirm understanding by paraphrasing the information.

Standards — Students can and do (by key communication type):

Classroom discussions and participating productively

a. engage in conversations on familiar topics
b. paraphrase the key information or ideas of others presented orally or through other media
c. inquire about oral or visual presentations to deepen understanding or clarify comprehension
d. link additions to conversation to the previous remarks of others
e. participate productively by listening politely to the ideas of others, taking turns speaking, and extending their ideas in light of discussions

Exchanging information and speaking effectively

Core Standards — Students can and do:

3. Share experiences and ideas, thinking about the needs of their listeners.
4. Speak audibly and clearly at an understandable pace.

Standards — Students can and do (by key communication type):

Presentation of ideas and information

a. recount stories or experiences with descriptive details by answering who, what, where, when, how, and why questions about them
b. report on a topic, including appropriate facts and details
c. use appropriate tone to express ideas, feelings, and needs clearly
d. recite or read aloud poems, rhymes, songs, and stories, speaking clearly at an understandable pace

Language Development Standards

Conventions

By grade 3, students have learned the foundations of written and spoken language, including letter, word, and sentence formation and crucial forms of punctuation. They ensure agreement between subject and verb and between pronoun and antecedent in simple situations. Students use quotation marks to indicate dialogue. They know most of the conventions of spelling and consult references to look up words when they still have difficulty. They use precise everyday language to describe and begin to consider the effects of word choice in writing and speaking.

Key Terms: subject-verb and pronoun-antecedent agreement, comma splice, fragment, run-on, quotation mark

Conventions of language and writing

Core Standards — Students can and do:

1. Group related ideas into a paragraph.

Grammar and usage

Core Standards — Students can and do:

2. Generate complete sentences, avoiding fragments, comma splices, and run-ons.*
3. Ensure subject-verb and pronoun-antecedent agreement.*

Mechanics

Core Standards — Students can and do:

4. Use quotation marks in dialogue.
5. Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing regular words.
6. Consult reference materials, including dictionaries, to check and correct spellings.

Word choice and style

Core Standards — Students can and do:

7. Use precise everyday language.
8. Choose words for effect.*[16]

[16] Conventions standards noted with an asterisk (*) need to be revisited by students in subsequent grades. See Appendix A for a full listing.

Vocabulary

Key to students' vocabulary development is building rich and flexible word knowledge marked by multiple connections that link a word to similar words and to contexts and experiences that are related to that word as compared to simply a definition. In grade 3, students use their repertoire of strategies to determine and clarify the meaning of unknown and multiple-meaning words. They know that words are sometimes used in nonliteral ways and can use that knowledge to help them understand common idioms. They learn and can paraphrase many common idioms and sayings. They recognize that words have nuances in meaning and rely on context and background knowledge to sort among related words that describe abstract concepts. They acquire new words through interactive language use, including informal talk, discussion, reading and responding to text as well as by being taught the words directly.

Determining the meaning of words

Core Standards — Students can and do:

1. Determine or clarify the meaning of an unknown word by using one or more of the following strategies:
   - using prefixes and suffixes when it is a multimorpheme word (e.g., *thoughtless, recycle, unforgettable*)
   - determining how it is used in a sentence when reading
   - consulting reference materials, including glossaries and dictionaries, both print and digital
2. Determine the meaning of multiple-meaning words by using context.
3. Distinguish between literal and nonliteral uses of language.
4. Paraphrase the meaning of common idioms and sayings.

Understanding the nuances of words (denotations and connotations)

Core Standards — Students can and do:

5. Distinguish among related words that describe states of mind, degrees of certainty, or other abstract concepts (e.g., *knew, believed, suspected, heard, wondered*).

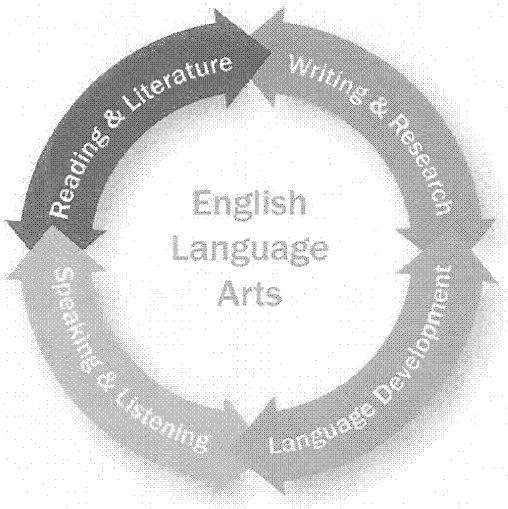
Acquiring vocabulary

Core Standards — Students can and do:

6. Acquire and use new vocabulary taught directly and gained through reading and conversations.

English Language Arts

Grades 4–5



Required Text Complexity by Grade

Proportion of Texts Within and Above Grade Band to be Read in Each Grade

While advancing through grades 4–5, students must engage with texts of steadily increasing complexity:

- **In grade 4**, students focus on reading texts in the 4–5 grade band level with scaffolding likely required for texts at the high end of the range.
- **In grade 5**, students focus on reading in the 4–5 grade band level (70 percent) independently and are introduced to texts in the 6–8 grade band level as "stretch" texts (30 percent), which will likely require scaffolding.

Determining Text Complexity for Grades 4–5[17]

Text complexity is determined by a mix of qualitative and quantitative measures of the text itself refined by teachers' professional judgment about the match of particular texts to particular students. The qualitative dimensions of text complexity are best understood as continua of increasing complexity rather than as representing discrete and easily defined stages. Most authentic texts will exhibit some but not all of the traits linked to a particular grade band; qualitatively assigning a text to a grade band is therefore a matter of "best fit," or determining which grade band's set of descriptors most accurately describes the text.

Qualitative Measures of Texts	Quantitative Measures of Texts
• *Structure:* Largely explicit and direct; graphic representations are supplementary to meaning; texts are of increasing length • *Purpose:* Single or twofold; clearly indicated • *Style and Language:* Moderately accessible; some literary devices; some everyday language; some use of Tier 2 and Tier 3 words and figurative language • *Richness:* Some ideas/concepts; mostly concrete; moderate information density • *Relationships:* Some connections; largely explicit • *Knowledge Demands:* Ability to handle fairly simple themes, consider a perspective somewhat different from one's own, and understand unfamiliar experiences; general background knowledge and familiarity with genre conventions required; some general and discipline-specific content knowledge	A study is underway with Colt-Metrix, a nonprofit research organization, to identify roughly five to seven computer-measurable dimensions of text cohesion. These dimensions, paired with a Lexile score, will yield a robust quantitative assessment of text complexity that, along with both the qualitative dimensions and professional judgment, will round out the Core Standards model of complexity.
Professional Judgment that weighs students' prior knowledge and life experiences as well as their interests, motivations, and maturity level.	

[17] Adapted from ACT, Inc., (2005), Carnegie Council on Advancing Adolescent Literacy (2010); Chall, Bissex, Conrad, & Harris-Sharples (1996); and Hess and Biggam (2004)

Mix of Key Text Types for Grades 4–5

Narratives	Drama	Poetry	Informational Text
At this level, includes children's adventure stories, biographies, folktales, legends, fables, fantasy, realistic fiction, and myth.	*At this level, includes staged dialogue and brief familiar scenes.*	*At this level, includes nursery rhymes, and the subgenres of narrative poems, limericks, and free verse.*	*At this level, includes books about science, history, and the arts and other nonfiction materials and digital media sources on a range of topics.*

Illustrative Texts for Narratives, Drama, and Poetry[18]	Illustrative Informational Texts
Alice in Wonderland by Lewis Carroll (1865)	*Discovering Mars* by Melvin Berger (1992)
The Little Prince by Antoine de Saint-Exupery (1943)	*Hurricanes: Earth's Mightiest Storms* by Patricia Lauber (1996)
Bud, Not Buddy by Christopher Paul Curtis (1999)	"Ancient Mound Builders" by E. Barrie Kavash from *Cobblestone* (2003)
"The Echoing Green" from *Songs of Innocence* by William Blake (1789)	*Volcanoes* by Seymour Simon (2006)
"Casey at the Bat" by Ernest Lawrence Thayer (1888)	"Kenya's Long Dry Season" by Nellie Gonzalez Cutler from *Time for Kids* (2009)
"Words Free As Confetti" by Pat Mora (1996)	"Seeing Eye to Eye" by Leslie Hall from *National Geographic Explorer* (2009)
Where the Mountain Meets the Moon by Grace Lin (2009)	

[18] See Appendix B for other texts illustrative of Grades 4–5 text complexity.

Reading and Literature Standards

Grasping specific details and key ideas

Core Standards — Students can and do:

1. Determine what the text says explicitly and make inferences required for understanding; explain how those inferences stem from the text.
2. Articulate the main ideas and themes of the text and provide a summary that captures the key supporting details.
3. Describe in detail two or more characters, events, or topics in the text and explain how they are related to one another.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. determine the theme of a story or drama, basing the understanding of theme on how characters adapt or change in response to the challenges posed in the plot
b. summarize accurately the significant events of a play or narrative in chronological order, describing where, when, why, and how specific actions take place
c. describe characters based on evidence from their thoughts, words, deeds, and interactions with others
d. describe the setting in detail, drawing on evidence of the time, place, and other cues
e. determine the theme of a poem, basing the understanding of theme on the key observations, images, or statements in a poem

Informational Text

a. outline the main and supporting ideas in the text and provide an accurate summary
b. identify the topic sentence and gist of each paragraph in a multi-paragraph text
c. describe related events in a history text or related topics in a science text and explain the relationships between the events or topics

Observing craft and structure

Core Standards — Students can and do:

4. Explain the meanings of words and phrases in the text, distinguishing literal and figurative uses.
5. Comprehend literature and information presented in a range of structures.
6. Compare and contrast texts written on the same topic or theme and explain how they are different and similar.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. describe the sensory details in texts and distinguish the use of literal versus figurative language
b. observe and explain how words with similar meanings can have different connotations
c. identify the meaning of figurative phrases and culturally significant characters found in mythology that are integral to understanding other works of literature and texts (e.g., *Herculean, Pandora's box*)
d. identify how narratives and plays are structured to describe the progress of characters through a series of events and challenges

e. identify rhymes and other repetitions of sounds that supply rhythm and pattern in poems and narrative prose
f. compare a narrative or a play with a presentation in another format, such as film, stage, or interactive text, and note what is surprising or different about the alternative version
g. compare works of literature on the same topic or with a similar theme

Informational Text

a. explain the meaning of key words and terms as they are used in the text
b. understand information drawn from a variety of texts with different structures, such as chronological, compare-and-contrast, or as a chain of causes and effects
c. identify and use text features (e.g., bold print, key words, topic sentences, hyperlinks, electronic menus, and icons) to locate information quickly and aid in comprehension
d. compare and contrast related accounts on the same or similar topics by different authors, by analyzing their content and perspectives

Integrating information and evaluating evidence

Core Standards — Students can and do:

7. Explain and use information presented graphically or visually in print, videos, or electronic texts.
8. Outline the information or evidence used to support an explanation or argument, determining which points support which key statements.
9. Determine the point of view or purpose that guides how events or ideas are described.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. identify the narrator of a story and explain how different stories are narrated from different perspectives
b. compare accounts of historical events and figures or natural phenomena with their depiction in a fictional work

Informational Text

a. explain how factual information presented graphically or visually (e.g., maps, charts, diagrams, timelines, animations, and other interactive visual elements) aids in the comprehension of print and electronic texts
b. explain how authors support their specific claims with evidence, including which evidence supports which claims
c. determine the author's purpose and how that is reflected in the description of the events and ideas

Developing habits for reading complex text

Core Standards — Students can and do:

10. Develop the habit of reading independently and productively, sustaining concentration and stamina to read increasingly demanding texts.

Writing and Research Standards

Writing to reflect audience, purpose, and task

Core Standards — Students can and do:

1. Write narratives, informative and explanatory texts, and arguments that demonstrate an awareness of audiences that are familiar and known to the student.

Conducting research

Core Standards — Students can and do:

2. Perform short, focused research tasks that build knowledge by exploring aspects of a single topic.
3. Gather information from experience, as well as print and digital resources.
4. Determine the accuracy and relevance of the information gathered to answer specific questions.
5. Restate information from source materials in one's own words, through summary or paraphrase.
6. Provide basic bibliographic information for print and digital sources.

Revising writing

Core Standards — Students can and do:

7. With guidance and support from peers and adults, strengthen writing through revision, editing, or beginning again to maintain a clear focus throughout.

Using tools and technology

Core Standards — Students can and do:

8. Use technology and other tools to produce, revise, and edit writing.

Developing proficiency in a range of writing

9. Create writing over extended timeframes (time for reflection and revision) and shorter timeframes (a single sitting or a day or two), responding to specific sources.

   Focus by grade level:

   Grade 4: Describing the content of literary or informational sources at the 4–5 grade band level of text complexity and content
   Grade 5: Comparing the contents of literary or informational sources at the 4–5 grade band level of complexity and content

Standards — Students can and do (by key text type):[19]

Narratives

a. orient the reader by establishing a situation, introducing characters, setting, and location, or by backfilling information after entering immediately into the storyline
b. create an organizing structure in which events are logically or causally sequenced
c. in producing a story, create a plot with an initiating event, complicating action, a climax, and a resolution
d. use a variety of temporal words, phrases, and clauses to signal sequence
e. use concrete and sensory details to develop narrative elements
f. develop the narrative using techniques such as dialogue, pacing, and reporting the narrator's thoughts
g. show both external behaviors and the internal responses of characters to events
h. provide closure and a realistic outcome of the narrative's events

Informative and Explanatory Texts

a. state the topic clearly and provide a general observation and focus
b. develop the subject using relevant facts, concrete details, quotations, or other information and examples
c. group related information logically in basic structures (paragraphs, sections) and provide headings or illustrations when useful
d. employ specialized vocabulary and a formal, objective style when appropriate
e. use appropriate links to join ideas
f. include only relevant appropriate information to demonstrate focus
g. provide a conclusion related to the information or explanation offered

Arguments (opinions)

a. introduce an opinion about a concrete issue or topic
b. support opinions with relevant reasons
c. support reasons with specific details
d. link the reasons together using words, phrases, and clauses (e.g., *because*, *since*)
e. adopt a relatively formal style for sharing and defending an opinion when appropriate to the discipline or context
f. provide a concluding statement or section that offers reflections, restatement, or recommendations consistent with the opinion presented

Speaking and Listening Standards

Listening closely and participating productively

Core Standards — Students can and do:

1. Participate productively one on one, in small groups, and as a whole class, joining in discussions and making relevant points about what they have read, heard, or written.
2. Sustain concentration on information presented orally, visually, or multi-modally and confirm understanding by summarizing the main ideas and supporting details.

Standards — Students can and do (by key communication type):

[19] See Appendix C for samples of student writing that illustrate through annotations the level of quality required to meet the writing standards.

Classroom discussions and collaboration

a. come to discussions having read required material and, in conversation, build upon background knowledge from that material and other information known about the topic
b. demonstrate understanding of the content and ideas presented or discussed by distilling them into an accurate summary
c. ask questions to clarify or follow up on ideas or information presented orally or through other media
d. respond to questions and make comments that contribute to the topic and ideas of previous speakers
e. explain information presented graphically or visually in conjunction with other information presented orally
f. engage productively and respectfully with others during discussions, including listening actively, gaining the floor respectfully, and qualifying or justifying what they think after listening to others' questions or accounts

Exchanging information and speaking effectively

Core Standards — Students can and do:

3. Share experiences, opinions or other information, choosing material that is relevant to the topic and to the listeners.
4. Speak audibly and clearly at an appropriate and understandable pace, using formal English when indicated or appropriate (e.g., presenting ideas versus class discussion).

Standards — Students can and do (by key communication type):

Presentation of ideas and information

a. speak coherently about events, topics, or texts that focus and organize ideas in a logical sequence and include facts, details, or other information that support the main ideas
b. use appropriate volume, phrasing, and pace for clarity
c. read aloud prose and poetry, with appropriate emotion and fidelity to the text

Language Development Standards

Conventions

In grades 4–5, students heighten their ability to situate and describe using language that is increasingly precise and vivid. They form and use verbs of various tenses to locate people, actions, and events in time, and they correctly use adjectives and adverbs to modify. Students begin to gain control of frequently confused words (e.g., *effect, affect*) and edit writing to remove language that is not idiomatic. Their mastery of capitalization is complete. They use punctuation to separate items in a series and a comma to distinguish an introductory element from the main part of the sentence. Students mark titles in conventional ways. They understand how to quote and use quotation marks. Their spelling is conventional. Their language is increasingly topic specific, precise, and varied, and they manipulate sentence structure for effect.

Key Terms: adjective; adverb; interjection; preposition; simple, progressive, and perfect tense

Conventions of language and writing

Core Standards — Students can and do:

1. Maintain the focus of a paragraph on a topic through structural elements such as main ideas, supporting sentences, and transitions.

Grammar and usage

Core Standards — Students can and do:

2. Form and use the simple (e.g., *I walked, I walk, I will walk*), progressive (e.g., *I was walking, I am walking, I will be walking*) and the perfect (e.g., *I had walked, I have walked, I will have walked*) verb tenses.
3. Recognize and correct inappropriate shifts in verb tense.*
4. Form and choose between adjectives and adverbs (including comparative and superlative forms), placing them appropriately within the sentence.*
5. Correctly use frequently confused words.*
6. Use idiomatic language.*

Mechanics

Core Standards — Students can and do:

7. Capitalize the first word in quotations as appropriate and other important words, such as section headers.
8. Use punctuation to separate items in a series.*
9. Use a comma to separate an introductory element from the rest of the sentence.
10. Use underlining, quotation marks, or italics to indicate titles of works.
11. Use quotation marks to mark direct speech and quotations from a text.
12. Spell grade-appropriate words correctly, consulting references as needed.*

Word choice and style

Core Standards — Students can and do:

13. Use specialized, topic-specific language to convey ideas precisely.*
14. Use figurative language to create images or make comparisons and connections between people, objects, or ideas.*
15. Use punctuation for effect.*
16. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.*[20]

Focus by Grade-Level
Grade 4: Distinguish one idea or thing from another (Conventions Standards #'s1-3, #8, #9, #11)
Grade 5: Word choice (Conventions Standards #'s 4-6, #13, #14)

[20] Conventions standards noted with an asterisk (*) need to be revisited by students in subsequent grades. See Appendix A for a complete listing.

Vocabulary

Key to students' vocabulary development is building rich and flexible word knowledge marked by multiple connections that link a word to similar words and to contexts and experiences that are related to that word—as compared to simply a definition. In grades 4–5, students are capable of selecting among a wide range of strategies analyzing the word itself, using localized context clues (particularly at the sentence level), and consulting reference materials—to determine and clarify the meaning of unknown and multiple-meaning words. They develop the habit of verifying their inferences of word meanings. They are able to interpret simple figurative language found in what they read. They learn and can paraphrase many common idioms, proverbs, and adages. They make distinctions among words based on connotation. They acquire new words through interactive language use, including informal talk, discussion, reading and responding to text as well as by being taught the words directly. This includes a focus on "Tier 2" words and phrases (those that commonly appear in writing but not in spoken language), "Tier 3" words and phrases (those that are specific and important to particular disciplines).[21]

Determining the meaning of words

Core Standards — Students can and do:

1. Determine or clarify the meaning of an unknown word by using one or more of the following strategies:
   - analyzing the word's sounds, spelling, and meaningful word parts
   - using semantic clues in sentences, such as definitions, examples, or restatements included within the text
   - using syntactic clues, such as using its position within the sentence as a guide to whether it represents a thing or an action
   - consulting reference materials, including glossaries, dictionaries, and thesauruses, both print and digital
2. Determine the relevant meaning of multiple-meaning words by using context.
3. Verify the preliminary determination of a word's meaning (e.g., by checking the inferred meaning in context or by looking up the word in a dictionary).
4. Interpret figurative language, including simple similes and metaphors.
5. Paraphrase the meaning of common idioms, adages, and proverbs.

Understanding the nuances of words (denotations and connotations)

Core Standards — Students can and do:

6. Distinguish a word from other words with similar but not identical meanings (synonyms).

Acquiring vocabulary

Core Standards — Students can and do:

7. Acquire and use a grade-appropriate vocabulary of Tier 2[22] words taught directly and gained through reading.
8. Acquire and use a grade-appropriate vocabulary of Tier 3 words taught directly and gained through reading.
9. Know and use words and phrases that signal contrast, addition, or other logical relationships (e.g., *however, although, nevertheless, similarly, moreover, in addition*).

[21] Beck I. L., McKeown, M. G. & Kucan, L. (2002). *Bringing Words to Life: Robust Vocabulary Instruction*, New York: Guilford Press

Grade 4 English Language Arts: Focus for Instruction

Reading and Literature

In grade 4, students apply the reading standards to the following types of text: narratives, drama, poetry, and informational text. Students focus on learning to read text at the 4–5 grade band level independently, with scaffolding likely required for texts at the high end of the range.

- Reading standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text
- **Text Complexity focus:** 100% text at the 4–5 grade band level

100%

Writing and Research

In grade 4, students apply the standards in writing to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. They also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus:** Students create writing over extended and shorter timeframes, responding to specific sources by describing the contents of literary or informational sources at the 4–5 grade band level of complexity and content

Speaking and Listening

In grade 4, students apply the core speaking and listening standards in different contexts.

- Speaking and listening standards applied in different contexts: classroom discussion and collaboration as well as in presentation of ideas and information

Language Development

In grade 4, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions.

- Vocabulary standards applied to reading, writing, speaking and listening
- **Grade-specific conventions focus:** Distinguish one idea or thing from another:
  - Maintain the focus of a paragraph on a topic… (Conventions Standard #1)
  - Form and use the simple, progressive and perfect verb tenses … (Conventions Standard #2)
  - Recognize and correct inappropriate shifts in verb tense. (Conventions Standard #3)
  - Use punctuation to separate items in a series … (Conventions Standard #8)
  - Use a comma to separate an introductory element … (Conventions Standard #9)
  - Use quotation marks to mark direct speech and quotations … (Conventions Standard #11)

Grade 5 English Language Arts: Focus for Instruction

Reading and Literature

In grade 5, students apply the reading standards to the following types of text: narratives, drama, poetry, and informational text. Students focus on learning to read text at the 4–5 grade band level independently and are introduced to 6–8 grade band "stretch" texts, which will likely require scaffolding.

- Reading standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text
- **Text Complexity focus:** 70% text at the 4–5 grade band level, 30% text at the 6–8 grade band level

70% | 30%

Writing and Research

In grade 5, students apply the standards in writing to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. There also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus:** Students create writing over extended and shorter timeframes, responding to specific sources by comparing the contents of literary or informational sources at the 4–5 grade band level of complexity and content.

Speaking and Listening

In grade 5, students apply the speaking and listening standards in different contexts.

- Speaking and listening Standards applied in different contexts: classroom discussion and collaboration as well as in presentation of ideas and information.

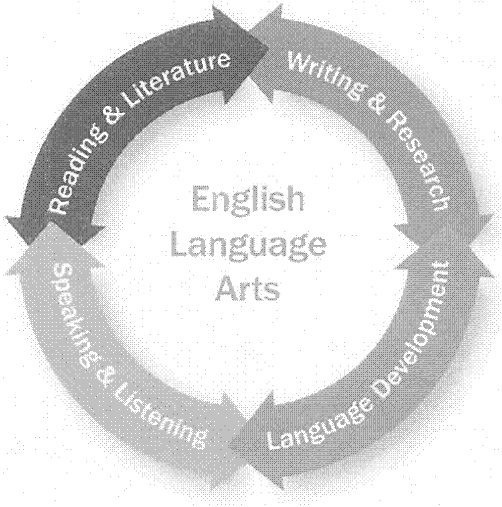
Language Development

In grade 5, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions.

- Vocabulary standards applied to both reading, writing, speaking and listening
- **Grade-specific conventions focus:** Word choice
  - Form and choose between adjectives and adverbs. (Conventions Standard #4)
  - Correctly use frequently confused words. (Conventions Standard #5)
  - Use idiomatic language. (Conventions Standard #6)
  - Use specialized, topic specific language to convey ideas precisely. (Conventions Standard #13)
  - Use figurative language to create images … (Conventions Standard #14)

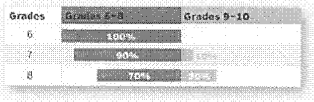
English Language Arts

Grades 6–8



Required Text Complexity by Grade

Proportion of Texts Within and Above Grade Band to be Read in Each Grade



While advancing through grades 6–8, students must engage with texts of steadily increasing complexity.

- **In grade 6**, students focus on reading texts in the 6–8 grade band level with scaffolding likely required for texts at the high end of the range.
- **In grade 7**, students focus on reading texts in the 6–8 grade band level (90 percent) independently and are introduced to texts in the 9–10 grade band level as "stretch" texts (10 percent), which will likely require scaffolding.
- **In grade 8**, students focus on reading texts in the 6–8 grade band level (70 percent) independently as well as sustained practice with texts in the 9–10 grade band level as "stretch" texts (30 percent), which will likely require scaffolding.

Determining Text Complexity for Grades 6–8[23]

Text complexity is determined by a mix of qualitative and quantitative measures of the text itself refined by teachers' professional judgment about the match of particular texts to particular students. The qualitative dimensions of text complexity are best understood as continua of increasing complexity rather than as representing discrete and easily defined stages. Most authentic texts will exhibit some but not all of the traits linked to a particular grade band; qualitatively assigning a text to a grade band is therefore a matter of "best fit," or determining which grade band's set of descriptors most accurately describes the text.

Qualitative Measures of Texts	Quantitative Measures of Texts
• *Structure:* Largely implicit and subtle; graphic representations are essential to meaning; texts are of increasing length • *Purpose:* Single or multiple; subtly stated • *Style and Language:* Moderately demanding; several literary devices; consistent use of Tier 2 and 3 words and figurative language • *Richness:* Several ideas/concepts; mostly abstract; moderate information density • *Relationships:* Several connections; largely implicit • *Knowledge Demands:* Ability to handle fairly challenging themes, consider multiple perspectives, and understand unfamiliar experiences; cultural and historical knowledge useful for understanding characters, settings, and allusions; some discipline-specific content knowledge	A study is underway with Coh-Metrix, a nonprofit research organization, to identify roughly five to seven computer-measurable dimensions of text cohesion. These dimensions, paired with a Lexile score, will yield a robust quantitative assessment of text complexity that, along with both the qualitative dimensions and professional judgment, will round out the Core Standards model of complexity.
Professional Judgment that weighs students' prior knowledge and life experiences as well as their interests, motivations, and maturity level.	

[23] Adapted from ACT, Inc., (2005); Carnegie Council on Advancing Adolescent Literacy (2010); Chall, Bissex, Conrad, & Harris-Sharples (1996); and Hess and Biggam (2004)

Mix of Key Text Types for Grades 6–8

Narratives	Drama	Poetry	Informational Text
At this level, includes the subgenres of adventure stories, biographies, memoirs, historical fiction, mysteries, folktales, legends, fables, tall tales, myths, fantasy, science fiction, realistic fiction, and graphic novels.	*At this level, includes one-act and multi-act plays both as text and film.*	*At this level, includes the subgenres of narrative poems, lyrical poems, free verse, odes, ballads, and epics.*	*At this level, includes such subgenres as exposition and argument in the form of essays, opinion pieces, speeches, opinion pieces as well as other documents and digital media sources on a range of topics.*

Illustrative Texts for Narratives, Drama, and Poetry[24]	Illustrative Informational Texts
Little Women by Louisa May Alcott (1869)	*Preamble and First Amendment to the United States Constitution* by United States (1787, 1791) **
The Adventures of Tom Sawyer by Mark Twain (1876)	*Narrative of the Life of Frederick Douglass an American Slave* by Frederick Douglass (1845)
A Wrinkle in Time by Madeline L'Engle (1962)	"Gettysburg Address"** by Abraham Lincoln (1863)
The Dark Is Rising by Susan Cooper (1973)	"Blood, Toil, Tears and Sweat" by Winston Churchill (1940)
Black Ships before Troy: The Story of the Iliad by Rosemary Sutcliff (1993)	*Travels with Charley: In Search of America* by John Steinbeck (1962)
A Midsummer Night's Dream by William Shakespeare (1596)	*I Know Why the Caged Bird Sings* by Maya Angelou (1969)
"Oh Captain, My Captain" by Walt Whitman (1865)	
"Stopping by a Wood on a Snowy Evening" by Robert Frost (1923)	
"I, Too" by Langston Hughes (1925)	

***Seminal historical texts that all students are expected to read*

[24] See Appendix B for other texts illustrative of Grades 6–8 text complexity

Reading and Literature Standards

Grasping specific details and key ideas

Core Standards — Students can and do:

1. Read the text closely to determine what the text says explicitly and to make logical inferences from it; cite text evidence to support understanding in discussion and in writing.
2. Articulate the text's main ideas and themes and provide a summary that captures the key supporting details, without taking a position or expressing an opinion.
3. Explain in detail how events, ideas, and characters unfold in the text and interact with one another.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. infer themes when they are not explicitly stated and provide evidence on which those inferences are based
b. analyze the development of the narrative, describing how particular incidents advance or foreshadow the plot
c. recognize how the setting unfolds over the course of the text and describe its significance to the work
d. build on an author's explicit descriptions and other evidence to draw reasonable conclusions about characters and how they interact, change, and influence the central events
e. describe how a play unfolds and how particular lines of dialogue propel the action, reveal aspects of a character, or provoke a decision
f. analyze how patterns of imagery in a poem contribute to its overall theme or meaning

Informational Text

a. summarize a text without expressing a personal opinion by drawing on the author's specific description of events or information
b. determine how key ideas or concepts build on one another to reveal an overarching theme or idea

Observing craft and structure

Core Standards — Students can and do:

4. Interpret the meanings of words and phrases, including connotative and figurative meanings, and explain how specific word choices shape the meaning of the text.
5. Explain the text's structure, including how specific sentences, paragraphs, and larger portions build on each other and contribute to the whole of the text.
6. Compare and contrast how two or more texts written on similar topics or themes differ in their focus and key details.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. analyze how the author's choice of specific words or details contributes to the understanding of events and characters or to the tone of a narrative
b. trace the specific comparisons made by similes, metaphors, and analogies and explain how they contribute to the meaning of the text
c. compare similar ideas and themes as well as character types in myths, folktales, and legends from different cultures

d. analyze the impact of line breaks and stanzas on the meaning of a poem and acts, scenes, and stage directions on the meaning of a drama
e. compare the events, characters, ideas, and themes in texts written by the same author or on similar topics or themes

Informational Text

a. interpret the connotative meaning of closely related words and phrases as they are used in the text (e.g., *angry* versus *irate*)
b. describe how an author organizes the explanation or argument, as well as the ways in which the text's structure, language, and examples support its purpose
c. examine the structure of a Web site or other electronic text and describe how it organizes information and links to additional sources

Integrating information and evaluating evidence

Core Standards — Students can and do:

7. Interpret information presented graphically or visually in print, videos, or electronic texts and explain how this information clarifies and contributes to the text.
8. Analyze the structure and content of an argument, including its main claims or conclusions, supporting premises, and evidence.
9. Determine the point of view or purpose represented in the text, assessing how it shapes the content.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. compare the points of view from which different novels and poems are told, as well as the viewpoints of different characters in a drama
b. compare the fictional portrayal of a time, place, or character to historical sources from the period to determine which historical details have been emphasized, deleted, or changed in the fictional portrayal

Informational Text

a. interpret factual and quantitative data presented in diverse formats (including maps, charts, and diagrams as well as electronic media) and explain how this information clarifies or contributes to the text
b. distinguish between fact, opinion, and reasoned judgment presented in essays, speeches, and critiques
c. evaluate the strength of an argument's premises and specific claims as well as the degree to which each is supported by evidence
d. compare and contrast the viewpoints and use of evidence of two different authors writing about the same topic

Developing habits for reading complex text

Core Standards — Students can and do:

10. Develop the habit of reading independently and productively, sustaining concentration and stamina to read increasingly demanding texts.

Writing and Research Standards

Writing to reflect audience, purpose, and task

Core Standards — Students can and do:

1. Write narratives, informative and explanatory texts, and arguments that match purpose to task and address familiar as well as somewhat distant audiences (e.g., mayor, readers of school or neighborhood newspaper).

Conducting research

Core Standards — Students can and do:

2. Perform short, focused research projects that demonstrate understanding of the material under investigation and generate additional related questions for research.
3. Gather information independently using a variety of relevant print and digital resources.
4. Assess the credibility, reliability, consistency, and accuracy of the information and sources gathered.
5. Represent and cite accurately the data, conclusions, and opinions of others, quoting and paraphrasing them into one's own work while avoiding plagiarism.
6. Provide full bibliographic information for print and digital sources in a standard format and document quotations, paraphrases, and other information.

Revising writing

Core Standards — Students can and do:

7. With some guidance and support from peers and adults, strengthen writing through revising, editing, or beginning again to ensure logical organization, precision of word choice, and coherence.

Using tools and technology

Core Standards — Students can and do:

8. Use technology and other tools to produce, revise, and distribute writing, as well as interact online with others about writing, including responding to and providing feedback.

Developing proficiency in a range of writing

9. Create writing over extended timeframes (time for reflection and revision) and shorter timeframes (a single sitting or a day or two), responding to specific sources.

Focus by grade level:

Grade 6: Conveying the main ideas and key details of literary or informational sources at the 6-8 grade band level of text complexity and content
Grade 7: Analyzing the contents of literary or informational sources at the 6-8 grade band level of complexity and content
Grade 8: Comparing or evaluating the contents of literary or informational sources at the 6-8 grade band level of complexity and content

Standards — Students can and do (by key text type):[25]

Narratives

a. orient the reader by establishing a situation, introducing characters, setting, and location, or by backfilling information after entering immediately into the storyline
b. create an organizing structure in which events are logically or causally sequenced
c. in producing a story, create a plot with well-structured episodes (e.g., initiating event, complicating action, resolution)
d. use a variety of temporal words, phrases, and clauses to convey sequence, to shift from one time frame to another, and to show the relationships among events
e. use relevant, specific details and literary devices, such as imagery and metaphor, purposefully to develop setting, plot, and character
f. use techniques such as pacing, dialogue, or foreshadowing to highlight the significance of events or create particular effects (e.g., tension or suspense)
g. show internal mental processes to develop complex characters and convey their needs, motives, and emotional responses
h. provide an engaging conclusion, such as a surprise ending, a reflection, or a conclusion that returns to the beginning

Informative and Explanatory Texts

a. establish the topic in an introduction that provides a sense of what's to follow
b. develop the subject through relevant and specific facts, concrete details, quotations, or other information and examples
c. organize specific information under broader concepts or categories and provide headings, figures, tables, or diagrams when useful
d. use factual, precise language and maintain a formal, objective style when appropriate
e. use strategies appropriate to informational and explanatory texts such as defining, classifying, comparing/contrasting, and cause/effect
f. use appropriate links to join ideas and create cohesion
g. provide only accurate and relevant information
h. provide a conclusion that follows logically from the information or explanation presented

Arguments

a. introduce a claim about a topic or concept
b. support claims with logical reasons
c. support reasons with detailed and relevant evidence

[25] See Appendix C for samples of student writing that illustrate through annotations the level of quality required to meet the writing standards.

d. signal the relationship between reasons, or between reasons and evidence, using words, phrases, and clauses (e.g., *another reason, such as, therefore, in addition*)
e. sustain an objective style and tone appropriate for making a case when appropriate to the discipline or context
f. include only relevant information and evidence in support of claims
g. provide a concluding statement or section that offers reflections, a restatement, or recommendations that follow from the argument

Speaking and Listening Standards

Listening closely and participating productively

Core Standards — Students can and do:

1. Participate productively one on one, in small groups, and as a whole class, joining in discussions and remaining flexible and adaptable as participants.
2. Sustain concentration on information presented orally, visually, or multi-modally and confirm understanding by drawing well-supported inferences about the purpose and meaning of the information.

Standards — Students can and do (by key communication type):

Classroom discussions and collaboration

a. come to discussions having completed reading or other preparation in advance and draw on that material explicitly in discussions
b. determine a speaker's attitude or point of view toward a topic presented orally or through other media
c. ask questions to check understanding to clarify the main ideas and the supporting evidence of material presented orally or through other media
d. advance a discussion by answering questions precisely and sharing specific factual knowledge and observations supported by credible evidence
e. interpret information presented in visual and digital formats and explain how this data clarifies and contributes to a discussion or information presented orally
f. support productive teamwork by setting clear goals and deadlines, monitoring progress and participation of each team member, and taking different views into account and modifying own views when indicated in light of what others say

Exchanging information and speaking effectively

Core Standards — Students can and do:

3. Share experiences, opinions, and other information, gaining and maintaining the interest and response of listeners.
4. Use appropriate tone and phrasing for emphasis, demonstrating a growing command of formal English when indicated or appropriate (e.g., presenting ideas versus class discussion).

Standards — Students can and do (by key communication type):

Presentation of ideas and information

a. organize and present information about situations, topics, or texts that emphasize salient points and clarify and support claims and findings with pertinent and specific descriptions, facts, and examples in ways that are accessible and verifiable to listeners
b. use gesture, tone, phrasing, and pace for emphasis
c. incorporate visual displays and electronic media when helpful and in a manner that strengthens the presentation
d. perform dramatic readings of various prose and poetry speaking with clarity, fidelity, and responsiveness to the text, noting changes in the situation, mood, or tone of text

Language Development Standards

Conventions

In grades 6–8, students develop a firm command of sentence structure. They are able to form sentences of varying structures, place phrases and clauses properly within a sentence, and use a variety of coordinating and subordinating conjunctions to express relationships between sentence parts. Students have also mastered pronoun use, ensuring proper case, number, and person and avoiding vagueness. They understand and use verb voice and mood, and identify and correct inappropriate shifts in pronouns and verbs. Students set off nonrestrictive or parenthetical elements from the rest of the sentence with proper punctuation and use a comma before a coordinating conjunction in a compound sentence. They vary sentence patterns for effect and edit writing for redundancy and wordiness.

Key Terms: conjunction; dash; nonrestrictive/parenthetical element; indicative, imperative, interrogative, conditional, and subjunctive mood; parentheses; phrase and clause; pronoun case, number, and person; simple, compound, complex, and compound-complex sentence; active and passive voice

Grammar and usage

Core Standards — Students can and do:

1. Form compound, complex, and compound-complex sentences.
2. Place phrases and clauses within a sentence, avoiding misplaced and dangling modifiers.*
3. Ensure that pronouns are in the proper case (subjective, objective, possessive).
4. Recognize and correct inappropriate shifts in pronoun number and person.*
5. Recognize and correct vague pronouns with unclear or ambiguous antecedents.*
6. Form and use verbs in the active and passive voice.
7. Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood.
8. Avoid inappropriate shifts in verb voice and mood.*

Mechanics

Core Standards — Students can and do:

9. Use punctuation to set off nonrestrictive/parenthetical elements with commas, parentheses, or dashes.*
10. Use a comma before a coordinating conjunction in a compound sentence.

Word choice and style

Core Standards — Students can and do:

11. Use verbs in the active and passive voice and in the conditional and subjunctive moods to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).
12. Vary sentence patterns for meaning, reader/listener interest, and style.*
13. Choose words and phrases to express ideas precisely and concisely, avoiding wordiness and redundancy.*[26]

Grade-Level Focus
Focus by Grade-Level
Grade 6: Pronouns (Conventions Standards #s 3-5)
Grade 7: Sentence structure (Conventions Standards #1, #2, #12)
Grade 8: Verb voice and mood (Conventions Standards #s 6-8, #11)

Vocabulary

Key to students' vocabulary development is building rich and flexible word knowledge marked by multiple connections that link a word to similar words and to contexts and experiences that are related to that word — as compared to simply a definition. In grades 6–8, students continue to make use of a range of strategies to determine and clarify the meaning of unknown and multiple-meaning words. This repertoire now includes considering the word's use in a broader context that includes the content of the paragraph in which the word appears and the overarching structure of the text. They habitually verify their inferences of word meanings. They interpret a variety of figurative language found in what they read. They make distinctions among words based on connotation. They acquire new words through interactive language use, including informal talk, discussion, reading and responding to text as well as by being taught the words directly. This includes a continuing focus on "Tier 2" words and phrases (those that commonly appear in writing but not in spoken language), "Tier 3" words and phrases (those that are specific and important to particular disciplines).

Determining the meaning of words

Core Standards — Students can and do:

1. Determine or clarify the meaning of an unknown word by using one or more of the following strategies:
   - using knowledge of roots, prefixes, and suffixes
   - using semantic clues, such as sentence and paragraph context as well as the organizational structure of the text (e.g., cause and effect, comparison and contrast)
   - using syntactic clues, such as using its position within the sentence as a guide to whether it is a subject, verb, or object
   - consulting reference materials, including glossaries, dictionaries, and thesauruses, both print and digital
2. Determine the relevant meaning of multiple-meaning words by using context.
3. Verify the preliminary determination of a word's meaning (e.g., by checking the inferred meaning in context or by looking up the word in a dictionary).
4. Interpret figurative language, including metaphors, similes, and idioms.

[26] Conventions standards noted with an asterisk (*) need to be revisited by students in subsequent grades. See Appendix A for a complete listing.

Understanding the nuances of words (denotations and connotations)

Core Standards — Students can and do:

5. Distinguish a word from other words with similar but not identical meanings (synonyms).

Acquiring vocabulary

Core Standards — Students can and do:

6. Acquire and use a grade-appropriate vocabulary of Tier 2 words taught directly and gained through reading.
7. Acquire and use a grade-appropriate vocabulary of Tier 3 words taught directly and gained through reading.

Confidential Draft

Grade 6 English Language Arts: Focus for Instruction

Reading and Literature

In grade 6, students apply the reading standards to the following types of text: narratives, drama, poetry, and informational text. Students focus on learning to read text at the 6-8 grade band level independently, with scaffolding likely required for texts at the high end of the range.

- Reading standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text
- **Text Complexity focus:** 100% text at the 6-8 grade band level

Writing and Research

In grade 6, students apply the writing standards to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. They also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus:** Students create writing over extended and shorter time frames, responding to specific sources by conveying the main ideas and key details of literary or informational sources at the 6-8 grade band level of complexity and content.

Speaking and Listening

In grade 6, students apply the core speaking and listening standards in different contexts.

- Speaking and listening Standards applied in different contexts: classroom discussion and collaboration as well as in presentations of ideas and information.

Language Development

In grade 6, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions

- Vocabulary standards applied to both reading, writing, speaking and listening
- **Grade-specific conventions focus:** Pronouns
  - Ensure that pronouns are in the proper case… (Conventions Standard #3)
  - Recognize and correct inappropriate shifts… (Conventions Standard #4)
  - Recognize and correct vague pronouns… (Conventions Standard #5)

Grade 7 English Language Arts: Focus for Instruction

Reading and Literature

In grade 7, students apply the reading standards to the following types of text: narratives, drama, poetry, and informational text. Students focus on learning to read text at the 6-8 grade band level independently and are introduced to 9-10 grade band level "stretch" texts, which will likely require scaffolding.

- Reading Standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text
- **Text Complexity focus:** 90% at the 6-8 grade band level, 10% at the 9-10 grade band level

Writing and Research

In grade 7, students apply the standards in writing to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. They also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus:** Students create writing over extended and shorter timeframes, responding to specific sources by analyzing the contents of literary or informational sources at the 6-8th grade band level of complexity and content.

Speaking and Listening

In grade 7, students apply the core speaking and listening standards in different contexts.

- Speaking and listening standards applied in different contexts: classroom discussion and collaboration as well as in presentations of ideas and information.

Language Development

In grade 7, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions.

- Vocabulary standards applied to reading, writing, speaking and listening
- **Grade-specific conventions focus:** Sentence structure
  - Form compound, complex… (Conventions Standard #1)
  - Place phrases and clauses… (Conventions Standard #2)
  - Vary sentence patterns… (Conventions Standard #12)

Grade 8 English Language Arts: Focus for Instruction

Reading and Literature

In grade 8, students apply the reading standards to the following types of text: narratives, drama, poetry, and informational text. Students focus on reading text at the 6–8 grade band level independently as well as on sustained practice with 9–10 grade band level "stretch" texts, which may require scaffolding.

- Reading standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text
- **Text Complexity focus:** 70% at the 6–8 grade band level, 30% at the 9–10 grade band level

Writing and Research

In grade 8, students apply the standards in writing to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. They also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus:** Students create writing over extended and shorter timeframes, responding to specific sources by analyzing the contents of literary or informational sources at the 6-8th grade band level of complexity and content.

Speaking and Listening

In grade 8, students apply the core speaking and listening standards in different contexts.

- Speaking and listening standards applied in different contexts: classroom discussion and collaboration as well as in presentations of ideas and information.

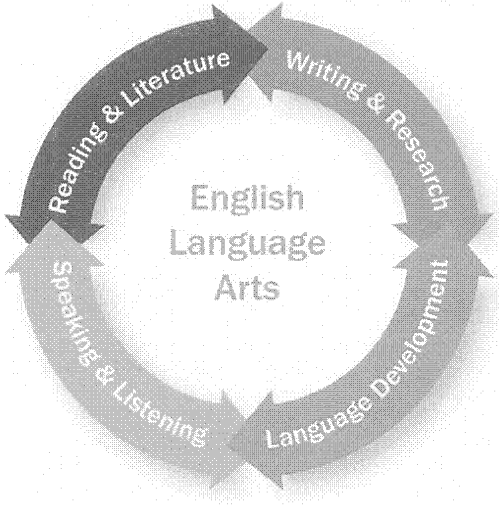
Language Development

In grade 8, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions.

- Vocabulary standards applied to reading, writing, speaking and listening
- **Grade-specific conventions focus:** Verb voice and mood
  - Form and use verbs in the active and passive voice (Conventions Standard #6)
  - Form and use verbs in the indicative… (Conventions Standard #7)
  - Avoid inappropriate shifts… (Conventions Standard #9)
  - Use verbs in the …voice …mood… (Conventions standard #11)

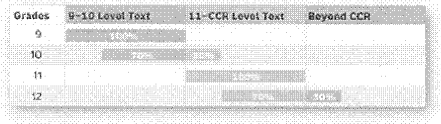
English Language Arts

Grades 9–10



Required Text Complexity by Grade

Proportion of Texts Within and Above Grade Band to be Read in Each Grade



While advancing through grades 9–10, students must engage with texts of steadily increasing complexity.

- **In grade 9**, students focus on reading texts in the 9–10 grade band level with scaffolding likely required for texts at the high end of the range.
- **In grade 10**, students focus on reading texts in the 9–10 grade band level (70 percent) independently and are introduced to texts in the 11–CCR grade band level as "stretch" texts (30 percent), which will likely require scaffolding.

Determining Text Complexity for Grades 9–10[27]

Text complexity is determined by a mix of qualitative and quantitative measures of the text itself refined by teachers' professional judgment about the match of particular texts to particular students. The qualitative dimensions of text complexity are best understood as continua of increasing complexity rather than as representing discrete and easily defined stages. Most authentic texts will exhibit some but not all of the traits linked to a particular grade band; qualitatively assigning a text to a grade band is therefore a matter of "best fit," or determining which grade band's set of descriptors most accurately describes the text.

Qualitative Measures of Texts	Quantitative Measures of Texts
• *Structure:* Implicit, subtle; graphic representations are essential to meaning; texts of increasing length • *Purpose:* Multiple; often implicit • *Style and Language:* Demanding; many literary devices; extensive use of Tier 2 and 3 words and figurative language • *Richness:* Several ideas/concepts; abstract • *Relationships:* Several connections; implicit • *Knowledge Demands:* Ability to handle challenging themes, consider multiple perspectives, and understand experiences distinctly different from one's own; cultural and historical knowledge useful for understanding characters, settings, and allusions; extensive discipline-specific content knowledge	A study is underway with Coh-Metrix, a nonprofit research organization, to identify roughly five to seven computer-measurable dimensions of text cohesion. These dimensions, paired with a Lexile score, will yield a robust quantitative assessment of text complexity that, along with both the qualitative dimensions and professional judgment, will round out the Core Standards model of complexity.
Professional Judgment that weighs students' prior knowledge and life experiences as well as their interests, motivations, and maturity level.	

[27] Adapted from ACT, Inc., (2005); Carnegie Council on Advancing Adolescent Literacy (2010); Chall, Bissex, Conrad, & Harris-Sharples (1996); and Hess and Biggam (2004)

Mix of Key Text Types for 9–10

Narratives	Drama	Poetry	Informational Text
At this level, includes the subgenres of adventure stories, biographies, memoirs, historical fiction, mysteries, science fiction, mysteries, myths, science fiction, realistic fiction, allegories, parodies, satire, and graphic novels.	*At this level, includes one-act and multi-act plays both in written form and on film.*	*At this level, includes the subgenres of narrative poems, lyrical poems, free verse, odes, ballads, and epics.*	*At this level, includes such subgenres as exposition and argument in the form of essays, speeches, opinion pieces as well as other documents and digital media sources on a range of topics.*

Illustrative Texts for Narratives, Drama, and Poetry[28]

The Odyssey by Homer (8th century B.C.E.) translated by Robert Fagles

The Grapes of Wrath by John Steinbeck (1939)

The Killer Angels by Michael Shaara (1975)

In the Time of the Butterflies by Julia Alvarez (1994)

The Glass Menagerie by Tennessee Williams (1944)

"Song" by John Donne (1635)

"The Raven" by Edgar Allen Poe (1845)

"Loveliest of Trees" by A.E. Housman (1896)

"I Am Offering This Poem to You" by Jimmy Santiago Baca (1977)

Illustrative Informational Texts

"Second Inaugural Address" by Abraham Lincoln (1865)**

"State of the Union Address" by Franklin Delano Roosevelt (1941)

"Remarks to the Senate in Support of a Declaration of Conscience" by Margaret Chase Smith (1950)

"Address at the March on Washington" by Martin Luther King, Jr. (1963)**

"A Quilt of a Country" by Anna Quindlen (2001)

***Seminal historical texts that all students are expected to read*

[28] See Appendix B for other texts illustrative of Grades 9–10 text complexity.

Reading and Literature Standards

Grasping specific details and key ideas

Core Standards — Students can and do:

1. Read the text closely to determine what the text says explicitly and to make logical inferences from it; cite text evidence to support analyses in discussion and in writing.
2. Articulate the theses and themes and summarize how they develop over the course of the text and how they are expressed by the key details.
3. Analyze in detail how complex and multifaceted events, ideas, and characters unfold and interact over the course of the text.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. draw on specific details to describe how the events, characters, or setting develops over the course of the drama, narrative poem, or story
b. summarize the development of a theme and describe how that theme resonates throughout the text
c. weave together the details of texts to form a comprehensive understanding of its characters, including their overlapping or competing motivations
d. describe how the accumulation of specific phrases and images within poems contributes to a theme as a whole

Informational Text

a. demonstrate a command of the precise details of the exposition or argument, drawing on specific points to support an understanding of a part or the text as a whole
b. analyze the development of theses or explanations in texts and summarize succinctly the key relationships among ideas and supporting details

Observing craft and structure

Core Standards — Students can and do:

4. Interpret the meanings of words and phrases, including connotative and figurative meanings, and explain how specific word choices shape the meaning and tone of the text.
5. Analyze the structure of complex text and its parts, including how specific sentences, paragraphs, and larger portions build on each other and contribute to the whole of the text.
6. Compare and contrast the content and style of two or more texts written on similar topics or themes.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. analyze how the precise choice of words and phrases creates vivid images and sets the tone, mood, and theme of the text; compare the impact of words selected by the author to similar words with different connotations

b. explain how authors manipulate time (e.g., flashbacks, foreshadowing, pacing) to create suspense, mystery, or humor
c. evaluate how playwrights use soliloquies to portray the internal thinking and feeling of characters
d. compare and contrast similarities and differences in styles and forms of poems on a similar theme or topic

Informational Text

a. analyze how the author uses specific words and metaphors to establish tone or to make illuminating comparisons in an argument, explanation, or description
b. explain how the author structures information or an argument to emphasize key points and advance a point of view
c. analyze how different authors organize and categorize similar information and describe the impact of those different approaches

Integrating information and evaluating evidence

Core Standards — Students can and do:

7. Synthesize information presented graphically or visually in print, videos, or electronic texts with the information provided by the text.
8. Follow and evaluate the logic and reasoning of the text, including assessing whether the evidence provided is sufficient to support the claims.
9. Analyze the point of view or purpose represented in the text, assessing how it shapes the content, style, and tone.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. explain how a story unfolds when it is told by alternating or multiple narrators with different points of view
b. analyze literature in terms of its connection to related historical and cultural events and contexts

Informational Text

a. interpret complex, multifaceted, quantitative, or technical information presented in maps, charts, illustrations, graphs, and time lines
b. provide an account of an author's precise claims, including how specific assertions are defined and distinguished from opposing statements
c. analyze the explicit and implicit premises of an argument and determine if the conclusions reached are logically justified by the evidence presented in the text
d. compare how different authors construct and develop different points of views or perspectives on similar events or issues by assessing their assumptions, evidence, and reasoning

Developing habits for reading complex text

Core Standards — Students can and do:

10. Develop the habit of reading independently and productively, sustaining concentration and stamina to read increasingly demanding texts.

Writing and Research Standards

Writing to reflect audience, purpose, and task

Core Standards — Students can and do:

1. Write informative and explanatory texts and arguments that match purpose to task and address familiar as well as more distant, unknown and general audiences (e.g., peers, elected officials and policy makers, community members).

Conducting research

Core Standards — Students can and do:

2. Demonstrate proficiency at performing short, focused research projects as well as more sustained inquiries that demonstrate an increasing command of the subject under investigation.
3. Assemble evidence independently from authoritative and credible print and digital sources.
4. Assess the credibility, reliability, consistency, and accuracy of the information and sources gathered and determine the strengths and limitations of each source and avoiding over-reliance on any one source.
5. Represent and cite accurately the data, conclusions, and opinions of others, effectively incorporating them into one's own work while avoiding plagiarism.
6. Cite print or electronic sources correctly and document quotations, paraphrases, graphics, and other information using a standard format.

Revising writing

Core Standards — Students can and do:

7. Strengthen writing through revision, editing, or beginning again to ensure to ensure logical organization, precision of word choice, and coherence.

Using tools and technology

Core Standards — Students can and do:

8. Use technology and other tools to produce, revise, and distribute writing, as well as to interact online with others about writing, including responding to and providing feedback.

Developing proficiency in a range of writing

9. Create writing over extended timeframes (time for reflection and revision) and shorter timeframes (a single sitting or a day or two), responding to specific sources.

   Focus by grade level:

   Grade 9: Analyzing the content of literary or informational sources at the 9-10 grade band level of text complexity and content
   Grade 10: Comparing or evaluating the contents of literary or informational sources at the 9-10 grade band level of complexity and content

Standards — Students can and do (by key text type):[29]

Narratives

By high school, students are most often using narrative writing as a technique embedded within other genres. They use narrative writing to inform and persuade. They may, for example, provide a brief anecdote to support a point made in an argument or a scenario to illustrate an explanation. In such cases, narrative writing is a technique rather than a form in itself.

Informative and Explanatory Texts

a. provide a clear and coherent introduction that establishes the subject and conveys a knowledgeable stance
b. develop a complex subject through relevant and specific facts, concrete details, quotations, or other information and examples
c. organize complex information into categories that make clear distinctions and provide headings, figures, tables, and diagrams when useful
d. employ discipline-specific and technical vocabulary and maintain a formal, objective style
e. adapt strategies to present information and explanations (e.g., if/then, extended definitions, classification, comparison/contrast, and cause/effect) and employ them to manage the complexity of a topic
f. link ideas with transitions and by varying sentence structures to express relationships between ideas and create cohesion
g. emphasize the most significant information and confirm the accuracy of key points
h. provide a conclusion that articulates the implications and significance of the information or explanation

Arguments

a. establish a substantive claim and distinguish it from alternate or opposing claims
b. support claims with logical reasons
c. provide relevant and sufficient evidence from credible sources in support of the reasons
d. explain how the evidence links to the claim
e. develop the argument in part based on knowledge of the audience (e.g., building bridges by opening with areas of agreement)
f. convey relationships between reasons, as well as between reasons and evidence, and signal alternative claims using words, phrases, and clauses (e.g., *on the other hand, however, but, nevertheless, because, therefore, in addition*).
g. maintain a formal style when appropriate to the discipline or context
h. enhance the reliability of the argument by employing strategies such as paraphrasing or quoting explicitly from a credible, authoritative source
i. provide a concluding statement or section that enhances the argument, using strategies such as articulating the implications, summing up the key factors, or weighing the evidence to support the claim

Speaking and Listening Standards

Listening closely and participating productively

Core Standards — Students can and do:

1. Participate productively in a range of structured interactions both interpersonally and in groups exchanging information constructively and with confidence.

[29] See Appendix C for samples of student writing that illustrate through annotations the level of quality required to meet the writing standards.

2. Sustain concentration on complex information presented orally, visually, or multi-modally and confirm understanding by summarizing, analyzing, and elaborating on key ideas.

Standards — Students can and do (by key communication type):

Classroom discussions and collaboration

a. come to discussions having researched, studied, and taken notes on topics or issues under study and draw upon that preparation in discussions
b. determine the key ideas as well as the tone and mood of communications presented orally or through other media
c. ask questions to test the evidence that supports a speaker's claims and conclusions presented orally or through other media
d. build on essential information from others' input and respond constructively by making cogent and verifiable comments that aid in the furthering and deepening of discussions
e. integrate multiple streams of data presented through a variety of multi-modal media into a cohesive, meaningful understanding of the information
f. support productive teamwork by identifying the comments and claims made on all sides of an issue; evaluating the degree to which each claim is supported by evidence; sifting, summarizing, and putting to use the most important ideas developed by the group; and determining what additional information, research, and tasks are required in order to move the group towards its goals

Exchanging information and speaking effectively

Core Standards — Students can and do:

3. Present information and points of view, structuring and organizing comments to support their purposes and guide the listener.
4. Vary intonation and phrasing for emphasis and effect, demonstrating command of formal English when indicated or appropriate (e.g., presenting ideas versus class discussion).

Standards — Students can and do (by key communication type):

Presentation of ideas and information

a. organize and present complex information about situations, topics, or texts so that listeners can follow the line of thought by grouping related ideas, using transitional markers, and clarifying one's claims with evidence that is verifiable and accessible
b. align verbal (tone, phrasing, pacing) and nonverbal strategies (gestures and facial expressions) for emphasis and effect
c. make strategic use of multimedia elements and visual displays of data to enhance understanding
d. perform dramatic readings of various prose and poetry, speaking with clarity, fidelity, and responsiveness to the text, reflecting on syntax and diction for cues regarding emphasis and rhythm

Language Development Standards

Conventions

In high school, students gain a broad range of sophisticated language skills to enhance meaning, achieve stylistic effect, and create subtle links between and among ideas. They maintain parallel structure. They acquire a more conceptual understanding of usage and the limits of "rules." They use a full range of punctuation, including ellipses, semicolons,

colons, and hyphens, and have a fuller understanding of how to employ commas and dashes. They make use of a wide range of phrases and clauses for effect. They maintain a consistent style and tone, using a style manual appropriate to the discipline in which they are working to help conventionalize their writing.

Key Terms: colon, ellipses, hyphen, semicolon, parallel structure, verbal

Grammar and usage

Core Standards — Students can and do:

1. Use parallel structure in writing.
2. Consult references (e.g., *Merriam-Webster's Dictionary of English Usage*) as needed to resolve particular usage issues, particularly when the usage is contested.

Mechanics

Core Standards — Students can and do:

3. Use a comma to separate coordinate adjectives (e.g., *It was a fascinating, enjoyable movie* but not *He wore a light*[,] *blue suit*).
4. Use a comma, ellipses, or dash to indicate a pause or break.
5. Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses.
6. Use a colon to introduce a list or a quotation.
7. Observe the conventions concerning using hyphens to join words.

Word choice and style

Core Standards — Students can and do:

8. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to add variety and interest to writing.
9. Maintain consistency in style and tone.
10. Write and edit work so that it conforms to the guidelines in a style manual.

Focus by Grade-Level
Grade 9: Style (Conventions Standards #9, #10)
Grade 10: Advanced punctuation use (Conventions Standards #s 3-7)

Vocabulary

Key to students' vocabulary development is building rich and flexible word knowledge marked by multiple connections that link a word to similar words and to contexts and experiences that are related to that word as compared to simply a definition. In high school, students continue to make use of a range of strategies to determine and clarify the meaning of unknown and multiple-meaning words. This repertoire now includes considering multiple levels of context (sentence, paragraph, and text levels) and the word's history. They habitually verify their inferences of word meanings. They interpret a wide range of figurative language found in what they read and consider its contribution to the text. Possessing a highly developed sense of the shadings among words with similar denotations,

they evaluate an author's or speaker's choice of words as well as alternatives to the words chosen. They acquire new words through interactive language use, including informal talk, discussion, reading and responding to text as well as by being taught the words directly. This includes a continuing focus on "Tier 2" words and phrases (those that commonly appear in writing but not in spoken language), "Tier 3" words and phrases (those that are specific and important to particular disciplines).

Determining the meaning of words

Core Standards — Students can and do:

1. Determine or clarify the meaning of an unknown word by using one or more of the following strategies:
   - using knowledge of roots, prefixes, and suffixes
   - using context, including syntactic and semantic clues, at the sentence, paragraph, and text levels
   - consulting reference materials, including general and specialized dictionaries and thesauruses, both print and digital
2. Determine the relevant meaning of multiple-meaning words by using context.
3. Verify the preliminary determination of a word's meaning (e.g., by checking the inferred meaning in context or by looking up the word in a dictionary).
4. Interpret figurative language and analyze its role within the text.

Understanding the nuances of words (denotations and connotations)

Core Standards — Students can and do:

5. Assess and explain the merits of the choice of one word over another in reading, writing, speaking, and listening.
6. Gain a clearer sense of a word's meaning and use by comparing it to other words with similar but not identical meanings (synonyms).

Acquiring vocabulary

Core Standards — Students can and do:

7. Acquire and use a grade-appropriate vocabulary of Tier 2 words taught directly and gained through reading.
8. Acquire and use a grade-appropriate vocabulary of Tier 3 words taught directly and gained through reading.

Grade 9 English Language Arts: Focus for Instruction

Reading and Literature

In grade 9, students apply the core reading standards to the following types of text: narrative, drama, poetry, and informational text. Students focus on learning to read 9-10 grade band text independently, with scaffolding likely required for texts at the high end of the range.

- Reading standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text
- **Text Complexity focus:** 100% 9-10 Band Text

Writing and Research

In grade 9, students apply the standards in writing to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. They also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus: Grade-specific focus:** Students create writing over extended and shorter timeframes, responding to specific sources by analyzing the contents of literary or informational sources at the 9-10th grade band level of complexity and content.

Speaking and Listening

In grade 9, students apply the core speaking and listening standards in different contexts.

- Speaking and listening standards applied in different contexts: classroom discussion and collaboration as well as in presentations of ideas and information.

Language Development

In grade 9, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions.

- Vocabulary standards applied to reading, writing, speaking and listening
- **Grade-specific conventions focus:** Style
  - Maintain consistency … (Conventions Standard #9)
  - (Style manual)… (Conventions Standard #10)

Grade 10 English Language Arts: Focus for Instruction

Reading and Literature

In grade 10, students apply the core reading standards to the following types of text: narratives, drama, poetry, and informational text. Students focus on learning to read 9-10 grade band text independently as well as on sustained practice with 11-CCR band "stretch" texts, which will likely require scaffolding.

- Reading standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text
- **Text Complexity focus:** 70% 9-10 Band Text; 30% 11-CCR text

70% 30%

Writing and Research

In grade 10, students apply the standards to writing to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. They also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus:** Students create writing over extended and shorter timeframes, responding to specific sources by analyzing the contents of literary or informational sources at the 9-10th grade band level of complexity and content.

Speaking and Listening

In grade 10, students apply the core speaking and listening standards in different contexts.

- Speaking and listening standards applied in different contexts: classroom discussion and collaboration as well as in presentations of ideas and information.

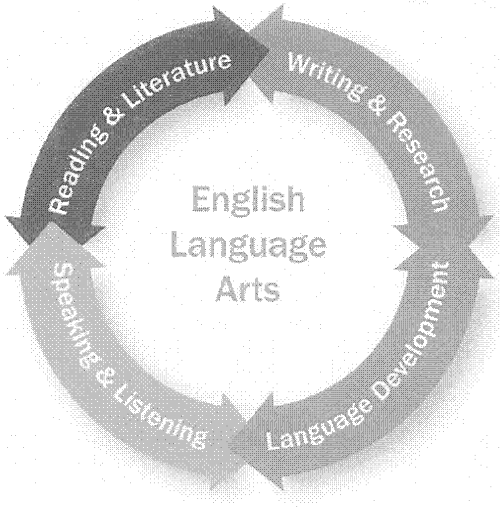
Language Development

In grade 10, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions.

- Vocabulary standards applied to reading, writing, speaking and listening
- **Grade-specific conventions focus:** Advanced Punctuation Use
  - Coordinate adjectives … (Conventions Standard #3)
  - Comma/dash/ellipsis… (Conventions Standard #4)
  - Semicolon … (Conventions Standard #5)
  - Colon … (Conventions Standard #6)
  - Hyphen … (Conventions Standard #7)

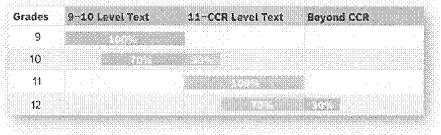
English Language Arts

Grades 11–CCR



Required Text Complexity by Grade

Proportion of Texts Within and Above Grade Band to be Read in Each Grad



While advancing through grades 11–12, students must engage with texts of steadily increasing complexity.

- **In grade 11**, students focus on reading texts in the 11-CCR grade band level with scaffolding likely required for texts at the high end of the range.
- **In grade 12**, students focus on reading texts in the 11-CCR grade band level (70 percent) independently and are introduced to texts in the "Beyond CCR" grade band level as "stretch" texts (30 percent), which will likely require scaffolding.

Determining Text Complexity for Grades 11–CCR[30]

Text complexity is determined by a mix of qualitative and quantitative measures of the text itself refined by teachers' professional judgment about the match of particular texts to particular students. The qualitative dimensions of text complexity are best understood as continua of increasing complexity rather than as representing discrete and easily defined stages. Most authentic texts will exhibit some but not all of the traits linked to a particular grade band; qualitatively assigning a text to a grade band is therefore a matter of "best fit," or determining which grade band's set of descriptors most accurately describes the text.

Qualitative Measures of Texts	Quantitative Measures of Texts
• *Structure:* Implicit, complex, unconventional; sophisticated graphic representations are essential to meaning; texts are sufficiently long to address complex subjects • *Purpose:* Multiple; often implicit and may be hidden or obscure • *Style and Language:* Unfamiliar, demanding, complex; many literary devices; extensive use of Tier 2 and 3 words and figurative language; language may be intentionally or unintentionally ambiguous • *Richness:* Many ideas/concepts; highly abstract; high information density • *Relationships:* Many implicit, complex, interwoven connections • *Knowledge Demands:* Ability to handle one or more complex themes, consider multiple and unusual perspectives, and understand experiences distinctly different from one's own; cultural and historical knowledge useful for understanding characters, settings, and allusions; extensive, perhaps specialized discipline-specific content knowledge	A study is underway with Cole-Metrix, a nonprofit research organization, to identify roughly five to seven computer-measurable dimensions of text cohesion. These dimensions, paired with a Lexile score, will yield a robust quantitative assessment of text complexity that, along with both the qualitative dimensions and professional judgment, will round out the Core Standards model of complexity.
Professional Judgment that weighs students' prior knowledge and life experiences, students' interests, motivations, and maturity level.	

[30] Adapted from ACT, Inc., (2006a); Carnegie Council on Advancing Adolescent Literacy (2010); Chall, Bissex, Conrad, & Harris-Sharples (1996); and Hess and Biggam (2004)

Mix of Key Text Types for 11–CCR

Narratives	Drama	Poetry	Informational Text
At this level, includes the subgenres of adventure stories, biographies, memoirs, historical fiction, mysteries, science fiction, mysteries, myths, science fiction, realistic fiction, allegories, parodies, satire, and graphic novels.	*At this level, includes one-act and multi-act plays both in written form and on film.*	*At this level, includes the subgenres of narrative poems, lyrical poems, free verse, odes, ballads, and epics.*	*At this level, Includes such subgenres as exposition and argument in the form of essays, speeches, opinion pieces as well as other documents and digital media sources on a range of topics.*

Illustrative Texts for Narratives, Drama, and Poetry[31]

Pride and Prejudice by Jane Austen (1813)

Black Boy by Richard Wright (1945)

Their Eyes Were Watching God by Zora Neale Hurston (1937)

The Bluest Eye by Toni Morrison (1970)

The Namesake by Jhumpa Lahiri (2003)

The Importance of Being Earnest by Oscar Wilde (1895)

Death of a Salesman by Arthur Miller (1949)

"Ode on a Grecian Urn" by John Keats (1820)

"Because I Could Not Stop for Death" by Emily Dickinson (1890)

Illustrative Informational Texts

The Declaration of Independence by Thomas Jefferson (1776)**

The Crisis by Thomas Paine (1776)

Walden by Henry David Thoreau (1854)

"Politics and the English Language" by George Orwell (1946)

"Letter from a Birmingham Jail" by Martin Luther King (1963)**

"Mother Tongue" by Amy Tan (1990)

Seminal historical texts that all students are expected to read

[31] See Appendix B for other texts illustrative of Grades 11–CCR text complexity.

Reading and Literature Standards

Grasping specific details and key ideas

Core Standards — Students can and do:

1. Read the text closely to determine what the text says explicitly and to make logical inferences from it; cite text evidence to defend and challenge analyses in discussion and in writing.
2. Articulate the text's theses and themes and provide a summary that clarifies the relationships among ideas and the connections between key details.
3. Analyze in detail how complex and multifaceted events, ideas, and characters unfold and influence one another over the course of the text.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. analyze where the author chooses to focus and which details the author chooses to emphasize
b. analyze how multiple themes and ideas in the text interact and build on one another
c. evaluate the extent to which setting shapes the course of events and sets the mood
d. trace the origins and evolution of the traits, motivations, and relationships among characters and how they interact to influence the plot and its resolution
e. describe how the poet develops a central image, preoccupation, or idea through the accumulation of specific phrases and images

Informational Text

a. demonstrate an understanding of the precise elements of an author's explanation or argument, including the distinctions the author makes between different ideas or information
b. scrutinize the details within specific portions of texts and connect the insights gained to develop an understanding of the text as a whole
c. analyze how the text captures the interaction between complex ideas or multifaceted events

Observing craft and structure

Core Standards — Students can and do:

4. Interpret the meanings of words and phrases, including connotative and figurative meanings, and analyze how word choices have a significant effect on the meaning and tone of the text.
5. Analyze the ways the author chooses to structure the text, including how to present complex ideas and events and where to begin and end.
6. Compare and contrast the choices different authors make in treating similar topics or themes, including content, style, and tone.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. analyze how the author's use of language impacts the text, including the degree of formality of the diction and how it is evocative of a particular setting (e.g., a courtroom, a rural town)
b. evaluate how authors create meaningful ambiguity and multiple layers of meaning in poetry, drama, and other narratives
c. analyze how an author choice of where to begin a story, poem, or drama impacts the overall plot structure
d. contrast alternative treatments of the same dramatic work in different stage productions and evaluate how the directors' different interpretations relate to evidence within the script
e. analyze how the author draws upon and transforms fictional or historical source material (e.g., how Shakespeare draws on Plutarch or a story in Ovid)

Informational Text

a. describe how the choice of a particular word, phrase, or series of words can impact significantly the meaning of a document (e.g., contract, court opinion, essay)
b. evaluate how the author's choice of structure contributes to the effectiveness of the exposition or argument
c. compare and contrast presentations of the same topic in different media and describe the differences in focus, organization, and links to other sources

Integrating information and evaluating evidence

Core Standards — Students can and do:

7. Synthesize information presented graphically or visually in print, videos, or electronic texts and, when appropriate, note discrepancies of fact or interpretation (e.g., data in a table inconsistent with the author's analysis).
8. Rigorously evaluate the logic and reasoning of the text, including assessing whether the evidence provided is relevant and sufficient.
9. Analyze how the point of view or purpose develops in the text and explain how it is revealed in the key details.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. compare points of view from which different stories are told and trace how they shift within a story and influence characterization and plot
b. explain how dramatic irony created by the differences between what the audience or reader knows and what the characters know in a drama or narrative fiction creates suspense, anxiety, or humor

Informational Text

a. synthesize ideas and data presented graphically and determine their purpose and relationship to the rest of the text (print or digital), noting any inconsistencies or discrepancies between the two
b. evaluate the reasoning and rhetoric that support an argument or explanation, including assessing the sufficiency and relevance of the evidence as well as identifying any unsubstantiated statements or fallacious reasoning
c. analyze documents of historical and literary significance for their premises, perspectives, and logical structure

Developing habits for reading complex text

Core Standards — Students can and do:

10. Develop the habit of reading independently and productively, sustaining concentration and stamina to read increasingly demanding texts.

Writing and Research Standards

Writing to reflect audience, purpose, and task

Core Standards — Students can and do:

1. Write informative and explanatory texts and arguments that match purpose to task and are tailored to audiences with specific requirements (e.g., admissions officer, human resources officer, skeptical audience).

Conducting research

Core Standards — Students can and do:

2. Demonstrate proficiency at performing short, focused research projects as well as more sustained inquiries that synthesize multiple authoritative sources on a subject.
3. Analyze evidence independently gathered from multiple authoritative and credible print and digital sources.
4. Assess the credibility, reliability, consistency, and accuracy of the information and sources gathered and determine their usefulness and relevance for the specific audience, purpose, and task.
5. Represent and cite accurately the data, conclusions, and opinions of others, effectively incorporating them into one's own work while avoiding plagiarism.
6. Cite print or electronic sources correctly and document quotations, paraphrases, graphics, and other information using a standard format.

Revising writing

Core Standards — Students can and do:

7. Strengthen writing through revision, editing, or beginning again to ensure to ensure logical organization, precision of word choice, and coherence.

Using tools and technology

Core Standards — Students can and do:

8. Demonstrate command of technology and other tools to produce, revise, and distribute writing, as well as to interact online with others about writing, including responding to and providing feedback.

Developing proficiency in a range of writing

9. Create writing over extended timeframes (time for reflection and revision) and shorter timeframes (a single sitting or a day or two), responding to specific sources.

Focus by grade level:

Grade 11: Analyzing the content of literary or informational sources at the 11-CCR grade band level of text complexity and content

Grade 12: Synthesizing or evaluating the contents of literary or informational sources at the 11-CCR grade band level of complexity and content

Standards — Students can and do (by key text type):[32]

Narratives

By high school, students are most often using narrative writing as a technique embedded within other genres. They use narrative writing to inform and persuade. They may, for example, provide a brief anecdote to support a point made in an argument or a scenario to illustrate an explanation. In such cases, narrative writing is a technique rather than a form in itself.

Informative and Explanatory Texts

a. provide a clear and coherent introduction that establishes the subject and conveys a knowledgeable stance
b. develop complex subjects through judicious use of relevant and specific facts, details, quotations, examples, or other information
c. organize and present information so that each new piece of information builds upon what precedes it to create a unified whole
d. demonstrate command of discipline-specific and technical vocabulary when appropriate and adjust style as appropriate to the situation
e. demonstrate control of a range of strategies to present complex information or explanations and employ them effectively to manage the complexity of the topic and accomplish the writer's purpose
f. link ideas with transitions and by varying sentence structures to express the precise relationships among ideas and create cohesion
g. provide a conclusion that articulates the implications and significance of the information or explanation

Arguments

a. establish the importance of the issue, make a substantive claim, and distinguish it from alternate or opposing claims
b. support claims with logical reasons
c. provide relevant, sufficient, and convincing evidence from credible sources in support of the reasons
d. make logical connections between the evidence and the claim
e. develop the argument in part based on an awareness of the audience's values, knowledge of the issue, and possible biases
f. convey relationships between reasons, as well as between reasons and evidence, and signal alternative claims using words, phrases and clauses (e.g., *on the other hand, however, but, nevertheless, because, therefore, in addition*)
g. maintain a formal style when appropriate to the discipline or context
h. enhance the credibility of the argument by demonstrating control of strategies, including paraphrasing or quoting from authoritative sources and citing logical consequences
i. provide a concluding statement or section that enhances the argument, using strategies such as articulating the implications, summing up the key factors, or weighing the evidence to support the claim

[32] See Appendix C for samples of student writing that illustrate through annotations the level of quality required to meet the writing standards.

Speaking and Listening Standards

Listening closely and participating productively

Core Standards — Students can and do:

1. Participate productively in a range of structured interactions — both interpersonally and in groups — exchanging information constructively and with confidence, adapting to different levels of formality.
2. Sustain concentration on complex information presented orally, visually, or multi-modally and confirm understanding by challenging or defending key ideas and supporting evidence.

Standards — Students can and do (by key communication type):

Classroom discussions and collaboration

a. come to discussions having formulated considered judgments on the topics or issues under study and draw upon that preparation in discussions
b. evaluate the content and rhetoric of a speaker, noting when evidence is exaggerated or distorted
c. ask questions that probe the reasoning and evidence that support the claims and conclusions made orally or through other media, including offering counter examples or other points of view
d. propel conversations forward by providing essential information and sharing findings that clarify, accommodate, or challenge ideas
e. synthesize information presented visually or digitally with other information presented orally, noting the effect on meaning of any discrepancies between the two presentations
f. assist in the formulation and productive functioning of both formal and informal self-directed work groups by identifying and assigning tasks and maintaining conversational norms as well as evaluating the progress of the team towards its goals

Exchanging information and speaking effectively

Core Standards — Students can and do:

3. Present information clearly and persuasively to others, selecting the most appropriate way to structure comments for clarity and effect.
4. Adapt delivery, tone, and mood for emphasis and effect, demonstrating command of formal English when indicated or appropriate (e.g., presenting ideas versus class discussion).

Standards — Students can and do (by key communication type):

Presentation of ideas and information

a. organize and present complex information about topics, situations, or texts, providing reliable and credible evidence from authoritative sources in support of findings and claims such that the line of reasoning is clear and alternative perspectives are addressed
b. shape delivery and message to the occasion and the audience's values, knowledge of the issue, and possible biases
c. engage an audience and improve comprehension through visual aids in presentations, including multimedia platforms
d. portray and explain various ways to perform dramatic readings of various prose and poetry, citing text evidence for the alternative readings

Language Development Standards

Conventions

In high school, students gain a broad range of sophisticated language skills to enhance meaning, achieve stylistic effect, and create subtle links between and among ideas. They maintain parallel structure. They acquire a more conceptual understanding of usage and the limits of "rules." They use a full range of punctuation, including ellipses, semicolons, colons, and hyphens, and have a fuller understanding of how to employ commas and dashes. They make use of a wide range of phrases and clauses for effect. They maintain a consistent style and tone, using a style manual appropriate to the discipline in which they are working to help conventionalize their writing.

Key Terms: colon, ellipses, hyphen, semicolon, parallel structure, verbal

Grammar and usage

Core Standards — Students can and do:

11. Use parallel structure in writing.
12. Consult references (e.g., *Merriam-Webster's Dictionary of English Usage*) as needed to resolve particular usage issues, particularly when the usage is contested.

Mechanics

Core Standards — Students can and do:

13. Use a comma to separate coordinate adjectives (e.g., *It was a fascinating, enjoyable movie* but not *He wore a light[,] blue suit*).
14. Use a comma, ellipses, or dash to indicate a pause or break.
15. Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses.
16. Use a colon to introduce a list or a quotation.
17. Observe the conventions concerning using hyphens to join words.

Word choice and style

Core Standards — Students can and do:

18. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to add variety and interest to writing.
19. Maintain consistency in style and tone.
20. Write and edit work so that it conforms to the guidelines in a style manual.

Focus by Grade-Level
Grade 11: Parallel structure and phrasing (Conventions Standards #1, #8)
Grade 12: Usage (Conventions Standard #2)

Vocabulary

Key to students' vocabulary development is building rich and flexible word knowledge marked by multiple connections that link a word to similar words and to contexts and experiences that are related to that word — as compared to simply a definition. In high school, students continue to make use of a range of strategies to determine and clarify the meaning of unknown and multiple-meaning words. This repertoire now includes considering multiple levels of context (sentence, paragraph, and text levels) and the word's history. They habitually verify their inferences of word meanings. They interpret a wide range of figurative language found in what they read and consider its contribution to the text. Possessing a highly developed sense of the shadings among words with similar denotations, they evaluate an author's or speaker's choice of words as well as alternatives to the words chosen. They acquire new words through interactive language use, including informal talk, discussion, reading and responding to text as well as by being taught the words directly. This includes a continuing focus on "Tier 2" words and phrases (those that commonly appear in writing but not in spoken language), "Tier 3" words and phrases (those that are specific and important to particular disciplines).

Determining the meaning of words

Core Standards — Students can and do:

1. Determine or clarify the meaning of an unknown word by using one or more of the following strategies:
   - using knowledge of roots, prefixes, and suffixes
   - using context, including syntactic and semantic clues, at the sentence, paragraph, and text levels
   - consulting reference materials, including general and specialized dictionaries and thesauruses, both print and digital
   - using the word's history (etymology)
2. Determine the relevant meaning of multiple-meaning words by using context.
3. Verify the preliminary determination of a word's meaning (e.g., by checking the inferred meaning in context or by looking up the word in a dictionary).
4. Interpret figurative language and analyze its role within the text.

Understanding the nuances of words (denotations and connotations)

Core Standards — Students can and do:

7. Assess and explain the merits of the choice of one word over another in reading, writing, speaking, and listening.
8. Gain a clearer sense of a word's meaning and use by comparing it to other words with similar but not identical meanings (synonyms).

Acquiring vocabulary

Core Standards — Students can and do:

7. Acquire and use an extensive vocabulary of Tier 2 words taught directly and gained through reading.
8. Acquire and use a grade-appropriate vocabulary of Tier 3 words taught directly and gained through reading.

Grade 11 English Language Arts: Focus for Instruction

Reading and Literature

In grade 11, students apply the core reading standards to the following types of text: narratives, drama, poetry, and informational text. Students focus on learning to read 11-CCR grade band text independently, with scaffolding likely required for texts at the high end of the range.

- Reading standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text
- **Text Complexity focus:** 100% 11-CCR Band Text

100%

Writing and Research

In grade 11, students apply the standards in writing to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. They also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus:** Students create writing over extended and shorter timeframes, responding to specific sources by analyzing the contents of literary or informational sources at the 11-CCR grade band level of complexity and content.

Speaking and Listening

In grade 11, students apply the core speaking and listening standards in different contexts.

- Speaking and listening standards applied in different contexts: classroom discussion and collaboration as well as in presentations of ideas and information.

Language Development

In grade 11, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions.

- Vocabulary standards applied to reading, writing, speaking and listening
- **Grade-specific conventions focus:** Parallel Structure and Phrasing
  - Use parallel structure in writing … (Conventions Standard #1)
  - Use various types of phrases… (Conventions Standard #8)

Grade 12 English Language Arts: Focus for Instruction

Reading and Literature

In grade 12, students apply the core reading standards to the following types of text: narratives, drama, poetry, and informational text. Students focus on learning to read 11-CCR grade band text independently as well as on sustained practice with Beyond CCR band "stretch" texts, which will likely require scaffolding.

- Reading standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text
- **Text Complexity focus:** 70% 11-CCR Band Text; 30% Beyond CCR text

Writing and Research

In grade 12, students apply the standards in writing to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. They also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus:** Students create writing over extended and shorter time frames, responding to specific sources by synthesizing or evaluating the contents of literary of informational sources of 11-CCR grade band level complexity and content.

Speaking and Listening

In grade 12, students apply the core speaking and listening standards in different contexts.

- Speaking and listening standards applied in different contexts: classroom discussion and collaboration as well as in presentations of ideas and information.

Language Development

In grade 12, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions.

- Vocabulary standards applied to reading, writing, speaking and listening
- **Grade-specific conventions focus:** Usage
  - Consult references … (Conventions Standard #2)

APPENDIX A

Text Complexity Next Steps

A key requirement of the Core Standards in Reading is that all students engage with texts of steadily increasing complexity as they advance through school. The Core Standards' model of *text complexity* — in the simplest terms, how easy or difficult a text is to read — blends qualitative and quantitative measures of inherent text difficulty with educators' knowledge of their students. All three elements should be considered together when evaluating a text's appropriateness for particular students.

Qualitative dimensions are aspects of text best measured by readers applying trained judgment to the evaluation task. These dimensions include the text's structure, format, and length; its purpose; its style and language; the quality, nature, and density of its ideas, concepts, and information; relationships among ideas, information, and characters in it; and the knowledge and experience demands it places upon readers.

Quantitative dimensions include not only those aspects of text traditionally measured by readability formulas — word length and sentence length — but also computer-assessable aspects of text cohesion. These include referential cohesion (the degree to which a text refers back to previous points) and word frequency.

The qualitative and quantitative measures of a text are balanced in the model by educators' *professional judgment* of the appropriateness of the text for particular students given their background knowledge, interests, and motivation. Harder texts may be appropriate for highly knowledgeable or motivated students, and easier texts may be suitable as a means for building struggling readers' skills up to required levels.

While the tools included in this draft and the forthcoming ones described below represent an important advance over those previously available, no measure or set of measures is perfectly accurate. The mandate is that the body of works that students study in a given year represent an appropriate level of complexity as defined by these standards.

Current and next steps

A qualitative rubric, derived from prior studies and refined through feedback from trained teacher-raters, is included in this draft to define some ways in which text complexity should increase as students move through the grades. The rubric can be used (in conjunction with forthcoming quantitative measures) to place individual texts into grade bands by complexity. The qualitative dimensions are best understood, however, as continua of increasing complexity rather than as representing discrete and easily defined stages. Most authentic texts will exhibit some but not all of the traits linked to a particular grade band; assigning a text to a grade band is therefore a matter of "best fit," or determining which grade band's set of descriptors most accurately describes the text.

The Core Standards work team is presently conducting a study with Coh-Metrix, a nonprofit research organization, to identify roughly five to seven computer-measurable dimensions of text cohesion. These dimensions, paired with a Lexile score, will yield a robust quantitative assessment of text complexity that, along with both the qualitative dimensions and professional judgment, will round out the Core Standards model of complexity. Graphically, these three elements will appear together in a "label" defining complexity for a given text.

Following the completion of that study in early 2010, the work team will oversee the development of a Web site designed to make the text complexity tools more user-friendly and broadly available. The site will contain a database of complexity information for a range of widely used texts, including links to texts and test passages of similar complexity. Educators will be able to input additional texts for evaluation and comment on the suitability of particular texts for particular groups of students. The overarching goal is to make text complexity a vital and easy-to-incorporate element of reading instruction.

Text Complexity Qualitative Scheme

Dimension of Text		Grade Span				
		2–3	4–5	6–8	9–10	11–12
Structure		Explicit, simple, conventional, simple graphic representations are supplementary to meanings; texts are relatively short	Largely explicit and direct; graphic representations are supplementary to meanings; texts are of increasing length	Largely implicit and subtle; graphic representations are essential to meanings; texts are of increasing length	Implicit, subtle; graphic representations are essential to meanings; texts are of increasing length	Implicit, complex, unconventional, sophisticated graphic representations are essential to meaning; texts are sufficiently long to address complex subjects
Purpose		Single; explicitly stated	Single or twofold; clearly indicated	Single or multiple; solely stated	Multiple; often implicit	Multiple; often implicit and may be hidden or obscure
Style and Language	Style	Familiar, accessible, plain, few literary devices	Moderately accessible; some literary devices	Moderately demanding; several literary devices	Demanding; many literary devices	Unfamiliar, demanding, complex; many literary devices
	Language	Mostly clear, everyday language; limited use of Tier 2 and 3 words and figurative language	Some everyday language; some use of Tier 2 and 3 words and figurative language	Consistent use of Tier 2 and 3 words and figurative language	Extensive use of Tier 2 and 3 words and figurative language	Extensive use of Tier 2 and 3 words and figurative language; language may be intentionally or unintentionally ambiguous
Ideas		A few ideas/concepts; mostly concrete; low information density	Some ideas/concepts; mostly concrete; moderate information density	Several ideas/concepts; mostly abstract; moderate information density	Several ideas/concepts; abstract; high information density	Many ideas/concepts; highly abstract; high information density
Text Features		A few connections; explicit; simple	Some connections; largely explicit	Several connections; largely implicit	Several connections; implicit	Many connections; implicit; complex and interwoven
Knowledge Demands	Life experiences (literary texts)	Ability to handle simple themes and fantastical elements as well as draw upon common, everyday experiences	Ability to handle fairly simple themes, consider a perspective somewhat different from one's own, and understand unfamiliar experiences	Ability to handle fairly challenging themes, consider multiple perspectives, and understand unfamiliar experiences	Ability to handle challenging themes, consider multiple perspectives, and understand experiences distinctly different from one's own	Ability to handle one or more complex themes, consider multiple and unusual perspectives, and understand experiences distinctly different from one's own
	Cultural/literary knowledge (literary texts)	General background knowledge and familiarity with genre conventions required		Cultural and historical knowledge useful for understanding characters, settings, and allusions		
	Content/discipline knowledge (content/informational texts)	Some everyday and general content knowledge	Some general and discipline-specific content knowledge	Some discipline-specific content knowledge	Extensive discipline-specific content knowledge	Extensive, perhaps specialized discipline-specific content knowledge

Adapted from ACT, Inc., (2006); Carnegie Council on Advancing Adolescent Literacy (2010a, Draft; 2010b, Draft); Chall, Bissex, Conard, & Harris-Sharples (1996); and Hess and Biggam (2004)

The qualitative dimensions of text complexity are best understood as continua of increasing complexity rather than as representing discrete and easily defined stages. Most authentic texts will exhibit some but not all of the traits linked to a particular grade band; qualitatively assigning a text to a grade band is therefore a matter of "best fit," or determining which grade band's set of descriptors most accurately describes the text.

Structure

- Explicit, simple, conventional → Implicit, complex, unconventional
- Simple graphic representations → Sophisticated graphic representations
- Graphic representations supplementary to meaning → Graphic representations essential to meaning
- Relatively short texts → Texts sufficiently long to address complex subjects

Purpose

- Single purpose → Multiple purposes
- Explicitly stated → Often implicit and may be hidden or obscure

Style

- Familiar, accessible, plain → Unfamiliar, demanding, complex
- Few literary devices → Many literary devices

Language

- Mostly everyday language → Extensive use of Tier 2 and 3 words
- Limited use of figurative language → Extensive use of figurative language
- Clear language → Potentially ambiguous language

Richness

- A few ideas/concepts → Many ideas/concepts
- Concrete ideas/concepts → Abstract ideas/concepts
- Low information density → High information density

Relationships

- A few connections → Many connections
- Explicit connections → Implicit connections
- Simple connections → Complex, interwoven connections

Knowledge Demands: Life Experiences

- Simple themes → Complex themes
- Single theme → Multiple themes
- Common, everyday experiences and fantastical elements → Experiences distinctly different from one's own
- Single perspective like one's own → Multiple and unusual perspectives

Knowledge Demands: Cultural Knowledge

- General background knowledge and familiarity with genre conventions required → Cultural and historical knowledge useful

Knowledge Demands: Content/Discipline Knowledge

- Some everyday and general content knowledge → Extensive, perhaps specialized discipline-specific content knowledge

Definitions of Key Writing Types

Narrative

Narrative writing is organized by time. Time is central because narrative writing depicts events, whether real or imagined. Narrative writing is fundamental to novels, short stories, biographies, autobiographies, historical accounts, and plays. With practice, students' repertoire of narrative strategies expands and their control of them increases. Students learn to provide visual details of scenes, objects, or people; to depict specific actions (movements, gestures, postures, and expressions); to use dialogue and interior monologue in order to provide insight into the narrator's and characters' personalities and motives; and to manipulate pace in order to highlight the significance of certain events and create tension and suspense. Narrative writing serves a variety of purposes; frequently it is embedded in other kinds of writing, such as writing intended to inform, instruct, or persuade.

Informative/Explanatory Text

Informative/explanatory writing conveys information accurately. This kind of writing can serve one or more of several closely related purposes: to increase readers' knowledge of a subject, to help readers better understand a procedure or process, or to enhance readers' comprehension of a concept. Informative/explanatory writing addresses questions, such as questions about types (What are the different types of whales?), about components (What are the parts of a motor?), about aspects of a subject such as its size, function, or behavior (How big is the United States? What is an x-ray used for? How do penguins find food?), about how things work (How does a camera work?), and about why things happen (Why is Earth warming?). To produce this kind of writing, students draw on what they already know and on primary and secondary sources. With practice, students become better able to develop a controlling idea that supports coherence and focus, and they can select examples, facts, and details that are relevant. They are also able to employ a variety of techniques that writers use to convey information, such as naming, describing, or differentiating different types or parts; comparing or contrasting one subject with another; and relating an anecdote or scenario to illustrate a point.

Argument

The purpose of argument is to persuade in order to change the reader's point of view or to bring about some action on the reader's part. There are many techniques employed by writers to persuade readers—for example, appeals to emotions, appeals to common beliefs, and the creation of a believable authorial voice. However, the core of argument is logic and evidence. A logical argument convinces its audience of the merit and reasonableness of the claims and the proof offered in support of the claims. Writers of logical arguments provide credible evidence (facts and details) to support their assertions. Although young children are not able to produce fully developed logical arguments, they are developing a variety of ways to extend and elaborate their work around opinions or judgments. They provide examples, they offer reasons for their assertions, and they explain cause and effect. These kinds of expository structures are steps on the road to argument.

Conventions

Three goals undergird the Conventions standards:

(1) Students should have a carefully specified range of broadly useful terms in order to be precise in their discussions about language. Such key terms (noted below) should be defined in grade-appropriate ways for younger students and fleshed out more fully in later grades. (For guidance on this matter, see, for example, Brock Haussamen with Amy Benjamin, Martha Kolln, and Rebecca S. Wheeler, *Grammar Alive!: A Guide for Teachers* [Urbana, IL: NCTE, 2003] and Amy Benjamin with Tom Oliva, *Engaging Grammar: Practical Advice for Real Classrooms* [Urbana, IL: NCTE, 2007].) Additional terminology may be helpful in particular instructional situations; avoiding terminology altogether may be appropriate in others.

(2) Students must be able to observe the conventions of standard English in their formal writing and speaking for the sake of having their efforts widely understood and taken seriously.

(3) Students need to understand that effective language use is more than simply observing a series of rules but also about making careful choices among alternatives, considering those choices in relation to task, purpose, audience, occasion, and discipline.

Many conventions-related issues are likely to arise in students' writing and speaking prior to their formal appearance in the sequence below. For example, students in kindergarten are expected to know what a complete sentence is even though the concept of a fragment is not mentioned specifically in the standards until grade 3.

Conversely, many skills and understandings introduced at lower grades will require continued attention as students advance in the grades. Students in grade 3, for instance, can ensure subject-verb agreement in simple situations, such as when the subject and verb appear next to each other in a sentence. As students' writing and speaking become more complex, however, new agreement challenges arise, such as intervening phrases suggesting a different number for the verb than the subject calls for. "Errors" with applying previously mastered skills and understandings are thus often a sign of progress in that students are stretching their ability to communicate. "Relearning" is then a matter of students becoming able to apply old skills and understandings in new, more sophisticated ways.

While all the Conventions standards should be considered cumulative, certain ones, noted with an asterisk (*), are particularly likely to need to be revisited by older students as they convey ever more elaborate ideas in writing and speech.

ELA Conventions Progressive Skills: By Standard

The following standards, marked with an asterisk (*) in the standards document, are skills and understandings that require continued attention in higher grades (after their introduction in lower grades) as they are applied to increasingly sophisticated writing and speaking.

Grade 3	Grades 4–5	Grades 6–8	(Grade/band in which the standard is introduced)
3.1			Generate complete sentences, avoiding sentence fragments, comma splices, and run-ons.
3.2			Ensure subject-verb and pronoun-antecedent agreement.
3.7			Choose words for effect.
	4-5.2		Recognize and correct inappropriate shifts in verb tense.
	4-5.3		Form and choose between adjectives and adverbs (including comparative and superlative forms), placing them appropriately within the sentence.
	4-5.4		Correctly use frequently confused words.
	4-5.5		Use idiomatic language.
	4-5.7		Use punctuation to separate items in a series.
	4-5.11		Spell grade-appropriate words correctly, consulting references as needed.
	4-5.12		Use spoken and, topic-specific language to convey ideas precisely.
	4-5.13		Use figurative language to create images or make comparisons and connections between people, objects, or ideas.
	4-5.14		Use punctuation for effect.
	4-5.15		Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.
		6-8.2	Place phrases and clauses within a sentence, avoiding misplaced and dangling modifiers.
		6-8.4	Recognize and correct inappropriate shifts in pronoun number and person.
		6-8.5	Recognize and correct vague pronouns with unclear or ambiguous antecedents.
		6-8.8	Recognize and correct inappropriate shifts in verb voice and mood.
		6-8.9	Set off nonrestrictive/parenthetical elements with commas, parentheses, or dashes.
		6-8.12	Vary sentence patterns for meaning, reader/listener interest, and style.
		6-8.13	Choose words and phrases to express ideas precisely and concisely, avoiding redundancy and wordiness.

Vocabulary Instruction

> Words are not just words. They are the nexus — the interface — between communication and thought. When we read, it is through words that we build, refine, and modify our knowledge. What makes vocabulary valuable and important is not the words themselves so much as the understandings they afford.
>
> Marilyn Adams[13]

The importance of students acquiring a rich and varied vocabulary cannot be overstated. Research suggests that if students are going to grasp and retain words and comprehend text, they need incremental, repeated exposure to words they are trying to learn in a variety of contexts. When students make multiple connections between new words and their own experiences they develop a nuanced and flexible understanding of the word. In this way, students learn not only what a word means, but how to use that word in a variety of contexts and apply appropriate senses of the word's meaning in order to understand different contexts.[14]

Initially children readily learn words from oral conversation because oral conversations are context rich in ways that aid in vocabulary acquisition; in discussion a small set of words (accompanied by gesture and intonation) is used with great frequency to talk about a narrow range of situations children are exposed to on a day to day basis. Yet as children reach school age, new words are less frequently introduced in conversation, and consequently vocabulary acquisition eventually stagnates by fourth or fifth grade unless students acquire additional words from written context.[15]

Written language, by contrast, contains hundreds of times as many different words as are typically used in conversational language. Yet writing lacks the interactive opportunities and nonverbal context provided by oral conversation so it presents a special challenge towards successful vocabulary acquisition without purposeful and ongoing concentration on vocabulary.[16] In fact, at most, between five and fifteen percent of new words encountered when reading are retained.[17] The weaker a student's vocabulary is, the slighter the gain.[18] Yet research shows that if students are going to understand what they read, they must understand upward of 95 percent of the words.[19]

As this "tipping point" for lexical dexterity is quite challenging for students to reach, every classroom needs to focus on providing students with high quality contextual encounters with vocabulary words that epitomize what they encounter in written texts. The aim should be to expose students to words that have the widest application concepts that students are likely to meet again and again not just in classroom settings but outside the school walls as well. Some of these highly transferable academic words, often referred to as Tier 2 words, such as qualifying adjectives and adverbs (e.g., important, typically) are used broadly across domains and indeed in contexts that transcend the classroom.[20] However, the meanings of most words are specific to their domains — often referred to as Tier 3 words — including those that arise in multiple domains (e.g., chemical constituents, constituent voting patterns). To learn words, students have to read multiple selections from multiple authors within key domains of learning.

The problem is that, in any given instance, it is not the entire spectrum of a word's history, meanings, usages, and features that matters, but only those aspects that are relevant to the surrounding context. That means, first, that the reader's internal representation of the word must be sufficiently complete and well-articulated so that the intended meaning is available and, second, that the reader must understand the context well enough to select the intended meaning — which, in turn, depends on good understanding of the surrounding words of the passage.

Key to students' vocabulary development is building rich and flexible word knowledge. Students need plentiful opportunities to use and respond to the words they learn, through playful informal talk, discussion, and reading or being read to and responding to what is read. Along with attention to academic (Tier 2 words) and content-specific words (Tier 3 words), students benefit from instruction about the connections and patterns in language. Developing in students an analytical attitude toward the logic and sentence structure of their texts alongside an awareness of word parts, word origins, and word relationships provides students with a sense of how language works so that syntax, morphology and etymology can become useful cues to word in building meaning as students encounter new words and concepts in their reading.[21] As students are exposed to and interact with language throughout their school careers, they are able to acquire understandings of word meanings, build awareness of the workings of language, and apply word meanings to comprehend and produce language.

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[13] Adams, M. (2009). "The Challenge of Advanced Texts: The Interdependence of Reading and Learning," in Hiebert (Ed.), Reading more, reading better: Are American students reading enough of the right stuff?, New York: Guilford Publications.

[14] Landauer, TK, McNamara, DS, Dennie, S and Kintsch, W (2007) Handbook of Latent Semantic Analysis. Landauer, T. K., & Dumais, S. T. (1997). A solution to Plato's problem: The latent semantic analysis theory of acquisition, induction, and representation of knowledge. *Psychological Review, 104*(2), 211-240; Nagy, W. E., Herman, P., & Anderson, R. C. (1985). Learning words from context. *Reading* Research Quarterly, *20*, 233-253.

[15] Hayes, D and Ahrens, M: "Vocabulary simplification for children: A special case of "motherese?" Journal of Child Language. Vol 15(2), Jun 1988, 395-410

[16] Ibid.

[17] Ibid.

[18] Daneman & Green, 1986; Herman, Anderson, Person &Nagy, 1987; Sternberg & Powell

[19] Betts, E. A. (1946). *Foundations of reading instruction*. New York, NY: American Book Company; Carver, R. P. (1994). Percentage of unknown vocabulary words in text as a function of the relative difficulty of the text: Implications for instruction. *Journal of Reading Behavior, 26*, 413-437; Hu, M., & Nation, P. (2000). Unknown vocabulary density and reading comprehension. *Reading in a Foreign Language, 13*(1), 403-430; Laufer, B. (1988). What percentage of text-lexis is essential for comprehension. In C. Lauren & M. Nordman (Eds.), *Special language: From humans to thinking machines*, pp. 316-323. Clevedon, UK: Multilingual Matters.

[20] Indeed, the fact that these words transcend specific disciplines argues for them being taught and used across the curriculum by all teachers.

[21] Beck, I. L., McKeown, M. & Kucan, L. (2008). *Creating robust vocabulary: Frequently asked questions and extended examples*.

APPENDIX B

Exemplars of Reading Text Complexity and Quality, ELA K–12

Selecting Text Samples

The following text samples primarily serve to exemplify the level of complexity and quality that the *Standards* require all students in a given grade band to engage with while additionally suggesting the breadth of text types that students should encounter. The choices should serve as useful guideposts in helping educators select texts of similar **complexity, quality, and breadth** for their own classrooms. The process of text selection was guided by these criteria in the following fashion:

- *Complexity.* Appendix A describes in detail a three-part model of measuring text complexity based on qualitative and quantitative indices of inherent text difficulty balanced with educators' professional judgment. In selecting texts to serve as exemplars, the work group began by soliciting contributions from teachers, educational leaders, and researchers who have experience working with students in the grades for which the texts have been selected. These contributors were asked to propose texts that they or their colleagues have used successfully with students in a given grade band. The work group made final selections based in part on whether qualitative and quantitative measures identified by the *Standards* indicated that the proposed texts were of sufficient complexity for the grade band. For those types of texts — particularly poetry and multimedia sources — for which these measures are not as well suited, professional judgment necessarily played a greater role in selection.

- *Quality.* While it is possible to have high-complexity texts of low inherent quality, the work group solicited only texts of recognized value. From the pool of submissions gathered from outside contributors, the work group selected classic or historically significant texts as well as contemporary works of comparable literary merit, cultural significance, and/or content richness.

- *Breadth.* After identifying texts of appropriate complexity and quality, the work group applied a range of secondary criteria to ensure that the samples presented in each band represented as broad a range of sufficiently complex, high-quality texts as possible. Among the factors considered were initial publication date, authorship, and subject matter.

Copyright and Permissions

For those exemplar texts not in the public domain, the work group is seeking permission from the rights holders for limited use by the Common Core State Standards Initiative of the National Governors Association.

While we await permissions grants from the rights holders, we will make use of texts under a conservative interpretation of Fair Use, which allows limited, partial use of copyrighted text for a nonprofit, educational purpose as long as that purpose does not impair the rights holder's ability to seek a fair return for his or her work.

Please note that these texts are included solely as exemplars in support of the *Standards*. Any additional use of those texts that are not in the public domain, such as for classroom use or curriculum development, requires independent permission from the rights holders. The texts may not be copied or distributed in any way other than as part of the overall Common Core Standards Initiative document.

Organization and Excerpting

Texts are organized first by category, with narrative texts followed by drama and poetry and then the informational texts. Within each category, the texts are organized by date, usually of first publication, beginning with the oldest and ending with the most recent. In some cases, the date of any given work may be open to debate.

The excerpts given here are meant to stand in for the full work in most instances. Works that are not in the public domain may be represented by short excerpts or snippets while the work group awaits permission from the rights holders for full use.

Media Texts

Selected excerpts are accompanied by annotated links to related media texts available online at the time of the publication of this document.

Kindergarten to Grade 1 Exemplar Texts

Narratives

Little Bear by Else Holmelund Minarik, illustrated by Maurice Sendak (1957)

Are You My Mother? by P. D. Eastman (1960)

The Fire Cat by Esther Averill (1960)

Green Eggs and Ham by Dr. Seuss (1960)

Put Me in the Zoo by Robert Lopshire (1960)

Frog and Toad Together by Arnold Lobel (1971)

Owl at Home by Arnold Lobel (1975)

Henry and Mudge: The First Book of Their Adventures by Cynthia Rylant, illustrated by Suçie Stevenson (1987)

Poppleton in Winter by Cynthia Rylant, illustrated by Mark Teague (2001)

Cowgirl Kate and Cocoa by Erica Silverman, illustrated by Betsy Lewin (2005)

Poetry

"Mix a Pancake" by Christina G. Rossetti (1893)

"Singing Time" by Rose Fyleman (1919)

"Halfway Down" by A. A. Milne (1924)

"As I Was Going to St. Ives" by Unknown, collected by Peter and Iona Opie (1951)

"Drinking Fountain" by Marchette Chute (1957)

"Poem" by Langston Hughes (1958)

"Wouldn't You?" by John Ciardi (1961)

"In the Falling Snow" by Richard Wright (1973)

"Covers" by Nikki Giovanni (1980)

"It Fell in the City" by Eve Merriam (1985)

"Celebration" by Alonzo Lopez (1993)

"Two Tree Toads" by Jon Agee (2009)

Informational Texts

A Tree Is a Plant by Clyde Robert Bulla, illustrated by Stacey Schuett (1960)

My Five Senses by Aliki (1962)

Starfish by Edith Thacher Hurd, illustrated by Robin Brickman (1962)

What Do You Do With a Tail Like This? by Steve Jenkins & Robin Page (2003)

From Seed to Pumpkin by Wendy Pfeffer, illustrated by James Graham Hale (2004)

Mouse in a Meadow by John Himmelman (2005)

Petting Zoo by Dorling Kindersley (2005)

Meet the Meerkat by Darrin Lunde, illustrated by Patricia J. Wynne (2007)

"The Forest in Spring" in National Geographic Young Explorer! April 2009 (2009)

"Our Good Earth" in National Geographic Young Explorer, April 2009 (2009)

Read-Aloud Narratives

The Wonderful Wizard of Oz by L. Frank Baum (1900)

Little House in the Big Woods by Laura Ingalls Wilder, illustrated by Garth Williams (1932)

Mr. Popper's Penguins by Richard Atwater (1938)

Finn Family Moomintroll by Tove Jansson, translated by Elizabeth Portch (1948)

A Story A Story by Gail E. Haley (1970)

The Paper Crane by Molly Bang (1985)

Read-Aloud Poetry

"The Owl and the Pussycat" by Edward Lear (1871)

"April Rain Song" by Langston Hughes (1932)

"The Fox's Foray" Traditional rhyme in Opie *I. The Oxford Nursery Rhyme Book* (1955)

Over in the Meadow by John Langstaff, illustrated by Feodor Rojankovsky (1957)

Zin! Zin! Zin! a Violin by Lloyd Moss, illustrated by Marjorie Priceman (1995)

Read-Aloud Informational Texts

The Year at Maple Hill Farm by Alice and Martin Provensen (1978)

Fire! Fire! by Gail Gibbons (1984)

Follow the Water from Brook to Ocean by Arthur Dorros (1991)

Amazing Whales! by Sarah L. Thomson (2005)

Living Sunlight: How Plants Bring the Earth to Life by Molly Bang & Penny Chisholm, illustrated by Molly Bang (2009)

Grades 2–3 Exemplar Texts

Narratives

My Father's Dragon by Ruth Stiles Gannett, illustrated by Ruth Chrisman Gannett (1948)

Crow Boy by Taro Yashima (1955)

Amos & Boris by William Steig (1971)

The Treasure by Uri Shulevitz (1978)

The Stories Julian Tells by Ann Cameron (1981)

Sarah, Plain and Tall by Patricia MacLachlan (1985)

Tops and Bottoms by Janet Stevens (1995)

The Raft by Jim LaMarche (2000)

The Lighthouse Family: The Storm by Cynthia Rylant, illustrated by Preston McDaniels (2002)

The One-Eyed Giant (Book One of Tales from the Odyssey) by Mary Pope Osborne (2002)

Poetry

"Autumn" by Emily Dickinson (1893)

"Who Has Seen the Wind?" by Christina G. Rossetti (1893)

"Afternoon on a Hill" by Edna St. Vincent Millay (1917)

"Stopping by Woods on a Snowy Evening" by Robert Frost (1923)

"Something Told the Wild Geese" by Rachel Field (1934)

"Grandpa's Stories" by Langston Hughes (1958)

"A Bat Is Born" by Randall Jarrell (1964)

"Knoxville, Tennessee" by Nikki Giovanni (1968)

"Weather" by Eve Merriam (1969)

"Eating While Reading" by Gary Soto (1995)

Informational Texts

A Medieval Feast by Aliki (1983)

Maps & Globes by Jack Knowlton, pictures by Harriet Barton (1985)

Sunshine Makes the Seasons by Franklyn M. Branley (1985)

From Seed to Plant by Gail Gibbons (1991)

Throw Your Teeth on the Roof: Tooth Traditions Around the World by Selby B. Beeler, illustrated by G. Brian Karas (1998)

So You Want to Be President? By Judith St.George, illustrated by David Small (2000)

Boy, Were We Wrong About Dinosaurs by Kathleen V. Kudlinski, illustrated by S.D. Schindler (2005)

Bat Loves the Night by Nicola Davies, illustrated by Sarah Fox-Davies (2008)

Moonshot: The Flight of Apollo 11 by Brian Floca (2009)

Where Do Polar Bears Live? by Sarah L. Thomson, illustrated by Jason Chin (2010)

Read-Aloud Narratives

"How the Camel Got His Hump" in *Just So Stories* by Rudyard Kipling (1902)

The Thirteen Clocks by James Thurber (1950)

The Cricket in Times Square by George Selden, illustrated by Garth Williams (1960)

The Search for Delicious by Natalie Babbitt (1969)

Bud, Not Buddy by Christopher Paul Curtis (1999)

Read-Aloud Poetry

"The Jumblies" by Edward Lear (1871)

"The Pied Piper of Hamelin" by Robert Browning (1888)

"Your World" by Georgia Douglas Johnson (1918)

"The Song of the Jellicles" by T.S. Eliot (1939)

"Fireflies" by Paul Fleischman, illustrated by Eric Beddows (1988)

Read-Aloud Informational Texts

Lincoln: A Photobiography by Russell Freedman (1987)

A Drop of Water: A Book of Science and Wonder by Walter Wick (1997)

The Museum Book: A Guide to Strange and Wonderful Collections by Jan Mark, illustrated by Richard Holland (2007)

What the World Eats by Faith D'Aluisio, photographed by Peter Menzel (2008)

Wild Tracks! A Guide to Nature's Footprints by Jim Arnosky (2008)

Grades 4–5 Exemplar Texts

Narratives

Alice in Wonderland by Lewis Carroll (1865)

The Secret Garden by Frances Hodgson Burnett (1911)

The Black Stallion by Walter Farley (1941)

The Little Prince by Antoine de Saint-Exupery (1943)

Tuck Everlasting by Natalie Babbitt (1975)

"Zlateh the Goat" by Isaac Bashevis Singer (1984)

M. C. Higgins, the Great by Virginia Hamilton (1993)

The Birchbark House by Louise Erdrich (1999)

Bud, Not Buddy by Christopher Paul Curtis (1999)
[Also a read-aloud narrative at Grades 2–3]

Where the Mountain Meets the Moon by Grace Lin (2009)

Poetry

"The Echoing Green" from *Songs of Innocence* by William Blake (1789)

"The New Colossus" by Emma Lazarus (1883)

"Casey at the Bat" by Ernest Lawrence Thayer (1888)

"A Bird Came Down the Walk" by Emily Dickinson (1893)

"Fog" by Carl Sandburg (1916)

"Dust of Snow" by Robert Frost (1923)

"Little Red Riding Hood and the Wolf" by Roald Dahl (1982)

"They Were My People" by Grace Nichols (1988)

"Words Free As Confetti" by Pat Mora (1996)

Informational Texts

Discovering Mars by Melvin Berger (1992)

Let's Investigate Marvelously Meaningful Maps by Madelyn Wood Carlisle (1992)

Hurricanes: Earth's Mightiest Storms by Patricia Lauber (1996)

The Kid's Guide to Money by Steve Otfinoski (1996)

Toys: Amazing Stories behind Some Great Inventions by Don Wulffson (2000)

"Good Pet, Bad Pet" by Elizabeth Schleichert from *Ranger Rick* (2002)

"Ancient Mound Builders" by E. Barrie Kavash from *Cobblestone* (2003)

About Time: A First Look at Time and Clocks by Bruce Koscielniak (2004)

England the Land by Erinn Banting (2004)

A History of US by Joy Hakim (2005)

My Librarian Is a Camel by Margriet Ruurs (2005)

Horses by Seymour Simon (2006)

Quest for the Tree Kangaroo by Sy Montgomery (2006)

Volcanoes by Seymour Simon (2006)

We Are the Ship: The Story of Negro League Baseball by Kadir Nelson (2008)

"Kenya's Long Dry Season" by Nellie Gonzalez Cutler from *Time for Kids* (2009)

"Seeing Eye to Eye" by Leslie Hall from *National Geographic Explorer* (2009)

"Computer" from *Britannica Junior Encyclopedia* (2010)

"Telescopes" by Ronan, Colin A. from *The New Book of Knowledge* (2010)

"Underground Railroad" by Henrietta Buckmaster from *The New Book of Knowledge* (2010)

Grades 6–8 Exemplar Texts

Narratives

Little Women by Louisa May Alcott (1869)

The Adventures of Tom Sawyer by Mark Twain (1876)

A Wrinkle in Time by Madeline L'Engle (1962)

The Dark is Rising by Susan Cooper (1973)

Dragonwings by Laurence Yep (1975)

Roll of Thunder, Hear My Cry by Mildred Taylor (1976)

"The People Could Fly" from *The People Could Fly: American Black Folktales* by Virginia Hamilton (1985)

The Tale of the Mandarin Ducks by Katherine Paterson (1990)

"Eleven" from *Woman Hollering Creek: And Other Stories* by Sandra Cisneros (1992)

Black Ships Before Troy: The Story of the Iliad by Rosemary Sutcliff (1993)

Drama

A Midsummer Night's Dream by William Shakespeare (1596)

The Diary of Anne Frank by Frances Goodrich and Albert Hackett (1958)

Poetry

"Paul Revere's Ride" by Henry Wadsworth Longfellow (1861)

"O Captain, My Captain" by Walt Whitman (1865)

"Jabberwocky" by Lewis Carroll (1872)

"Twelfth Song of Thunder" from *The Mountain Chant: A Navajo Ceremony* Navajo tradition (1887)

"The Railway Train" by Emily Dickinson (1893)

"The Song of Wandering Aengus" by W. B. Yeats (1899)

"Chicago" from *Chicago Poems* (1914) by Carl Sandburg

"Stopping by a Wood on a Snowy Evening" by Robert Frost (1923)

"I, Too" by Langston Hughes (1925)

"The Book of Questions" by Pablo Neruda (1973) translated by William O'Daly

"Oranges" from *Black Hair* (1985) by Gary Soto

"A Poem for My Librarian, Mrs. Long" from *Acolytes* (2007) by Nikki Giovanni

Informational Texts (English Language Arts)

"Allegory of the Cave" from *The Republic* by Plato (380 BCE) translated by G.M.A. Grube

"Letter on Thomas Jefferson" by John Adams (1822)

Narrative of the Life of Frederick Douglass an American Slave by Frederick Douglass (1845)

"Gettysburg Address" by Abraham Lincoln (1863)

"Lee Surrenders to Grant" by Horace Porter (1865)

"Blood, Toil, Tears and Sweat" by Winston Churchill (1940)

Travels with Charley: In Search of America by John Steinbeck (1962)

"Address to the Nation on Civil Rights" by John F. Kennedy (1963)

I Know Why the Caged Bird Sings by Maya Angelou (1969)

"Address to Students at Moscow State University" by Ronald Reagan (1988)

Grades 9-10 Exemplar Texts

Narratives

The Odyssey by Homer (8th century B.C.E.) translated by Robert Fagles

"The Nose" by Nikolai Gogol (1836) translated by Ronald Wilks

"The Gift of the Magi" by O. Henry (1906)

The Grapes of Wrath by John Steinbeck (1939)

Fahrenheit 451 by Ray Bradbury (1953)

"I Stand Here Ironing" by Tillie Olsen (1956)

The Killer Angels by Michael Shaara (1975)

The Joy Luck Club by Amy Tan (1989)

In the Time of the Butterflies by Julia Alvarez (1994)

The Book Thief by Marcus Zusak (2005)

Drama

The Tragedy of Romeo and Juliet by William Shakespeare (1592)

The Glass Menagerie by Tennessee Williams (1944)

Rhinoceros by Eugene Ionesco (1959) translated by Derek Prouse

Master Harold…and the Boys by Athol Fugard (1982)

Poetry

"Song" by John Donne (1635)

"Ozymandias" by Percy Bysshe Shelley (1810)

"The Raven" by Edgar Allen Poe (1845)

"We Grow Accustomed to the Dark" by Emily Dickinson (1893)

"Loveliest of Trees" by A. E. Housman (1896)

"Lift Ev'ry Voice and Sing" by James Weldon Johnson (1900)

"Domination of Black" by Wallace Stevens (1916)

"Yet Do I Marvel" by Countee Cullen (1925)

"Women" by Alice Walker (1970)

"I Am Offering This Poem to You" by Jimmy Santiago Baca (1977)

Informational Texts (English Language Arts)

"Preface to Lyrical Ballads" by William Wordsworth (1800)

"Speech to the Second Virginia Convention" by Patrick Henry (1775)

"Second Inaugural Address" by Abraham Lincoln (1865)

"State of the Union Address" by Franklin Delano Roosevelt (1941)

"I Am an American Day Address" by Learned Hand (1944)

"Remarks to the Senate in Support of a Declaration of Conscience" by Margaret Chase Smith (1950)

"Address at the March on Washington" by Martin Luther King, Jr. (1963)

"Nobel Prize Acceptance Speech" by Elie Wiesel (1986)

"A Quilt of a Country" by Anna Quindlen (2001)

Grades 11-12 Exemplar Texts

Narratives

Pride and Prejudice by Jane Austen (1813)

Jane Eyre by Charlotte Brontë (1848)

"At Home" by Anton Chekov (1887) translated by Constance Garnett

The Great Gatsby by F. Scott Fitzgerald (1925)

As I Lay Dying by William Faulkner (1930)

Their Eyes Were Watching God by Zora Neale Hurston (1937)

Black Boy by Richard Wright (1945)

The Adventures of Augie March by Saul Bellow (1949)

The Bluest Eye by Toni Morrison (1970)

Dreaming in Cuban by Cristina García (1992)

The Namesake by Jhumpa Lahiri (2003)

Drama

Macbeth by William Shakespeare (c1611)

The Importance of Being Earnest by Oscar Wilde (1895)

Death of a Salesman by Arthur Miller (1949)

A Raisin in the Sun by Lorraine Hansberry (1959)

Poetry

"A Valediction Forbidding Mourning" by John Donne (1633)

"Ode on a Grecian Urn" by John Keats (1820)

"Song of Myself" from *Leaves of Grass* by Walt Whitman (c1860)

"Because I Could Not Stop for Death" by Emily Dickinson (1890)

"Mending Wall" by Robert Frost (1914)

"Ode to My Suit" by Pablo Neruda (1954) translated by Margaret Sayers Peden

"Sestina" by Elizabeth Bishop (1983)

"The Latin Deli: An Ars Poetica" by Judith Ortiz Cofer (1988)

"Demeter's Prayer to Hades" by Rita Dove (1995)

"Man Listening to Disc" by Billy Collins (2001)

Informational Texts (English Language Arts)

The Declaration of Independence by Thomas Jefferson (1776)

The Crisis by Thomas Paine (1776)

Walden by Henry David Thoreau (1854)

"Society and Solitude" by Ralph Waldo Emerson (1857)

"The Fallacy of Success" by G.K. Chesterton (1909)

The American Language by H.L. Mencken (1938)

"Politics and the English Language" by George Orwell (1946)

"Abraham Lincoln and the Self-Made Myth" by Richard Hofstadter (1948)

"Letter from Birmingham City Jail" by Martin Luther King, Jr. (1963)

"Mother Tongue" by Amy Tan (1990)

"Take the Tortillas Out of Your Poetry" by Rudolfo Anaya (1995)

The Common Core K–12 Mathematics Standards

This document provides grade level standards for mathematics in grades K–8, and high school standards organized under the headings of the *College and Career Readiness Standards in Mathematics*. Students reaching the readiness level described in that document (adjusted in response to feedback) will be prepared for non-remedial college mathematics courses and for training programs for career-level jobs. Recognizing that most students and parents have higher aspirations, and that ready for college is not the same as ready for mathematics-intensive majors and careers, we have included in this document standards going beyond the readiness level. Most students will cover these additional standards. Students who want the option of entering STEM fields will reach the readiness level by grade 10 or 11 and take precalculus or calculus before graduating from high school. Other students will go beyond readiness through statistics to college. Other pathways can be designed and available as long as they include the readiness level. The final draft of the K–12 standards will indicate which concepts and skills are needed to reach the readiness level and which go beyond. We welcome feedback from states on where that line should be drawn.

English Language Learners in Mathematics Classrooms

English language learners (ELLs) must be held to the same high standards expected of students who are already proficient in English. However, because these students are acquiring English language proficiency and content area knowledge concurrently, some students will require additional time and all will require appropriate instructional support and aligned assessments.

ELLs are a heterogeneous group with differences in ethnic background, first language, socio-economic status, quality of prior schooling, and levels of English language proficiency. Effectively educating these students requires adjusting instruction and assessment in ways that consider these factors. For example ELLs who are literate in a first language that shares cognates with English can apply first-language vocabulary knowledge when reading in English; likewise ELLs with high levels of schooling can bring to bear conceptual knowledge developed in their first language when reading in a second language. On the other hand, ELLs with limited or interrupted schooling will need to acquire background knowledge prerequisite to educational tasks at hand. As they become acculturated to US schools, ELLs who are new comers will need sufficiently scaffolded instruction and assessments to make sense of content delivered in a second language and display this content knowledge.

While some ELLs are economically and educationally advantaged, this is not the case for many of these students. Moreover, once in the U.S., the majority of ELLs attend high poverty schools with high percentages of other ELLs. These schools often lack the resources and capacity needed to help ELLs reach high academic standards. However, schools and districts can be assisted in providing a positive learning environment that capitalizes on the linguistic and cultural diversity of the student body.

Language proficiency is a complex construct that can reflect proficiency in multiple contexts, modes, and academic disciplines. Current measures of language proficiency may not give an accurate picture of an individual's language competence. In particular, we do not have measures or assessments for language proficiency related to competence in mathematics for different ages or mathematical topics. These two facts can confuse discussions of mathematics instruction for ELLs. In particular, because of the complexity of language proficiency and the limitations of the label "English Language Learner" as currently implemented, instructional decisions should not be made solely based on that label. However, research on language and mathematics education for this student population does provide a few clear results to guide practices for teaching ELLs mathematics:

- English learners can participate in mathematical discussions as they learn English (Moschkovich, 1999a, 2002, 2007a, 2007b, 2007d).

- Mathematics instruction for students who are learning English should draw on multiple resources and modes available in classrooms — such as objects, drawings, inscriptions, and gestures — as well as home languages and mathematical experiences outside of school.
- While mathematics instruction for ELLs should address mathematical discourse and academic language, this involves much more than vocabulary instruction.

Basic principles for improving the mathematics achievement of ELLs

Language is a resource for learning mathematics, it is not only a tool for communicating, but also a tool for thinking and reasoning mathematically. All languages (English, Spanish, Tagalog, etc.) and language varieties (different dialects, home or everyday ways of talking, vernacular, slang, etc.) provide resources for mathematical thinking, reasoning, and communicating.

Regular and active participation in the classroom — not only reading and listening but also discussing, explaining, writing, representing, and presenting — is crucial to ELLs' success in mathematics, and that ELLS can produce explanations, presentations, etc. and participate in classroom discussions *as they are learning English* (Moschkovich, 1999 and 2007).

- ELLs, like English-speaking students, require regular access to teaching practices that are most effective for improving student achievement. These practices include: a) Keeping mathematical tasks at high-cognitive demand (Henningsen & Stein, 1997; Silver & Stein, 1996); b) teachers and students attend explicitly to concepts (Hiebert & Grouws, 2007), and c) students wrestle with important mathematics (Hiebert & Grouws, 2007).
- See the evidence of ELLs' mathematical thinking, hear how ELLs use language to communicate about mathematics, understand the competence that ELLS bring to the classroom, build on this competence, and provide access to opportunities for advancing their mathematics learning.

Overall, research suggests that:

- Classroom instruction should allow bilingual students to choose the language they prefer for arithmetic computation. Language switching can be swift, highly automatic, and facilitate rather than inhibit solving word problems in the second language, as long as the student's language proficiency is sufficient for understanding the text of the word problem.
- Instruction should ensure that students understand the text of word problems before they attempt to solve them.
- Instruction should include a focus on "mathematical discourse" and "academic language" because these are important for English learners. Although it is crucial that students who are learning English have opportunities to communicate mathematically, this is not primarily a matter of learning vocabulary. Students learn to participate in mathematical reasoning, not by learning vocabulary, but by making conjectures, presenting explanations, and/or constructing arguments.
- While vocabulary instruction is important, it is not sufficient for supporting mathematical communication. Furthermore, vocabulary drill and practice are not the most effective instructional practices for learning vocabulary. Instead, research has demonstrated that vocabulary learning occurs most successfully through instructional environments that are language-rich, actively involve students in using language, require that students both understand spoken or written words and also express that understanding orally and in writing, and require students to use words in multiple ways over extended periods of time (Blachowicz, Camille, and Peter Fisher, 2000). To develop written and oral communication skills, students need to participate in negotiating meaning for mathematical situations and in mathematical practices that require output from students (Moschkovich, 2009).

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Access for Students with Disabilities

The Common Core Standards articulate rigorous expectations in the areas of mathematics, reading, writing, and speaking and listening in order to prepare students to be college- and career-ready. These standards identify the knowledge and skills students must acquire in order to be successful. Research shows that students with disabilities are capable of high levels of learning and should not be limited by low expectations and watered down curriculum. It is imperative that these highly capable students – regardless of their disability – are held to the same expectations articulated in the Core Standards as other students.[1]

However, *how* these high standards are taught is of the utmost importance in reaching students with special needs. When learning the knowledge and skills represented in the Core Standards, students with disabilities may need accommodations or—in exceptional cases—modified goals, incorporated in an individualized education program (IEP),[2] to help them access information or demonstrate their knowledge. Students might be precluded from reaching particular standards given the nature of the standard itself. In instances when a standard asks students to perform actions they are physically incapable of, students will need to be presented with alternative options to demonstrate similar knowledge and skills within the range of their abilities. Accommodations based on individual needs allow students of all disability levels to learn within the framework of the Core.

Meeting English Language Arts (ELA) Standards

Reading, writing, speaking, and listening standards often require accommodations for students with disabilities. In the case of students who are deaf, a standard that calls for "listening" should be interpreted to include reading sign language. In a similar vein, "speaking" as it occurs in standards for certain students with speech impairments should be read broadly to include "communication" or "self-expression." Students who are blind or have low vision should be able to read via Braille, screen reader technology, or other assistive technology to demonstrate their comprehension

[1] Research suggests that the vast majority of the population of students with intellectual impairments *can* achieve proficiency when they receive high quality instruction in the grade-level content and appropriate accommodations.
[2] According to the Individuals with Disabilities Act (IDEA), an IEP includes appropriate accommodations that are necessary to measure the individual achievement and functional performance of a child.

skills. "Writing" should not preclude the use of a scribe, computer, or speech-to-text technology for students with disabilities that interfere with putting pen to paper. In the case of students with intellectual impairments – less than 2 percent of the total population of all students and less than 20 percent of students with disabilities – accommodations should allow them to demonstrate their knowledge and skills through alternative modes like text to speech software or reading aloud. For these students, writing may involve the use of pictures to assist in illustrating plot or argument, or offering them the opportunity to "choose words and phrases" by selecting from options rather than generating direct answers. With appropriate accommodations and support, students with all levels of disabilities can participate in the general education curriculum and achieve grade-level proficiency with regard to the ELA content and skills articulated in the Core.

Meeting Mathematics Standards

In curriculum for students with disabilities, ELA skills often take precedence over mathematics understanding. However, most of these students can master mathematical concepts with accommodations in instructional delivery and the use of specialized technology, including computers and calculators. For example, students with visual disabilities might require enhanced verbal descriptions from teachers and the use of large-print to demonstrate subsequent knowledge. Students who are deaf might require visual aids such as charts, diagrams, and mental images and increased reliance on computers and calculators. Manipulatives can enable students with intellectual impairments to grasp abstract concepts and continue learning. Evidence suggests that students with disabilities, even those with full intellectual abilities, tend to lag behind their peers in mathematics achievement; strong curriculum that gives equal priority to mathematics and ELA will help these students succeed.

In short, while the standards remain and retain high expectations of students, they may need to be translated and occasionally modified to appropriately apply to students with disabilities, including all levels of intellectual impairment. Every student deserves to be treated with respect, and every student deserves an outstanding education. Promoting a culture of high expectations for all students is a fundamental goal of the Core Standards. Reaching students with disabilities requires broadening our understanding of what the standards say and being ready to make appropriate accommodations and/or modifications to meet individual students' needs.

How to read this document

The K–8 standards are organized by grade level. Within each grade level there are several headings, each one the title of a single progression having significant presence in the grade in question. Under each of these progression headings, there appear **core standards**, divided into standards describing concepts students should understand and standards describing skills students should acquire. A typical progression spans a number of grades, but does not span all of K–8. The progressions and their grade spans are listed at the end of the document.

The high school standards are not organized by grade level or by course, but rather are organized under headings of the *College and Career Ready Standards for Mathematics*: Expressions, Equations, Functions, Coordinates, Modeling, Statistics, Probability, and Geometry.[3] Subheadings under each heading refer either to mathematical practices or to principle topics, and core standards are listed under each subheading, as in the K–8 standards. The subheadings are not necessarily curricular units, but rather can describe concepts and skills that are revisited throughout a student's high school career. This design necessitates a future effort to develop course sequences (either traditional or integrated).

[3] Number and Quantity are not included, since they are principally the domain of K–8. In response to feedback, the headings have been reordered and Shape has been renamed to Geometry.

Mathematical Practice[4]

Proficient students expect mathematics to make sense. They take an active stance in solving mathematical problems. When faced with a non-routine problem, they have the courage to plunge in and try something, and they have the procedural and conceptual tools to carry through. They are experimenters and inventors, and can adapt known strategies to new problems. They think strategically.

Students who engage in these practices discover ideas and gain insights that spur them to pursue mathematics beyond the classroom walls. They learn that effort counts in mathematical achievement.[5] These are practices that expert mathematical thinkers encourage in apprentices. Encouraging these practices in our students should be as much a goal of the mathematics curriculum as is teaching specific content topics and procedures.[6] Taken together with the Standards for Mathematical Content, they support productive entry into college courses or career pathways.

Core Standards - Students can and do:

1 Attend to precision.

Mathematically proficient students organize their own ideas in a way that can be communicated precisely to others, and they analyze and evaluate others' mathematical thinking and strategies noting the assumptions made. They clarify definitions. They state the meaning of the symbols they choose, are careful about specifying units of measure and labeling axes, and express their answers with an appropriate degree of precision. Rather than saying, "let v be speed and let t be time," they would say "let v be the speed in meters per second and let t be the elapsed time in seconds from a given starting time." They recognize that when someone says the population of the United States in June 2008 was 304,059,724, the last few digits indicate unwarranted precision.

2 Construct viable arguments.

Mathematically proficient students understand and use stated assumptions, definitions and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They break things down into cases and can recognize and use counterexamples. They use logic to justify their conclusions, communicate them to others and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose.

3 Make sense of complex problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They consider analogous problems, try special cases and work on simpler forms. They evaluate their progress and change course if necessary. They try putting algebraic expressions into different forms or try changing the viewing window on their calculator to get the information they need. They look for correspondences between equations, verbal descriptions, tables, and graphs. They draw diagrams of relationships, graph data, search for regularity and trends, and construct mathematical models. They check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?"

4 Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern. For example, in $x^2 + 5x + 6$ they can see the 5 as $2 + 3$ and the 6 as 2×3. They recognize the significance of an existing line in a geometric figure and can add an auxiliary line to make the solution of a problem clear. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects. For example, by seeing 5 3(x

[4] Slated for review and editing, based on feedback to the College and Career Readiness Standards, and in order to apply more naturally to elementary school as well.

$y)^2$ as 5 minus a positive number times a square, they see that it cannot be more than 5 for any real numbers x and y.[8]

5 Look for and express regularity in repeated reasoning.

Mathematically proficient students pay attention to repeated calculations as they carry them out, and look both for general algorithms and for shortcuts. For example, by paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, they might abstract the equation $(y \quad 2)/(x \quad 1) = 3$. Noticing the regularity in the way terms cancel in the expansions of $(x \quad 1)(x + 1)$, $(x \quad 1)(x^2 + x + 1)$, and $(x \quad 1)(x^3 + x^2 + x + 1)$ leads to the general formula for the sum of a geometric series. As they work through the solution to a problem, proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.[9]

6 Reason quantitatively.

Quantitative reasoning is a way of thinking by which one reasons with quantities and about relations among quantities. It entails habits of creating a coherent image of the problem at hand; considering the units involved; continually attending to the meaning of quantities, not just how to compute them; and having multiple images of a concept and being flexible in transitioning among them. In problems dealing with quantitative relationships, students exercise two inseparable abilities: the ability to decontextualize — to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents — and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referential meanings for the symbols involved in the manipulation.

7 Make strategic decisions about the use of technological tools.

Mathematically proficient students consider the available tools when solving a mathematical problem, whether pencil and paper, ruler, protractor, graphing calculator, spreadsheet, computer algebra system, statistical package, or dynamic geometry software. They are familiar enough with all of these tools to make sound decisions about when each might be helpful. They use mathematical understanding and estimation strategically, attending to levels of precision, to ensure appropriate levels of approximation and to detect possible errors. They are able to use these tools to explore and deepen their understanding of concepts.

Mathematics: Kindergarten[5]

Developing Coherent Understanding

[Temporarily removed for editing.]

Counting and Cardinality

Core Standards - Students understand that:

1. The number words have a standard order.
2. In counting, each object receives one and only one number word.
3. The last number word tells the number of objects.
4. Numbers said later in the count refer to larger quantities.
5. Counting on 1 more is the same as adding 1. That is, one more than a number is the next number in the count.

Core Standards - Students can and do:

a. Count by ones from 1 to 100; count by tens to 100.[6]
b. Count forward from a given number within the known sequence (instead of always counting forward from 1).[7]
c. See collections of up to 10 objects as being composed of subgroups.
d. Count to answer "how many?" questions with up to 10 things in various arrangements (e.g., array, circular, scattered), or up to 25 things if in a row.
e. Write numerals from 1 to at least 30.

Base Ten Computation

Core Standards - Students understand that:

1. Ten ones make a tens unit (ten things can be thought of as bundled into a single unit).
2. Decade words refer to groups of tens units. For example, thirty refers to a group of three tens units.
3. A teen number[8] is a ten and some ones. The number 10 can be thought of as a ten and no ones.
4. Any teen number is larger than any single digit number. Teen numbers are ordered according to their ones digits.
5. A two-digit number is some tens and some ones. For example, 29 is two tens and nine ones.

Core Standards - Students can and do:

a. Make 10 with each number from 1 to 9 (i.e., know the number that makes 10 with the given number).
b. Show each teen number as a ten and some ones.

Early Relations and Operations

Core Standards - Students understand that:

[5] Some material is used verbatim from National Research Council. (2009). *Mathematics Learning in Early Childhood: Paths Toward Excellence and Equity.* Committee on Early Childhood Mathematics, Christopher T. Cross, Taniesha A. Woods, and Heidi Schweingruber, Editors. Center for Education, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.
[6] To "count" here means only to say the number words, not to determine how many objects are in a collection.
[7] To "count" here means only to say the number words, not to determine how many objects are in a collection.
[8] Glossary: Teen number. A whole number that is greater than or equal to 11 and less than or equal to 19.

1. Adding is putting two groups together or putting some more with a group, and subtracting is taking some from a group.
2. Addition and subtraction can be represented with physical or mental objects (including fingers), pictures, drawings, sounds (e.g. number words), motions, or equations.
3. Adding can be recorded by an expression, as when "three more than six" is recorded as 6 + 3, or by an equation that also shows the answer (6 + 3 = 9). Likewise, subtracting can be recorded by an expression, as when "how much more than 9 is 5" is recorded as 9 5, or by an equation that also shows the answer (9 5 = 4).
4. Breaking apart a group can be recorded in an equation such as 8 = 5 + 3. Breaking apart a group in more than one way can be recorded in an equation such as 7 + 6 = 10 + 3.
5. In all equations, the equals sign indicates that the values on either side are the same.

Core Standards - Students can and do:

a. Use matching and counting strategies to decide whether one set is more than, less than, or equal to another set in number of objects (less than or equal to 10).
b. Compare and order numbers less than or equal to 10.
c. Use concrete objects to determine the answer to addition and subtraction word problems and additions and subtractions with totals less than or equal to 10.
d. Experience enough problem situations so that additions to five and the corresponding subtractions and some additions and subtractions within ten become well known.

Quantity and Measurement

Core Standards - Students understand that:

1. Things have attributes such as length, weight, capacity, loudness, softness, and so on. A single thing might have several attributes of interest (as when we focus on a child's height and gender).

Core Standards - Students can and do:

a. Directly compare two objects to see which one has "more of" a shared attribute.
b. Rank three objects by a shared attribute (especially length), and use transitivity[9] to compare two objects indirectly.
c. [+] Classify objects or people into predetermined categories, and count the numbers in each category. List the categories and counts in order by count. (Each category count less than or equal to 10.)[10]

Shapes

Core Standards - Students understand that:

1. Names refer to shapes regardless of orientation or overall size.[11]

Core Standards - Students can and do:

a. Study a range of 2D and 3D shapes, in different sizes and orientations, and discuss their properties, similarities, and differences using informal language.

[9] Glossary: Transitive property of measurement order: If one object is bigger than a second, and the second object is bigger than a third object, then the first object is bigger than the third object.
[10] The symbol [+] indicates material in data analysis and statistics that appears under another progression heading in order to make an important connection.
[11] For example, a square rotated to form a "diamond" is still a square, even though it is rotated. Students at this grade might need to physically rotate a shape until it is "level" before they can correctly name it.

b. Move shapes using translations, reflections and rotations.[12]

[12] This is not meant to be assessed by showing students a picture of a shape and asking them to draw or select a translated, reflected or rotated version of it.

Mathematics: First Grade[13]

Developing Coherent Understanding

[Temporarily removed for editing.]

Early Relations and Operations

Core Standards - Students understand that:

1. Counting on is an efficient method of counting all, in which the initial count of the first addend is omitted.
2. Addition and subtraction apply to situations of joining, separating, part-part-whole, and comparing quantities to one another.[14] These situations can be represented by addition and subtraction equations such as $7 + 5 = 12$, $10 = 5 + 5$, and so on.
3. Addition and subtraction are inverse operations; that is $10 - 8$ can be found by thinking $8 + 2 = 10$.
4. When any two of the numbers in an addition or subtraction equation are known, the unknown number can be found.
5. One-to-one dealing of objects in a collection (e.g., "One for you, one for me, one for him, …") creates fair shares.

Core Standards - Students can and do:

a. Use counting on strategies or decomposing strategies for additions and subtractions within 20.
b. Solve addition problems containing three addends.
c. Use objects, pictures and story contexts to explain what happens when the order of addends in a sum is changed, when 0 is added to a number, and when one addend in a sum is increased by 1 and another decreased by 1.
d. Experience enough problem situations so that many or all sums and differences within 20 become well known.
e. Use drawings and equations to represent and solve word problems involving addition and subtraction.[15]
f. * Organize, represent and interpret data with several categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another
g. Create n fair shares from a collection of objects. Identify the size of one share, and recognize the original collection as n copies of a single share.

Quantity and Measurement

Core Standards - Students understand that:

1. Lengths can be added by placing long objects, rods, or unit cubes end to end in a straight line. The total length is the same in whatever order the rods are placed.

[13] Some material is used verbatim from National Research Council. (2009, op. cit.)

[14] In join and separate problems, there is change over time. In part-part-whole problems, two quantities make up a whole in a static situation. Compare problems involve two quantities and the difference between them. Compare problems add specificity to the notions of greater than and less than.

[15] Include join, separate, part-part-whole, and compare problems, with unknowns in all positions. Represent these situations with equations that use a small square or a ? for the unknown.

2. Lengths can be compared by placing rods side by side, with one end lined up. The difference in length is how far the longer extends beyond the end of the shorter.
3. Lengths are measured (assigned numerical values) by comparing them to other lengths — that is, by using another object as a length unit. The length of an object can be expressed numerically by counting the number of length units that span it with no gaps or overlaps.
4. When an object or figure is decomposed into several pieces, the length of the whole can be found by placing the pieces end to end in any order.
5. A sum of two whole numbers represents a total length; a difference of two whole numbers represents a difference in length.
6. Durations of time are measured by comparing them to other durations of time, such as the earth's rotation period, or the time a minute hand takes to complete a circle around a clock face.

Core Standards - Students can and do:

a. Using an object as a length unit, measure, compare and estimate length.[16]
b. Using an object as a length unit, determine total length by adding lengths of two parts.[17] Compare lengths using addition and subtraction.
c. Decompose circles and rectangles into 2 and 4 equal parts. Describe the parts using the words "halves" and "quarters," and using the phrases "half of" and "quarter of." Describe the wholes as twice or four times as large as the parts.
d. Tell time in hours from clocks; subtract to find whole-hour durations on a clock (within AM or within PM).

Base Ten Computation

Core Standards - Students understand that:

1. In comparing two-digit numbers, the number with more tens units is larger; if the number of tens units is the same in each, the number of ones units decides.
2. In adding or subtracting 2-digit numbers, one adds or subtract like units (tens units and tens units, or ones units and ones units).

Core Standards - Students can and do:

a. Count to 100 or beyond, switching appropriately to the new decade after a 9 has been said in the ones place.
b. Compare and order numbers to 100 based on meanings of the tens and ones places.
c. Easily write numerals to 20; write numerals to 100.
d. Use break-apart and make-a-ten strategies to add and subtract with teen totals as in $7 + 6 = 10 + 3$ and $17 - 9 = 17 - 7 - 2$.
e. Find 10 more or 10 less than a number without having to count.
f. Add one-digit numbers to two-digit numbers, and add multiples of 10 to one-digit and two-digit numbers.
g. Represent addition of two-digit numbers using 10-rods and unit cubes,[18] including rearranging rods and cubes to show regrouping when needed.
h. Add two-digit numbers to two-digit numbers using strategies based on place value, Properties of Arithmetic, or the inverse relationship between addition and subtraction.

Shapes

[16] Select and iterate units, partition into equal parts, and compare lengths indirectly by using a reference length.
[17] Restrict to whole-unit lengths.
[18] Any concrete model that can show individual units and ten connected units will do.

Core Standards - Students understand that:

1. Several shapes can be joined together to form a larger shape. A single shape can also be visualized as a collection of smaller shapes joined together.
2. Decomposing larger shapes into equal-sized parts creates fair shares.
3. When an identical figure is decomposed into more fair shares, the shares are smaller than in the first instance.

Core Standards - Students can and do:

a. Form different 2D figures with cutouts of rectangles, squares, triangles, semicircles, and quarter-circles.[19]
b. Form different 3D figures with concrete models of cubes, rectangular prisms, cones, and cylinders.[20]
c. Decompose 2D shapes into rectangles, squares, triangles, semicircles, and quarter-circles, including decomposing into fair shares.

[19] From Singapore Primary 2
[20] From Singapore Primary 2

Mathematics: Second Grade

Developing Coherent Understanding

[Temporarily removed for editing.]

Operations and the Problems They Solve

Core Standards - Students understand that:

1. Addition and subtraction apply to situations of joining, separating, part-part-whole, and comparing quantities to one another.[21] These situations can be represented by addition and subtraction equations such as 17 + 5 = 22, 36 = 56 26, and so on.
2. Addition and subtraction are inverse operations; that is 100 98 can be found by thinking 98 + ? = 100.
3. Numbers can be added and subtracted only when they refer to the same underlying unit.

Core Standards - Students can and do:

a. Use representations (objects, pictures, story contexts) to describe and justify properties of addition and subtraction.[22]
b. Produce full sets of related equations for addition and subtraction, as in the set 5 + 3 = 8, 3 + 5 = 8, 8 = 5 + 3, 8 = 3 + 5, 8 5 = 3, 8 3 = 5, 3 = 8 5, 5 = 8 3.
c. Solve up to two-step addition/subtraction word problems with whole numbers and whole number quantities within 100.[23]

Base Ten Computation

Core Standards - Students understand that:

1. A three-digit number is made up of hundreds, tens and ones units. Digits in each place are worth ten times as much as digits in the place to the right.
2. Comparison of numbers is decided by the leftmost digit, with subsequent digits breaking ties.
3. Three-digit numbers can be expanded into sums of hundreds, tens and ones units. In adding or subtracting, one adds or subtracts the units of each size; regrouping might be needed to write a total in standard form if there are too many of a unit, or to get enough of a unit to subtract from it.
4. The scheme for regrouping is the same at each place, because each unit is composed of ten of the smaller unit.

Core Standards - Students can and do:

a. Compare and order numbers to 1,000.

[21] In join and separate problems, there is change over time. In part-part-whole problems, two quantities make up a whole in a static situation. Compare problems involve two quantities and the difference between them. Compare problems add specificity to the notions of greater than and less than.

[22] Include properties such as that the sum is the same when multiple addends are added in a different order; if adding two numbers gives a certain sum, then subtracting one of the addends from the sum results in the other addend; that if more is subtracted from a number, the difference is decreased and if less is subtracted the difference is increased; that in an addition problem, each addend can be taken apart and the parts can be recombined in any order without changing the sum.

[23] Include join, separate, part-part-whole, and compare problems, with unknowns in all positions. Represent these situations with equations that use a small square or a ? for the unknown.

b. Given a three-digit number, quickly find 10 more or 10 less than the number, and quickly find 100 more or 100 less than the number.
c. Rapidly add and subtract within 20.[24]
d. Add and subtract three-digit numbers to three-digit numbers using strategies based on place value, Properties of Arithmetic, or the inverse relationship between addition and subtraction.
e. Add and subtract three-digit numbers using an algorithm[25] based on place value and regrouping, such as the standard algorithm.
f. Explain why addition and subtraction strategies and algorithms work, using place value and the Properties of Arithmetic (including explanations supported by drawings or objects).

Quantity and Measurement

Core Standards - Students understand that:

1. 1 inch, 1 foot, 1 centimeter and 1 meter are conventionally defined lengths that allow standardized length measurements.
2. When measuring a length, if a smaller unit is chosen, more units must be iterated to measure the length in those units. But the length of an object itself does not depend on the choice of unit.
3. Units can be decomposed into smaller units, e.g. a foot contains 12 inches and a meter contains 100 centimeters. A small number of long units might form a greater total length than a large number of small units.
4. Sharing a circle or rectangle fairly among 2-6 shares creates equal parts, each of which is a single unit. Copying one unit by the number of pieces measures the whole in terms of the units.
5. A half, a third, or a quarter of a given rectangle encloses the same amount of space regardless of its shape.

Core Standards - Students can and do:

a. Measure, compare and estimate whole-unit lengths in units of inches, feet centimeters and meters.
b. Construct a number line with an origin (0) and a unit (1), marking off whole numbers one unit distance apart. Use a number line to represent sums and differences; determine lengths of intervals on the number line.
c. Decompose circles and rectangles into 2-6 equal parts. Describe the parts using the words "halves," "thirds," "half of," "a third of," etc. Describe the wholes as 2-6 times as large as the parts.
d. Construct a number line to 100 using tens-unit lengths, showing ones-unit lengths within a decade of interest. Explain regrouping by composing and decomposing concrete lengths.
e. * Draw a bar graph (with single-unit scale) to represent a data set with several categories. Solve simple part-part-whole and compare problems using information presented in a bar graph.[26]
f. * Identify correspondences in different representations of a data set with several categories.
g. Solve word problems involving dollar bills, quarters, dimes, nickels and pennies.

Shapes

Core Standards - Students understand that:

[24] Acceptable strategies include: mental strategies such as making a ten, use of fingers to assist in rapid counting-on, and producing sums or differences from memory.

[25] Glossary: Algorithm. A step by step routine that always gives some answer, rather than ever giving no answer; that always gives the right answer, and never gives a wrong answer; that can always be completed in a finite number of steps, rather than in an infinite number of steps; and that applies to all problems of a given type (e.g., adding any two multidigit whole numbers, or bisecting any angle). Cf. Wikipedia's "effective procedure," from which this definition is adapted.

[26] For part-part-whole problems, only sum-unknown problems are required to meet this standard. For compare problems, only difference-unknown problems are required to meet the standard.

1. A given category of shapes (e.g., triangles) can be divided into subcategories (e.g., isosceles triangles) on the basis of special properties. Conversely, different classes of shapes (e.g., squares and rectangles) can be united into a larger category (e.g., quadrilaterals) on the basis of shared properties.

Core Standards - Students can and do:

a. Draw and identify equilateral triangles, isosceles triangles,[27] squares and rectangles.[28]
b. Recognize squares and rectangles as examples of quadrilaterals; draw examples of quadrilaterals that are neither squares nor rectangles.
c. Draw and identify radii and diameters of a circle.
d. Recognize objects that resemble spheres, cylinders and rectangular prisms.

[27] Students at this grade need not understand that equilateral triangles are isosceles.
[28] Students at this grade need not understand that squares are rectangles.

Mathematics: Third Grade

Developing Coherent Understanding

[Temporarily removed for editing.]

Operations and the Problems They Solve

Core Standards - Students understand that:

1. Multiplication and division apply to situations of equal grouping, fair sharing, measuring, and comparing ("times as much").
   - An equation of the form $a \times b = n$ applies to a situation in which a groups of b things each make n things in all, or in which a copies of a continuous quantity of size b form a continuous quantity of size n. (See table for examples.)
   - An equation of the form $n \div a = b$ tells how many things, b, are in each group when n things are divided equally into a groups, or tells how large a quantity b results when a continuous quantity of size n is shared fairly into a shares. (See table for examples.)
   - An equation of the form $n \div b = a$ tells how many groups, a, result when n things are divided into equal groups of b things each, or tells how many fair shares, a, a quantity of size n yields when each share has size b. (See table for examples.)
   - Two quantities can be compared by multiplication or division. An equation of the form $a \times b = n$ means n is a times as much as b and b times as much as a.
2. Multiplication is commutative: The total number of things in a groups of b things each is the same as the total number of things in b groups of a things each, that is, $a \times b = b \times a$. Likewise, a copies of a continuous quantity of size b are equal in size to b copies of a continuous quantity of size a.
3. The area of a rectangle with whole number side lengths can be calculated by multiplying because the rectangle can be decomposed into equal rows (or columns) of unit squares.
4. Multiplication and division are inverse operations; that is $35 \div 7$ can be found by thinking $5 \times 7 = 35$. When any two of the numbers in a multiplication or division equation are known, the unknown number can be found.

	$3 \times 6 = 18$	$18 \div 3 = 6$	$18 \div 6 = 3$
Collections	3 rows of apples with 6 apples in each row are 18 apples.	If 18 apples are arranged into 3 equal rows, each row will have 6 apples in it.	If 18 apples are arranged into equal rows of 3 apples, there will be 6 rows.
Continuous Quantities	If you have enough ribbon to make 6 bows, then 3 times as much ribbon will make 18 bows.	If you have enough ribbon to make 18 bows and share the ribbon fairly among 3 kids, then each kid has enough ribbon to make 6 bows.	If each kid wants to make 6 bows and there's enough ribbon to make 18 bows, then 3 kids can make bows.

Core Standards - Students can and do:

a. Use representations (objects, pictures, story contexts) to describe and justify properties of multiplication and division.[29]
b. Solve simple multiplication and division word problems involving equal groups, length and area.
c. Solve up to two-step word problems involving the four operations with whole numbers and whole number quantities. (Whole number quotients only)
d. Solve multiplicative comparison problems with whole numbers (problems involving the notion of "times as much").
e. * Draw a scaled bar graph to represent a data set with several categories. Solve "how many more"/"how many less" problems (two-step problems) using information presented in scaled bar graphs.[30]

Base Ten Computation

Core Standards · Students understand that:

1. Patterns in the multiplication table can be explained by the Properties of Arithmetic. For example, the distributive property explains why, for any row, the entries in the 7 column are the sums of the entries in the 5 and 2 columns.
2. The Properties of Arithmetic can be used to derive new multiplications and divisions from known ones.

Core Standards · Students can and do:

a. Explain strategies for multiplying and dividing that use the Properties of Arithmetic and properties of the base ten system.
b. Rapidly multiply and divide within 100.[31]
c. Produce full sets of fact families for multiplication and division, as in the set $6 \times 7 = 42$, $7 \times 6 = 42$, $42 = 7 \times 6$, $42 = 6 \times 7$, $42 \div 7 = 6$, $42 \div 6 = 7$, $6 = 42 \div 7$, $7 = 42 \div 6$.
d. Find the factor pairs for a given number, as in the factor pairs for the number 42: $\{42, 1\}$, $\{21, 2\}$, $\{14, 3\}$, $\{7, 6\}$.

Fractions

Core Standards · Students understand that:

1. When a whole, 1, is divided into b equal parts, the size of the parts is written $1/b$. To show $1/b$ of something, divide the thing into b equal parts.
2. For a whole number a and a positive whole number b, a/b is defined as a copies of $1/b$.[32] This can be thought of as the sum $1/b + 1/b + \ldots + 1/b$ (with a summands).
3. Whole numbers can be written as fractions, as in $b/b = 1$, $a/1 = a$, and cases such as $(a \times 7)/7 = 7$.
4. Fractions are numbers and can be seen as lengths on a number line.[33]

[29] Include properties such as that the product is the same when the order of the factors is changed; that multiplication problems involving 1-digit numbers can be solved by breaking one factor apart additively and multiplying each part by the other factor; and that multiplying a quantity by a number, then dividing by the same number, leaves the original quantity unchanged.

[30] Include single-unit scales and multiple-unit scales. For multiple-unit scales, all counts should be evenly divisible by the scale factor. No count should represent more than ten of the scale unit, and no scale unit should represent more than ten counts.
[31] A variety of mental strategies are acceptable, including derived fact strategies and producing products or quotients from memory.
[32] This includes fractions greater than 1. For example, $17/5$ is 17 copies of $1/5$.
[33] For example, $17/5$ is 17 copies of the subinterval $1/5$ laid end to end.

5. Two fractions are equal when they represent the same portion of a whole, or when they have the same length on a number line. One fraction is greater than another when it represents a greater portion of the whole than the other, or lies to the right of the other on the number line.
6. Given two unit fractions, the fraction with the larger denominator is smaller, because dividing a whole into a larger number of parts leads to smaller parts.
7. Fractions with the same denominator can be added or subtracted by adding or subtracting the units indicated by the unit fraction. For example, $2/3 + 4/3$ is 2 copies of $1/3$ plus 4 copies of $1/3$, or 6 copies of $1/3$ in all, that is $6/3$.
8. The decimal 0.1 denotes the fraction $1/10$, 0.2 denotes $2/10$, and so on through 0.9, which denotes $9/10$.

Core Standards · Students can and do:

a. Use fractions to describe quantities and parts of wholes.
b. Compare and order fractions with equal numerators or equal denominators, including in contextual situations, using the fractions themselves, bar strip drawings, number line representations, and area models.
c. Reason about fractions to establish equivalences between fractions with unlike denominators 2, 3, 4 and 6 (e.g., $1/2 = 2/4$, $4/6 = 2/3$).
d. Add and subtract fractions with like denominators.
e. Solve word problems that involve adding, subtracting, ordering and comparing fractions.
f. Represent fractions of the form $a/10$ in decimal notation; compare and order to tenths in decimal notation.

Quantity and Measurement

Core Standards · Students understand that:

1. A unit of measure can be partitioned into equal-sized parts, whose sizes can be represented as fractions of the unit.
2. The area of a closed plane figure is a measure of how much space it encloses. A square with side length 1 unit is said to enclose "one square unit" of area.
3. The area of a closed plane figure can be measured (expressed numerically) by the number of square units that fit inside it with no gaps or overlaps.
4. Area is a model for multiplication because tiling a rectangle with unit squares shows that a rectangle a units long by b units wide encloses an area of $a \times b$ square units.

Core Standards · Students can and do:

a. Measure lengths using rulers marked with halves and fourths of inches. Make a dot plot to show repeated measurements.
b. Convert compound units to a smaller or a larger unit, and solve problems involving mixed units (feet and inches, yards and feet).
c. Using customary units, demonstrate and justify correct processes for measuring, comparing, and estimating length, mass, capacity, and durations of time, including unit selection, partitioning and iterating units, and transitivity.
d. Compute perimeters of polygons by adding given side lengths, and find an unknown length in a polygon given the perimeter and all other side lengths. Represent these problems with equations involving a symbol for the unknown quantity.
e. Determine and compare areas by counting square units (improvised units, cm^2, m^2, in^2, ft^2).
f. Compute elapsed time and solve problems involving elapsed time (to the nearest minute).

Mathematics: Fourth Grade

Developing Coherent Understanding

[Temporarily removed for editing.]

Operations and the Problems They Solve

Core Standards - Students understand that:

1. Quantities in a problem might be described with whole numbers, fractions or decimals; the operations used to solve the problem depend on the relationships between the quantities whatever numbers are involved.
2. The distributive property (of multiplication over addition) relates addition and multiplication. The distributive property can be shown numerically and visually, using arrays and area models.

Core Standards - Students can and do:

a. Solve multistep word problems involving the four operations with whole numbers.[34]
b. Estimate answers to computations and compute mentally to assess reasonableness of results.
c. Solve problems that involve comparing, ordering, adding and subtracting fractions with like denominators. Compare fractions to benchmark fractions.
d. Solve problems that involve comparing and ordering decimal numbers to hundredths. Compare decimals to benchmark decimals.
e. *Make a table from given data, ask and answer questions about data in a table, solve multi-step problems using information presented in tables, and find patterns in tables.[35]

Fractions

Core Standards - Students understand that:

1. The fraction a/b can be written as $a \times 1/b$ because a/b is a copies of $1/b$.
2. When a identical things are divided into b equal parts, each of a things contributes $1/b$. So $a \div b = a/b$.[36]
3. A fraction can be multiplied by a whole number as $n \times a/b = na/b$. For example, $3 \times 2/5$ can be seen as 3 groups of 2 unit fractions $1/5$.[37]
4. A decimal of two digits stands for a sum of fractions whose denominators are 10 and 100. For example, 0.34 stands for $3/10 + 4/100$.

Core Standards - Students can and do:

a. Reason about fractions to establish equivalences between related fractions[38] (e.g. $3/10 = 30/100$, $9/12 = 3/4$).

[34] Use the properties of multiplication (commutative, associative, identity) or the inverse relationship between multiplication and division (multiplying a number by b then dividing by b, and vice versa, leaves the number unchanged) to make sense of single digit multiplication and division situations and solve problems.
[35] Include tables with data from proportional relationships.
[36] This definition agrees with previous understandings of division in cases like $28 \div 7$ (i.e., when a is a multiple of b), but also gives meaning to quotients such as $3 \div 4$ or $7 \div 2$.
[37] Using the Properties of Arithmetic, $n \times a/b = n \times (a \times 1/b) = (n \times a) \times 1/b = (n \times a)/b$.

b. Add and subtract related fractions in simple cases within one whole (e.g. $1/2 + 1/4$, $3/10 + 4/100$).
c. Solve word problems posed with whole numbers that have fractional answers.
d. Represent multiplication of whole numbers by fractions and fractions by whole numbers, using length and area models.
e. Solve word problems involving multiplying fractions by whole numbers and multiplying whole numbers by fractions.[39]
f. Use decimals to hundredths to describe quantities and parts of wholes, compare and order decimals to hundredths, and write fractions of the form $a/10$ or $a/100$ in decimal notation.
g. Round decimals (to hundredths) to the nearest whole number.
h. Solve addition and subtraction story problems involving fractions with related denominators (situations familiar from whole number work).

Base Ten Computation

Core Standards - Students understand that:

1. The product of a one-digit number times a multidigit number is the sum of the products of the one-digit number times each place value component. This is an instance of the distributive property.
2. Multi-digit multiplication algorithms can be derived and explained by decomposing numbers into their place value components and applying the distributive property.
3. Digits in each place are worth ten times as much as digits in the place to the right and a tenth as much as digits to the left; comparison of numbers is decided by the leftmost digit, with subsequent digits breaking ties.
4. Given whole numbers a and b, find whole numbers Q and R so that $a = Q \times b + R$. For example, given 325 and 7, express 325 in the form $325 = 46 \times 7 + 3$.

Core Standards - Students can and do:

a. Demonstrate place value understanding for whole numbers to 1,000,000 and compare numbers within this range.
b. Round whole numbers to the nearest 10 or 100 and use rounding to estimate computations.
c. Multiply single place numbers (to 9000) by single digit numbers.[40]
d. Multiply two-, three- and four-digit numbers by single-digit whole numbers, and multiply two-digit numbers by two-digit numbers, using strategies based on place value, Properties of Arithmetic, or the inverse relationship between multiplication and division.
e. Multiply two-digit numbers by two-digit numbers using an algorithm based on place value and regrouping, such as the standard algorithm.
f. Divide two-, three- and four-digit numbers by single-digit numbers, with or without remainder. In the case of remainders, express results in the form of an equation, as in $325 = 46 \times 7 + 3$.
g. Explain why multiplication and division strategies and algorithms work, using place value and the Properties of Arithmetic (including explanations supported by drawings or objects).

Quantity and Measurement

Core Standards - Students understand that:

[38] Glossary: Related fractions. Two fractions are *related* if one denominator is a factor of the other. (See Ginsburg, Leinwand and Decker (2009), *Informing Grades 1-6 Mathematics Standards Development: What Can Be Learned from High-Performing Hong Kong, Korea, and Singapore?*, Table A3, p. A-5, grades 3 and 4.)
[39] Include sharing multiple continuous wholes a fairly among b people, naming an individual share as a/b. For example 5 meters of pink ribbon shared among 3 people results in $5/3$ meters each.
[40] Glossary: Single-place number. The numbers that result when a whole number between 1 and 9 (inclusive) is multiplied by the numbers 10, 100, 1000, etc.

1. Area is additive: If a figure is decomposed into several pieces, then the area of the whole figure can be found by adding the areas of the pieces (expressed in common units).
2. An angle is two rays with a common endpoint, and is measured by the relative amount of a circle that you trace when turning from one ray to the other.
3. A one-degree angle turns through 1/360 of a circle, where the circle is centered at the origin of the rays; the measure of an angle is the number of one-degree angle turned with no gaps or overlaps.

Core Standards - Students can and do:

a. Apply the formula for area of squares and rectangles. Measure and compute whole-square-unit areas of objects and geometric figures decomposable into rectangles.[41]
b. * Make a dot plot to show repeated measurements in common fractions of a unit ($1/2$, $1/4$, $1/8$). Solve problems involving addition and subtraction of fractions by using information presented in dot plots (e.g., finding the difference in length between the longest and shortest specimens in an insect collection).
c. Draw scales (number line representations) of problem situations involving length, height and distance including fractional units or decimal numbers.
d. Find one dimension of a rectangle given the other dimension and its area or perimeter; find the length of one side of a square given its area or perimeter. Represent these problems with equations involving a symbol for the unknown n quantity.
e. Measure angles in whole-number degrees using a protractor; sketch angles of specified measure. Find the measure of a missing part of an angle, given the measure of the angle and the measure of a part of it; represent these problems with equations involving a symbol for the unknown quantity.

Shapes

Core Standards - Students understand that:

1. Shapes can be analyzed and classified using concepts of parallelism, perpendicularity and angle measure.

Core Standards - Students can and do:

a. Draw points, lines, line segments, rays and angles; identify these in geometric figures.
b. Associate angles of a quarter turn (subtending ¼ of a circle) with angle measure 90°, a half turn (½ of a circle) with angle measure 180°, ¾ turn (¾ of a circle) with angle measure 270°, and a full turn (complete circle) with angle measure 360°.[42]
c. Draw perpendicular and parallel lines; identify these in geometric figures.
d. Identify right angles and angles smaller than/greater than a right angle in geometric figures; recognize right triangles.
e. Given a quadrilateral, say whether it is a square, whether it is a rectangle, and whether it is a parallelogram (with an understanding that a given shape may fit more than one category).

[41] using one-digit or two-digit numbers times two-digit numbers
[42] From Singapore Primary 4

Mathematics: Fifth Grade

Developing Coherent Understanding

[Temporarily removed for editing.]

Fractions

Core Standards - Students understand that:

1. Fractions a/b and $(a \times n)/(b \times n)$ are equal; for $1/b$ is a copies of $1/(b \times a)$, so a/b is $n \times a$ copies of $1/(b \times n)$. Example: $1/4$ is 4 copies of $1/12$, so $2/3$ is 8 copies of $1/12$; thus $2/3 = 8/12$.
2. Fractions can be added or subtracted by replacing each with an equal fraction so that the resulting fractions have the same denominator. Example: $2/3 + 5/4 = 8/12 + 15/12 = 23/12$.
3. Multiplying unit fractions gives a new unit fraction with denominator equal to the product of the initial denominators. For example, $1/3 \times 1/2 = 1/(3 \times 2)$. The product $1/3 \times 1/2$ is 1 part when a whole of size $1/2$ is divided into 3 parts, i.e. it is "$1/3$ of $1/2$."[43]
4. Multiplying unit fractions can be extended to multiplying fractions in general. For example, $2/3 \times 4/5$ can be seen as 2 groups of 4 unit fractions $1/15$, hence the product is $8/15$.[44] The product $2/3 \times 4/5$ is 2 parts when a whole of size $4/5$ is divided into 3 parts, i.e. it is "$2/3$ of $4/5$."[45]
5. Dividing a unit fraction $1/b$ by a whole number n gives a unit fraction with denominator $n \times b$, because when $1/b$ is divided into n equal parts, the size of each part is $1/(n \times b)$. For example, $1/4 \div 2 = 1/8$.
6. Dividing a whole number n by a unit fraction $1/b$ gives a whole number $n \times b$, because, as there are b units of $1/b$ in 1, there are $n \times b$ units of $1/b$ in n. For example, $2 \div 1/4 = 8$.
7. A mixed number stands for the sum of its whole number part and a fractional part less than 1. A mixed number can be written as a fraction greater than 1, such as $17/5$. This equivalence can be shown using area, length, and number line models.
8. The ratio of two whole number quantities a and b, written $a:b$ or a/b, is a multiplicative comparison telling how much of one quantity there is for a given amount of the other, or how many times as much one is than the other.[46]

Core Standards - Students can and do:

a. Use area models and length models (such as strip drawings or the number line) to represent multiplication of fractions, division of unit fractions by whole numbers, and division of whole numbers by unit fractions.
b. Multiply fractions, divide unit fractions by whole numbers, and divide whole numbers by unit fractions, and solve word problems involving these operations.
c. Divide whole numbers by single digit decimals by seeing that they are fractions with denominator 10 or 100.
d. Rename fractions and mixed numbers to equivalent forms and identify equivalent fractions.
e. Compare and order fractions and mixed numbers with like or unlike denominators, including in contextual situations, using the fractions themselves, strip drawings or number line representations, and area models. Describe the size of fractional quantities with reference to the problem situation.
f. Make tables of equal ratios relating whole number quantities, and find missing values in the tables. Plot pairs of values on the coordinate plane. Example

[43] On the number line, $1/n \times 1/d$ is 1 part when the interval from 0 to $1/d$ is divided into n parts. This is the same as 1 part when the interval from 0 to 1 is divided into $n \times d$ parts, and thus $1/n \times 1/d = 1/(n \times d)$.
[44] Using the Properties of Arithmetic, $2/3 \times 4/5 = (2 \times 1/3) \times (4 \times 1/5) = (2 \times 4) \times (1/3 \times 1/5) = (2 \times 4) \times 1/(3 \times 5) = 2 \times 4/3 \times 5$.
[45] On a number line, $m/n \times c/d$ means m parts when the interval from 0 to c/d is divided into n parts.
[46] For example, in a mixture of 5 cups of flour and 2 cups of sugar, the ratio is 5 cups flour to 2 cups sugar. There is $5/2$ times as much flour as sugar (equivalently, $2\ 1/2$ times as much or 2.5 times as much).

Cups of Flour	5	10	7	20
Cups of Sugar	2	4	6	8
Flour/Sugar (fraction form)	5/2	10/4	7	20/8
Flour/Sugar (decimal form)	?	?	?	?

Hours of Snowfall	5	10	7	20
Inches of Snow	2	4	6	8
Inches/Hours (fraction form)	2/5	4/10	7	8/20
Inches/Hours (decimal form)	?	?	?	?

Base Ten Computation

Core Standards - Students understand that:

1. The standard division algorithm is based on successively finding the largest single digit multiple of the divisor that is less than the dividend, regrouping to the next lower unit if necessary, and then subtracting the multiple and repeating to find the next digit in the quotient.
2. The division algorithm can be used to express a fraction in decimal form by carrying the division into the decimal places.
3. The features of the place value system for whole numbers extend to the decimal positions and the combined system is symmetric around the ones place.
4. In adding or subtracting decimal numbers, one operates separately with the units of each size, except when regrouping is needed; the scheme for regrouping is the same at each place, because each unit is composed of ten of the next smaller unit.
5. Numbers in decimal notation can be shown on the number line by dividing and sub-dividing the unit intervals as many times as needed to locate the number. This process can be visualized as zooming in on the number line.

Core Standards - Students can and do:

a. Divide two, three and four digit numbers by two digit numbers, with remainder, using an algorithm based on place value and regrouping, such as the standard algorithm. In the case of remainders, express results in the form of an equation, as in $145 = 11 \times 13 + 2$.
b. Understand very large and very small numbers (from millionths to hundreds of millions); round very large numbers.
c. Quickly find 0.1 more than a number and less than a number; 0.01 more than a number and less than a number; and 0.001 more than a number and less than a number.
d. Add and subtract decimals using an algorithm based on place value and regrouping, such as the standard algorithm, and solve problems involving these operations.
e. Write fractions in decimal notation for denominators 2, 3, 4, 5, 6, 8, 10 and 100.
f. Explain why strategies and algorithms for decimals work, using place value and the Properties of Arithmetic (including explanations supported by drawings or objects).

Quantity and Measurement

Core Standards - Students understand that:

1. The volume of a solid figure is a measure of how much space it encloses. A cube with side length 1 unit is said to contain "one cubic unit" of volume. The volume of a solid figure can be measured (expressed numerically) by the number of cubic units that fit inside it with no gaps or overlaps.
2. Packing a rectangular prism with unit cubes and decomposing the prism into layers shows that a rectangular prism ℓ units long by w units wide by h units tall contains a volume $V = \ell \times w \times h$ cubic units. The base of the

prism has area $A = \ell \times w$ square units, and the prism can be viewed as h layers, each containing $\ell \times w$ cubic units, so the volume of the prism can also be expressed as $V = A \times h$ cubic units.

3. Volume is additive: If a solid figure is decomposed into several pieces, then the volume of the whole figure can be found by adding the volumes of the pieces (expressed in common units).
4. Quantities with like units can be added or subtracted giving a sum or difference with the same unit; quantities with unlike units can be multiplied or divided giving products or quotients with derived units.
5. The ratio of a length, area or amount to another length, area or amount is the same regardless of the size of the unit used for measurement.
6. The number line is a scale that can be used to show units such as pounds, liters, etc.

Core Standards - Students can and do:

a. Measure and compute whole-cubic-unit volumes for rectangular prisms and for objects well described as rectangular prisms.
b. Convert among different-sized standard measurement units within a given measurement system (e.g. feet to yards, centimeters to meters) and use conversion to solve story problems.
c. Form ratios of lengths, areas, and other quantities, including when quantities being compared are measured in different units.
d. Solve word problems involving addition, subtraction, multiplication and/or division using quantities expressed as whole numbers, fractions, or decimals with measurement units.
e. Solve multi-step problems involving units of weight, capacity, money, volume and area.

Coordinate Geometry

Core Standards - Students understand that:

1. A pair of perpendicular number lines ("axes") defines a coordinate system. A given point in the plane has a separate position along each of the two axes; the two positions of the point are called its coordinates.
2. Graphs on coordinate axes can be used to make sense of relationships among quantities in complex problems.

Core Standards - Students can and do:

a. Graph points in the first quadrant the coordinate plane, and read off the coordinates of graphed points.[47]
b. Determine the lengths of horizontal and vertical segments in the plane, given the coordinates of their endpoints.
c. * Collect data on continuous covarying quantities and display the data in a line graph with broken lines; distinguish bar graphs from line graphs; ask and answer questions from line graphs, including comparisons of ratios.

Statistics

Core Standards - Students understand that:

[47] The axes should sometimes represent dimensioned quantities, and the units of measure should not always be the same for both axes. Coordinates may be whole numbers, fractions or decimals.

1. Data are collected purposefully to answer a predefined question (e.g., "How tall are the fifth graders in our school?")
2. A set of data typically shows variability — not all of the values are the same — and yet the values also typically show some tendency to cluster. Identifying a "center" for a data set is a way to describe its many values using a single number.
3. The median is a measure of center in the sense that approximately half the data values are less than median, while approximately half are greater.
4. Variation in a data set can be measured by the range and by typical deviations from the center.

Core Standards - Students can and do:

a. Collect data to answer a predefined question about a measurement quantity. Make a dot plot to display the data, and describe the data using the median and typical deviations from the it.

Mathematics: Sixth Grade

Developing Coherent Understanding

[Temporarily removed for editing.]

Ratios and Proportional Relationships

Core Standards - Students understand that:

1. Multiplicative comparisons can be extended from whole numbers to fractions and decimals. When the ratio q/m is formed, or when q is r times as much as m, the numbers q, r and m can be fractions or decimals.
2. p% of a quantity means $p/100$ times as much as the quantity. The number p can be a fraction or decimal, as in 3.75%.
3. A unit rate is the multiplicative factor relating the two quantities in a ratio. Two quantities q and m can be compared by $q = r \times m$, where the unit rate r tells how much q per m.
4. Given two quantities in a ratio (e.g. distance and time), finding the unit rate produces a new type of quantity (e.g. speed).

Core Standards - Students can and do:

a. Solve for an unknown quantity in a problem involving two equal ratios.
b. Find a percentage of a quantity; solve problems involving finding the whole given a part and the percentage.
c. Solve unit rate problems including unit pricing and constant speed. (See table.)

$D = s \times T$	$D \div T = s$	$D \div s = T$
A car driving at a speed of 30 miles per hour for 6 hours travels a distance of 180 miles	If a car drives 180 miles for 6 hours at a constant speed, that speed is 30 miles per hour.	When a car drives 180 miles at a speed of 30 miles per hour, the trip takes 6 hours.

d. Represent unit rate problems on a coordinate plane where each axis represents one of the two quantities involved, and find unit rates from a graph. Explain what a point (x, y) means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.

The Number System

Core Standards - Students understand that:

1. The Properties of Arithmetic govern operations on all numbers.
2. Division of fractions follows the "invert and multiply" rule because multiplication and division are inverse operations. For example, $(2/3) \div (5/7) = 14/15$ because $(14/15) \times (5/7) = 2/3$.
3. Every nonzero fraction has a unique multiplicative inverse,[46] namely its reciprocal. Division can be defined as "multiplying by the multiplicative inverse." Then $(2/3) \div (5/7) = 14/15$ because the division symbol indicates multiplication by the multiplicative inverse.
4. A two-sided number line can be created by reflecting the fractions across zero. Numbers located to the left of zero on the number line are called negative numbers and are labeled with a negative sign.

[46] Glossary: Multiplicative inverses. Two numbers whose product is 1 are multiplicative inverses of one another. Example: $3/4$ and $4/3$ are multiplicative inverses of one another because $3/4 \times 4/3 = 4/3 \times 3/4 = 1$.

5. Two different numbers, such as 7 and -7, that are equidistant from zero are said to be opposites of one another. The opposite of 7 is -7 and the opposite of -7 is 7. The opposite of the opposite of a number is the number itself. The opposite of 0 is 0. The operation of attaching a negative sign to a number can be interpreted as reflecting the number across zero on the number line.
6. The absolute value of a number is its distance from zero on the number line. For any positive number q, there are two numbers whose absolute value is q, namely q and $-q$.
7. The absolute value of a signed quantity (e.g. account balance, elevation) tells the size of the quantity irrespective of its sense (debit or credit; above or below sea level).
8. Comparison of numbers can be extended to the full number system. The statement $p > q$ means that p is located to the right of q on the number line, while $p < q$ means that p is located to the left of q on the number line. The statement $p > q$ does not mean $|p| > |q|$.

Core Standards · Students can and do:

a. Divide fractions, and divide finite decimals by expressing them as fractions.
b. Solve problems requiring arithmetic with fractions presented in various forms, converting between forms as appropriate and estimating to check reasonableness of answers.
c. Find and position rational numbers[49] on the number line.
d. Use rational numbers to describe quantities such as elevation, temperature,[50] account balance and so on. Compare these quantities using $>$ and $<$ symbols and also in terms of absolute value.
e. Graph points and identify coordinates of points on the Cartesian coordinate plane in all four quadrants.

Statistics

Core Standards · Students understand that:

1. The mean is a measure of center in the sense that it is the balance point; the mean is the value each data point would take on if the total value of all the data points were redistributed fairly.
2. When the mean and median of a data set differ substantially, both measures should be provided, and the difference explained in terms of the data values.

Core Standards · Students can and do:

a. Collect data to answer a predefined question about a measurement quantity. Make a dot plot to display the data, and describe the data using measures of center and measures of variation.[51]

Geometry

Core Standards · Students understand that:

1. Triangles and parallelograms can be dissected and reassembled into rectangles with the same area; this leads to a formula for area in terms of base and height.
2. Polygons can be dissected into triangles in order to find their area.

Core Standards · Students can and do:

[49] Glossary: Rational number. A number expressible in the form a/b for integers a and $b \neq 0$. The rational numbers include positive and negative integers, positive and negative fractions, and 0.
[50] A caution for temperature problems: The rational numbers are not a good model for a temperature scale. There is no temperature that solves the equation $T + 1000°C = 0$.
[51] Data sets should include fractional values at this grade but not negative values.

a. Find the area of right triangles, other triangles, special quadrilaterals, and polygons (by dissection into triangles and other shapes).
b. Find surface area of cubes, prisms and pyramids (include the use of nets to represent these figures).
c. Solve problems involving area, volume and surface area of objects.
d. Examine the relationship between volume and surface area. Exhibit rectangular prisms with the same surface area and different volume, and with the same volume and different surface area.
e. Use exponents and symbols for square roots and cube roots to express the area of a square and volume of a cube in terms of the side length, and to express the side length in terms of the area or volume.

Expressions and Equations

Core Standards · Students understand that:

1. A number that is the result of a sequence of operations with other numbers can be expressed in different ways using conventions about order of operations and parentheses, rules for working with fractions, and the Properties of Arithmetic. All such expressions are equivalent.
2. A letter is used to stand for a number in an expression in cases where one doesn't know what the number is, or where, for the purpose at hand, it can be any number in the domain of interest. Such a letter is called a variable.
3. An equation is a statement that two expressions are equal, and a solution to an equation is a value of the variable (or a set of values for each variable if there is more than one variable) that makes the equation true.

Core Standards · Students can and do:

a. Represent an unknown number using a letter in simple expressions such as $y + 2$, $y - 3$, $6 + y$, $5 - y$, $3y$, $y/2$, and $(5+y)/5$.
b. Interpret $3y$ as $y + y + y$ or $3 \times y$, $y/2$ as $y \div 2$ or $1/2 \times y$, $(5+y)/5$ as $(3 \pm y) \div 5$ or $1/5 \times (3 \pm y)$.[52]
c. Evaluate simple expressions when values for the variables in them are specified (exclude expressions with a variable in denominator).
d. Choose variables to represent quantities in a word problem and construct simple equations to solve the problem by reasoning about the quantities.
e. Solve equations of the form $x + p = q$ (for $p < q$) and $px = q$ where p and q are fractions.

[52] From Singapore Secondary 1

Mathematics: Seventh Grade

Developing Coherent Understanding

[Temporarily removed for editing.]

Ratios and Proportional Relationships

Core Standards - Students understand that:

1. Two variable quantities x and y are said to be proportional to one another if the ratio x/y is always equal to the same quantity k, so that $y = kx$. The constant k is the unit rate, and tells how much of y per unit of x.

Core Standards - Students can and do:

a. Compare proportional relationships represented in different ways (e.g. compare a graph to an equation to determine which of two objects has greater speed).
b. Decide whether two quantities that vary together have a proportional relationship, analyze proportional relationships using the unit rates that characterize them, and solve word problems involving proportional relationships.
c. Plot pairs (x, y) from a proportional relationship $y = kx$, and pass a straight line through them and the origin. Observe that increases in y are proportional to increases in x, and calculate [increase in y]/[increase in x] $= k$.

The Number System

Core Standards - Students understand that:

1. On the number line, the sum $p + q$ is defined to be the number lying distance $|q|$ from p, to the right of p if q is positive and to the left of p if q is negative. A number and its opposite are additive inverses (add to zero).[52]
2. Sums of signed numbers can be computed using the Properties of Arithmetic.[53]
3. The additive inverse of a sum is the sum of the additive inverses.[54]
4. Subtraction is defined as adding the additive inverse. This definition of subtraction allows subtraction of rational numbers and agrees with previous understandings of subtraction with positive numbers.[55] On the number line, the difference $p - q$ lies distance $|q|$ from p, to the left of p if q is positive and to the right of p if q is negative.
5. The absolute value of $p - q$ equals the distance between p and q on the number line.
6. Products of signed numbers can be computed using the Properties of Arithmetic.[56] In particular, multiplying a number by -1 produces its additive inverse.[57]

[52] Glossary: Additive inverses. Two numbers whose sum is 0 are additive inverses of one another. Example: $3/4$ and $-3/4$ are additive inverses of one another because $3/4 + (-3/4) = (-3/4) + 3/4 = 0$.
[53] For example, $7 + (-2) = 4$ because $7 + (-3) = (4 + 3) + (-3) = 4 + [3 + (-3)] = 4 + [0] = 4$. And $(-2) + (-3) = -5$ because $5 + [(-2) + (-3)] = [2 + 3] + [(-2) + (-3)] = [2 + (-2)] + [3 + (-3)] = [0] + [0] = 0$ so $(-2) + (-3)$ is the additive inverse of 5, that is -5.
[54] For example, $-(6 + -2) = (-6) + 2$ because $[6 + (-2)] + [(-6) + 2] = [6 + (-6)] + [(-2) + 2] = [0] + [0] = 0$.
[55] For example, the subtraction $7 - 3$ means 7 plus the additive inverse of 3, i.e. $7 + (-3)$, which equals 4. The subtraction $9 - (-4)$ means 9 plus the additive inverse of -4, i.e. $9 + 4$, which equals 13.
[56] For example, $(-1) \times (-1) = 1$ because $(-1) \times (-1) = 1 \times (-1) + (-1) \times (-1) = [1 + (-1)] \times (-1) = 0 \times (-1) = 0$.
[57] Because $(-1) \times a + a = (-1) \times a + (1) \times a = [(-1) + (1)] \times a = 0 \times a = 0$.

7. Every nonzero rational number has a multiplicative inverse. Division of rational numbers is defined as multiplying by the multiplicative inverse.
8. The operation of adding the rational number q to points on the number line is a translation; it shifts points to the right if $q > 0$, to the left if $q < 0$, and not at all if $q = 0$. The operation of adding $-q$ undoes the operation of adding q.
9. The operation of multiplying points on the number line by a positive rational number k is a dilation; it scales points further away from zero if $k > 1$, closer to zero if $k < 1$, and not at all if $k = 1$. The operation of multiplying by $1/k$ undoes the operation of multiplying by k.

Core Standards - Students can and do:

a. Explore and explain with number lines the rules for adding rational numbers, e.g., $r + s = s + r$; $r + (-s) = r - s$; $p - (q + r) = p - q - r$.
b. Use the rules of arithmetic to explore and explain with specific numbers the rules for multiplying rational numbers, e.g., 4×-5 is -5 added to itself 4 times, so equal to -20; $3 \times (-2 + 2) = 3 \times 0 = 0$, so $3 \times 2 = (-3) \times 2 = -6 = 6$.
c. Add and subtract rational numbers, and use these operations to solve word problems (including signed quantities such as elevation, temperature, account balance, and so on).
d. Multiply and divide rational numbers, and use these operations to solve word problems (including signed quantities).

Expressions and Equations

Core Standards - Students understand that:

1. Expressing a quantity in different forms serves a purpose in analyzing quantitative situations.
2. The distributive property can be used in two directions, both to expand linear expressions, and to factor a sum of terms with a common factor.

Core Standards - Students can and do:

a. Construct algebraic expressions for simple real-world situations and generate equivalent expressions to interpret their meaning (e.g., $P + 0.05P = 1.05P$ means that "increase by 5%" is the same as "multiply by 1.05").
b. Generate equivalent expressions from a given expression, including putting linear expressions in standard form and taking out a common factor. Include expressions involving negative numbers and exponents 2 and 3.
c. Solve multi-step word problems that lead to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are rational numbers, by undoing the operations involved in producing the expression on the left, using additive and multiplicative inverses.
d. Solve simple absolute value equations of the form $|x + b| = j$ and $|x - b| = j$, where b and j are integers.
e. Read the structure in a numerical expression at a level necessary to enter it into a calculator or spreadsheet, making use of parentheses and the conventions on order of operations.

Statistics

Core Standards - Students understand that:

1. In addition to measurement variability, another source of variation in data is randomness.

Core Standards - Students can and do:

a. Collect experimental or simulation data from repeated random trials. Make a histogram showing absolute frequencies and a bar graph of relative frequencies. Discuss the patterns and make predictions for further experiments or simulations.

Probability

Core Standards - Students understand that:

1. Chance events fall along a spectrum: nearly impossible | unlikely | neither likely nor unlikely | likely | nearly certain.
2. Probability is a quantitative measure of likelihood. Probabilities are numbers lying between 0 and 1, with 0 representing impossible and 1 representing certain (in the case of a finite sample space).
3. The experimental probability of a specified outcome is the observed fraction of the outcome in a data set collected from a process involving randomness or chance.
4. In a random process, the individual outcomes are unpredictable, but patterns may emerge after repeated trials. Experimental probabilities in random experiments tend to approach stable values as more and more data is generated.
5. In a theoretical probability model, the set of distinct possible outcomes for a random experiment is called the sample space. An event is a set of sample points; a sample point may belong to several events. A specified event occurs in some fraction of the sample space. This fraction is called the theoretical probability of the event.
6. When computing theoretical probabilities, all members of the sample space are assumed equally probable. Theoretical probabilities will not match long-run experimental probabilities if this assumption is inappropriate (e.g., as in the case of a loaded die).

Core Standards - Students can and do:

a. Compute experimental probabilities from data sets, including data sets generated by simulations or sampling experiments.
b. Compute experimental probabilities to estimate theoretical probabilities when no theoretical probability model is apparent.
c. Represent sample spaces for one-stage random experiments; identify members of the sample space in which specified events occur.
d. Use a theoretical probability model to compute theoretical probabilities for one-stage random experiments, expressing theoretical probabilities as fractions, decimals and percents.
e. Compare experimental probabilities to theoretical probabilities for one-stage random experiments, examining and if feasible revising the assumptions of the theoretical model when the two conflict.

Geometry

Core Standards - Students understand that:

1. Two polygons are congruent,[59] if and only if there is a correspondence between vertices so that the corresponding sides are equal and the corresponding angles are equal.
2. A plane or solid figure is similar to another if the second can be obtained from the first by a similarity transformation.[60] All ratios of lengths in the second figure to corresponding lengths in the first figure are equal to the scale factor of the dilation.

[59] Glossary: Congruent. Two plane or solid figures are *congruent* if one can be obtained from the other by a sequence of rigid motions (rotations, reflections, and translations).
[60] Glossary: Similarity transformation. A rigid motion followed by a dilation. Glossary: Dilation. A transformation that moves each point along the ray through the point emanating from a fixed center, and multiples distances from the center by a common scale factor.

3. Congruent figures have the same area or volume. A similarity transformation with a scale factor of k leaves angle measures unchanged, changes lengths by a factor of k, changes areas by a factor of k^2, and changes volumes by a factor of k^3.
4. Given a line in the coordinate plane not parallel to either axis, any two right triangles with legs parallel to the axes and hypotenuse on the given line are similar, and so the slope of the line (rise over run) is the same regardless of which two distinct points are used to compute it.

Core Standards- Students can & do:

a. Solve problems involving similar triangles and scale drawings (including computing actual lengths, areas and volumes from a scale drawing and reproducing a scale drawing at a different scale).
b. Explore using hands-on activities the area of non-rectangular figures and the perimeter of curvilinear figures, and the fact that a dilation of the plane changes areas by the square of the scale factor.[61]
c. Use scale factors to find lengths and areas of similar figures, including an informal derivation of the formulas relating the area, radius and circumference of a circle.
d. Give an explanation of why the volume of a cylinder is the area of the base times the height, using informal arguments involving slices.
e. Use coordinate grids to transform figures and to predict the effect of dilations, translations, rotations and reflections.
f. Use two-dimensional representations of three-dimensional objects (schematics, assembly instructions, perspective drawings and multiple views) to solve problems.
g. Explore three-dimensional figures formed by translations and rotations of plane figures through space.
h. Sketch and describe cross-sections of cones, cylinders, pyramids and prisms.

[61] Include using grids of squares with fractional side lengths to estimate area, and measuring the length of strings wrapped around the perimter.

Mathematics: Eighth Grade

Developing Coherent Understanding

[Temporarily removed for editing.]

Functions and the Situations They Model

Core Standards - Students understand that:

1. A function is a rule, often defined by an expression, that states a relationship between the values of two variable quantities.
2. A linear function models a situation where the change in one quantity is proportional to the corresponding change in the other quantity. The constant of proportionality, m, is the rate of change of the function. If x is the input and y is the output then the function is defined by $y = mx + b$ for some constant b, which is called the initial value of the function (the value of the function when x is 0).
3. The graph of a linear function $y = mx + b$ is a straight line, and the slope of the line is the function's rate of change.
4. The problem of finding where two linear functions have the same output value for a common input value leads to an equation in one variable; the solution or solutions (if any) can be visualized as the input value(s) where the graphs of the functions intersect.
5. A linear equation in one variable can be solved by successively transforming it into simpler equations with the same solutions using the Properties of Arithmetic and the Properties of Equality, until an equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).

Core Standards - Students can and do:

a. Compare features of two or more functions that may be presented in different representations (as formulas, graphs, tables of values, or verbally).
b. Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship; from two (x, y) values (including reading these from a table); or from a graph.
c. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.
d. Solve linear equations with rational number coefficients, including equations that require expanding expressions using the distributive law and collecting like terms.

The Number System

Core Standards - Students understand that:

1. The number line has numbers that are not rational, such as 2π or $2 + \sqrt{3}$, called irrational numbers.
2. An irrational number can be approximated to arbitrary precision by rational numbers.
3. If $n > 0$ is an integer and $\sqrt{n}$ is not an integer, then $\sqrt{n}$ is irrational. If q is rational and r is irrational, then $q + r$ is irrational, and so is qr provided $q \neq 0$.

Core Standards - Students can and do:

a. Use rational approximations to compare the size of irrational numbers, locate them approximately on a number line and estimate the value of expressions (e.g. π^2).

Geometry

Core Standards - Students understand that:

1. Angle measures formed by a configuration of lines in a plane can often be deduced from other angle measures (e.g., vertically opposite angles, angles produced when a transversal line cuts two parallel lines).
2. The side lengths of a right triangle are related by the Pythagorean theorem.

Core Standards - Students can and do:

a. Explore and explain by hands-on activities facts about the angle sum of triangles, exterior angles, and alternate interior angles of parallel lines. Use these facts to determine the angle sum of interior angles of convex polygons, and the angle sum of exterior angles of convex polygons.[62]
b. Explore and explain using hands-on activities: parallel lines in space, line perpendicular to a line through a given point, lines perpendicular to a plane, lines parallel to a plane, the plane passing through three given points, and the plane perpendicular to a given line at a given point.
c. Use facts about angles to write and solve simple equations for an unknown angle in a figure.
d. Explain a proof of the Pythagorean theorem.[63]
e. Use the Pythagorean theorem to determine missing side lengths in right triangles and to solve problems in two and three dimensions.
f. Use the Pythagorean theorem to find the distance between two points in a coordinate system.
g. Draw (freehand, with ruler and protractor, and with technology) geometric shapes from given conditions. (Focus on constructing triangles from three measures of angles or sides, noticing when the triangle is uniquely defined, ambiguous, or impossible.)
h. Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc): copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.
i. Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.

Statistics

Core Standards - Students understand that:

1. Scatterplots for bivariate continuous data may reveal patterns of association between two quantities. This kind of relationship between quantities is not a functional relationship and yet, a function might be a valuable way to describe a statistical relationship.

Core Standards - Students can and do:

a. Construct and interpret scatterplots for bivariate measurement data.
b. Describe patterns that appear in scatterplots, such as clustering, outliers, positive/negative association, linear association, nonlinear association.
c. For scatterplots that suggest a linear association, model the relationship with a linear function using an informal fitting procedure. Use the model function to solve problems in the context of the data,

[62] Use physical models, transparencies, or dynamic geometry software to make rigid motions and give informal arguments, for example, arrange three copies of the same triangle so that the three angles form a line, and give an argument in terms of transversals why this is so.
[63] For example, by the method of right triangles in a square.

interpreting the slope/rate of change and intercept/initial value. Informally assess the goodness of the model by judging the closeness of the data points to the graph of the function.

Probability

Core Standards - Students understand that:

1. The framework for theoretical probability models is the same for compound events as for simple events: the theoretical probability is the fraction of the sample space in which the compound event occurs.

Core Standards - Students can and do:

a. Compute experimental probabilities from data sets, including data sets generated by simulations or repeated sampling experiments.
b. Compute experimental probabilities to estimate theoretical probabilities of compound events when no theoretical probability model is apparent.
c. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams; identify members of the sample space in which specified events occur.
d. Compute theoretical probabilities for compound events by counting members of the sample space.
e. Compare experimental probabilities to theoretical probabilities for multi-stage random experiments, examining the assumptions of the theoretical model when the two conflict.

Mathematics: High School—Expressions

A Coherent Understanding of Expressions

[Final draft of CCR narrative goes here.]

Seeing structure in expressions

Core Standards - Students understand that:

1. Different forms of expression for functions reveal different properties of the function; a purpose in transforming expressions is to find those properties.

   For example, factoring a quadratic expression reveals the zeros of the function it defines, and putting the expression in vertex form reveals the maximum or minimum of the function; the expression 1.15^t can be rewritten in the form $(1.15^{(1/12)})^{12t} \approx 1.012^{12t}$ to reveal the approximate monthly interest rate if the annual rate is 15%.

2. The laws of exponents for whole number exponents follow from an understanding of exponents as indicating repeated multiplication, and from the associative property of multiplication.

3. The interpretation of zero, fractional and negative exponents follows from extending the laws of exponents to those values.

   For example, since $(x^{1/3})^3 = x^{(1/3)\cdot 3} = x^1 = x$, $x^{1/3}$ is the cube root of x.

4. Complex expressions can be interpreted by "chunking": temporarily viewing a part of the expression as a single entity.

Core Standards - Students can and do:

a. Factor, expand, and complete the square in quadratic expressions.
b. Use chunking to see expressions in different ways that suggest ways of rewriting them.

   For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.

c. Rewrite expressions using the laws of exponents.

   For example $(x^{1/3})^3 = x^{(1/3)\cdot 3}$ and $1/x = x^{-1}$.

d. Use the laws of exponents to interpret expressions for exponential functions, recognizing fractional exponents as indicating roots of the base and negative exponents as indicating the reciprocal of a power.

   For example, identify the relative rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.2)^{t/10}$, $y = (1.01)^{12t}$, and recognize that any non-zero number raised to the 0 power is 1 (for example, $12(1.05)^0 = 12$). Avoid common errors such as confusing as $6(1.05)^t$ with $(6\cdot 1.05)^t$ and $5(0.03)^t$ with $5(1.03)^t$.

e. Given an expression for an exponential function, identify whether it represents exponential growth or decay.
f. Using a method such as the factorization $(x^n - 1) = (x - 1)(x^{n-1} + \ldots + 1)$ where n is a whole number, prove the formula for the sum of a geometric series, and use the formula to solve problems.

   Include problems involving compound interest and mortgage payments.

The arithmetic of polynomials and rational functions

Core Standards - Students understand that:

1. Polynomials form a system analogous to the integers, closed under the operations of addition, subtraction, and multiplication.

2. A polynomial of degree n has n complex roots, where roots are counted according to multiplicity.
3. For a polynomial $p(x)$, $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$.
4. The Binomial Theorem gives the expansion of $(x + a)^n$ in powers of x for a whole number n and a real number a, with coefficients determined for example by Pascal's triangle. The Binomial Theorem can be proved by mathematical induction.
5. Rational functions are fractions whose numerator and denominator are polynomials, and the rational functions are closed under the operation of division by a nonzero rational function.

Core Standards - Students can and do:

a. Add, subtract and multiply polynomials.
b. Identify zeros of polynomials when suitable factorizations are available, and graph polynomials.
c. Transform simple rational functions using the Properties of Arithmetic and the rules for operations on fractions.
d. Identify zeros and asymptotes of rational functions, when suitable factorizations are available, and graph rational functions.
e. Divide polynomials by monomials

Mathematics: High School—Equations

A Coherent Understanding of Equations

[Final draft of CCR narrative goes here.]

Building equations to model relations between quantities

Core Standards - Students understand that:

1. Choosing a unit for a general quantity (e.g. length) establishes a correspondence between specific instances of the quantity (e.g. lengths of specific objects) and numbers called coordinates.
2. A relation between two quantities can be represented by an equation in variables representing coordinates for the quantities; by a graph on a pair of axes marked with units for the quantities; and by a table of coordinate pairs from the relation. The graph and the table show pairs that are solutions to the equation.

Core Standards - Students can and do:

a. Build equations to express relations between quantities and solve problems.

Include equations arising from situations involving linear, quadratic, simple rational, and exponential functions.

b. Rearrange formulas to isolate a quantity of interest.
c. Build systems of equations and solve problems involving systems of equations.

Reasoning with equations and inequalities

Core Standards - Students understand that:

1. To solve an equation algebraically, one assumes it is true and deduces the solutions, often in steps that replace it with a simpler equation whose solutions include the solutions of the original one.
2. Adding a number to both sides of an equation, or multiplying both sides by a nonzero number, leads to an equation that has exactly the same solutions as the original.
3. If the product of two numbers is zero, then at least one equals zero, and conversely. This principle is the basis for solving equations by factoring.
4. Multiplying both sides of an equation by an expression that can be zero for certain values of the variables in it, or squaring both sides of an equation, can lead to an equation that has more solutions than the original. Evaluating these in the original equation eliminates extraneous solutions.
5. The method of completing the square can transform any quadratic equation in x into an equivalent equation of the form $(x - p)^2 = q$. This leads to the quadratic formula.
6. Equations not solvable in one number system may have solutions in a larger number system.
7. Equations of the form $f(x) = g(x)$ can be solved graphically by finding the intersections (if any) of the graphs of $f(x)$ and $g(x)$.
8. The relationship between a function f and its inverse (if it has one) can be used to solve equations of the form $f(x) = c$. For example, a logarithmic function can help solve exponential equations, and an inverse trigonometric function can help solve trigonometric equations.
9. Given a system of linear equations, adding a multiple of one equation to another produces a system with the same solutions. This principle, combined with principles already encountered with equations in one variable, allows for the simplification of systems.

10. The solutions to an equation in two variables form a graph a set of points, often a curve or a line, in the coordinate plane.
11. The solutions to two equations in two variables (if any) can be visualized as the points of intersection of their graphs, because those points satisfy both equations simultaneously.
12. The solution to a system of inequalities in two variables can be visualized as the intersection of the regions in the plane defined by the inequalities.

Core Standards - Students can and do:

a. Solve simple rational and radical equations, noting and explaining extraneous solutions.
b. Solve quadratic equations over the real numbers by completing the square, using the quadratic formula and factoring.
c. Solve linear inequalities in one variable and graph the solution set on a number line.

   Emphasize solving the associated equality and determining on which side of the solution of the associated equation the solutions to the inequality lie.

d. Solve linear systems of equations algebraically, focusing on pairs of linear equations in two variables.
e. Graph a system of two linear or quadratic equations in two unknowns and estimate the solution from a graph.
f. Graph the solution set of a linear inequality in two variables.
g. Use the properties of logarithms to solve equations involving exponential functions.
h. Use inverse trigonometric functions to solve equations of the form $A\sin(Bx + C) = D$.
i. Find complex roots of quadratic equations.
j. Solve a system of two quadratic equations in two unknowns.

Mathematics: High School—Functions

A Coherent Understanding of Functions

[Final draft of CCR narrative goes here.]

Interpreting functions

Core Standards - Students understand that:

1. The domain of a function is the set of its inputs, and the range is the set of its outputs.
2. Function notation uses a letter to stand for a function. If f is a function and x is a number in its domain, then $f(x)$ indicates the output of f corresponding to the input x.
3. Functions can be described by key characteristics, including: zeros; vertical intercept; extreme points; average rates of change (over intervals); intervals of increasing, decreasing and/or constant behavior; and end behavior.
4. Linear, quadratic and exponential functions are defined by expressions that have forms specific to each type, in which the parameters can often be interpreted in terms of characteristics of the graph.
5. An equation in two variables implicitly expresses one variable as a function of the other if there are no points on the graph having the same value of the first variable but different values of the second.
6. When x is a power of ten, the common logarithm $\log(x)$ tells the exponent. When x lies between 10^n and 10^{n+1}, $\log(x)$ lies between n and $n+1$.

Core Standards - Students can and do:

a. Describe qualitatively the functional relationship between two quantities by reading a graph; e.g., where the function is increasing or decreasing, what its long run behavior appears to be, and whether it appears to be periodic.
b. Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
c. Compare values and properties of two functions represented in different ways (algebraically, graphically, numerically in tables, or by verbal descriptions).
d. Relate the domain and range of a function to its graph and, where applicable, to the quantitative relationship it describes.
e. Describe the qualitative behavior of common types of functions using graphs and tables.

   Identify: intercepts; intervals where the function is increasing, decreasing, positive or negative; relative maximums and minimums; symmetries; end behavior; and periodicity. Use technology to explore the effects of parameter changes on the graphs of linear, power, quadratic, square root and cube root, polynomial, simple rational, exponential, logarithmic, sine and cosine, absolute value and step functions.

f. Interpret the parameters in the general expressions for linear, quadratic, and exponential functions, and draw conclusions about the parameters by inspection of the graph.
g. Given a function f, and given a constant c, evaluate $f(c)$ if possible and find solutions to $f(x) = c$ (if they exist). Where appropriate, relate the possibility of evaluation to the domain and the existence or nonexistence of solutions to the range.

Building functions

Core Standards - Students understand that:

1. Varying a parameter in the general expression for a linear, quadratic or exponential function can (often) be interpreted as performing a geometric transformation on the graph. This can be used to adjust a function to model a particular situation.

2. Composing a function f with a function g creates a new function called the composite function for an input number x, the output of the composite function is $f(g(x))$.
3. The inverse of a function "undoes" what the function does; that is, composing the function with its inverse in either order returns the original input.
4. Sequences are functions whose domain is the whole numbers, and they can be defined recursively as well as explicitly. Arithmetic sequences are linear functions and geometric sequences are exponential functions.

Core Standards - Students can and do:

a. Make graphs of linear, quadratic, cubic, absolute value and exponential functions, and, given the graph of one of these types, identify the type.
b. Sketch graphs of quadratic functions presented in the form $y = ax^2+bx+c$, $y = a(x-h)^2+k$ and $y = a(x \quad p)(x \quad q)$ (without plotting points).
c. Solve problems involving quadratic functions, such as analyzing projectile motion and maximizing profit.
d. Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $kf(x)$, $f(kx)$, and $f(x + k)$. Include both positive and negative k; find the value of k given the graphs.
e. Write an expression of the form $a(1+r)^t$ or ab^t for an exponential function to express a constant percent growth rate or a constant growth factor.
f. Evaluate composite functions and compose functions symbolically in simple cases (e.g. one or both functions linear).
g. Read values of an inverse function from a graph or a table, given that the function has an inverse.
h. For linear or simple exponential functions, find a formula for an inverse function by solving an equation.
i. For linear functions or simple exponential functions, verify symbolically by composition that one function is the inverse of another.
j. Write arithmetic and geometric sequences both recursively and in closed form, and translate between the two forms.

Linear vs. exponential behavior

Core Standards - Students understand that:

1. Linear functions grow by equal differences in equal time periods; exponential functions grow by equal factors in equal time periods.
2. The rate of change of a linear function is constant; the rate of change of an exponential function is proportional to the value of the function.
3. Exponential growth eventually outstrips polynomial growth (including, in particular, linear growth).

Students can and do:

a. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.
b. Interpret absolute and relative rates of change and use them to make predictions.
c. Identify the initial value and growth or decay rate from a table or graph of an exponential function.
d. Calculate and interpret the growth factor for an exponential function (presented symbolically or as a table) given a fixed time interval. Estimate the growth factor from a graph.
e. Recognize a quantitative relationship as linear or exponential from description of a situation.

Trigonometric functions

Core Standards - Students understand that:

1. The unit circle in the coordinate plane enables one to extend the domains of the sine, cosine and tangent functions of right-triangle trigonometry to the real numbers.
2. Trigonometric functions are periodic by definition, and sums and products of these functions are periodic.
3. Restricting trigonometric functions to a domain on which they are always increasing or always decreasing allows for the construction of an inverse function.

Core Standards - Students can and do:

a. Use radian measure and revisit graphs of trigonometric functions in terms of radians.
b. Use the unit circle to determine geometrically the values of sine, cosine, tangent for multiples of $\pi/4$ and $\pi/3$; commit sines and cosines of principal angles to memory.
c. Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.
d. Solve simple trigonometric equations formally using inverse trigonometric functions;[64] evaluate solutions using technology.
e. Explain relationships between the identity $\sin^2 x + \cos^2 x = 1$, the equation of a circle, and the Pythagorean theorem.
f. Explain proofs of the sine and cosine addition and subtraction formulas.
g. Use trigonometric identities to simplify expressions.
h. Use trigonometric functions to solve problems in science, economics or other fields where periodic phenomena occur.

[64] Solving trigonometric equations by means of the quadratic formula is optional.

Mathematics: High School—Coordinates

A Coherent Understanding of Coordinates.

[Final draft of CCR narrative goes here.]

Expressing geometric properties with equations

Core Standards - Students understand that:

1. The graph of a linear equation is the straight line through any two of its solutions. Conversely, any line is the set of solutions to some linear equation.
2. Two lines with well-defined slopes are parallel if their slopes are equal and perpendicular if their slopes multiply to −1.
3. The equation of a circle can be found using its definition and the Pythagorean theorem.
4. Transforming the graph of an equation by reflecting in the axes, translating parallel to the axes, or applying a dilation to one of the axes correspond to substitutions in the equation.

   For example, reflection in the y axis corresponds to $(x,y) \to (-x,y)$, translation vertically down by three units corresponds to $(x,y) \to (x,y+3)$, and dilating by a factor of 2 parallel to the x-axis corresponds to $(x,y) \to (x/2,y)$.
5. An ellipse is obtained by stretching a circle, leading to an equation of the form $x^2/a^2 + y^2/b^2 = 1$.
6. The formula $A = \pi ab$ for the area of an ellipse can be derived from the formula for the area of a circle.

Core Standards - Students can and do:

a. Write the equation of a line in point-slope form, slope-intercept form, or standard form.
b. Identify parallel and perpendicular lines in a coordinate plane, and use the relationship between slopes of parallel and perpendicular lines to solve problems. Know the equations of vertical and horizontal lines.
c. Find the point on the segment between two given points that divides the segment in a given ratio.
d. Complete the square to find the center and radius of a circle given by an equation.
e. Find an equation for an ellipse given the lengths of its major and minor axes; calculate the area of an ellipse.
f. Use coordinates to solve geometric problems.

   Include proving simple geometric theorems algebraically, using coordinates to compute perimeters and areas for triangles and rectangles, finding midpoints of line segments, finding distances between pairs of points and determining when two lines are parallel or perpendicular.

Vectors and matrices[25]

Core Standards - Students understand that:

1. Vectors are quantities having both magnitude and direction. They are typically represented by directed line segments.
2. On a coordinate plane, vectors are determined by the coordinates of their initial and terminal points or by their x- and y-components.

[25] Limit to vectors in the plane and 2x2 matrices.

3. Vectors can be added end-to-end, component-wise, or by the parallelogram rule. The length of the sum of two vectors is typically not the sum of the lengths.
4. Translations of the plane can be represented by vectors.
5. Vectors are often used to describe "directed quantities" in physics, such as position, velocity, acceleration and force. Vector addition is used to find resultant forces or compute displacements.
6. Multiplying a 2x2 matrix into a vector produces another vector. This can be viewed as a transformation of the plane.
7. A system of two linear equations in two variables can be represented as a single matrix equation in a vector variable.
8. Matrices can be added, subtracted and multiplied.
9. The zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a 2x2 matrix determines whether it has a multiplicative inverse.

Core Standards - Students can and do:

a. Represent vectors graphically.
b. Perform basic vector operations (addition, subtraction, scalar multiplication) both graphically and algebraically.
c. Use vectors to model and solve problems.
d. Use trigonometry to decompose a vector into perpendicular components.
e. Add, subtract and multiply matrices.
f. Represent systems of equations as matrix equations.
g. Find the inverse of a matrix if it exists and use it to solve equations.

Complex Numbers

Core Standards - Students understand that:

1. To solve quadratic equations that have no solutions in the real numbers, the number system can be extended to include the square roots of −1, creating a closed number system called the complex numbers.
2. The Properties of Arithmetic and the relation $i^2 = -1$ can be used to perform operations on complex numbers.
3. All polynomials can be factored over the complex numbers, e.g. as in $x^2 + 4 = (x + 2i)(x - 2i)$.
4. Complex numbers can be visualized on the complex plane. Real numbers fall on the horizontal (real) axis, and imaginary numbers fall on the vertical axis.
5. On the complex plane, arithmetic of complex numbers can be interpreted geometrically: addition is analogous to vector addition, and multiplication can be understood as rotation and dilation about the origin. Complex conjugation is reflection across the real axis.
6. The absolute value (or modulus) of a complex number is defined as its distance from the origin in the complex plane. On the complex plane, as on the real line, the distance between numbers is the absolute value of the difference, and the midpoint of a segment is the average of the numbers at its endpoints.
7. Euler's formula $e^{i\theta} = \cos\theta + i\sin\theta$ links complex numbers to trigonometry.

Core Standards - Students can and do:

a. Add, subtract and multiply complex numbers.
b. Find the conjugate of complex a number and use it to find absolute values and divide complex numbers.
c. Graph complex numbers in both rectangular and polar form and interpret arithmetic of complex numbers geometrically.

d. Solve quadratic equations over the complex numbers.
e. Convert complex numbers between rectangular and polar form.
f. Re-derive trigonometric identities using complex methods.

Mathematics: High School—Modeling

A Coherent Understanding of Modeling

Modeling uses mathematics to help us make sense of the real world to understand quantitative relationships, make predictions, and propose solutions.

A model can be very simple, such as a geometric shape to describe a physical object like a coin. Even so simple a model involves making choices. It is up to us whether to model the solid nature of the coin with a three-dimensional cylinder, or whether a two-dimensional disk works well enough for our purposes. For some purposes, we might even choose to adjust the right circular cylinder to model more closely the way the coin deviates from the cylinder.

In any given situation, the model we devise depends on a number of factors: How precise an answer do we want or need? What aspects of the situation do we most need to understand, control, or optimize? What resources of time and tools do we have? The range of models we can create and analyze is constrained as well by the limitations of our mathematical and technical skills. For example, modeling a physical object, a delivery route, a production schedule, or a comparison of loan amortizations each requires different sets of tools. Networks, spreadsheets and algebra are powerful tools for understanding and solving problems drawn from different types of real-world situations. One of the insights provided by mathematical modeling is that essentially the same mathematical structure might model seemingly different situations.

The basic modeling cycle is one of (1) identifying the key features of a situation, (2) creating geometric, algebraic or statistical objects that describe key features of the situation, (3) analyzing and performing operations on these objects to draw conclusions and (4) interpreting the results of the mathematics in terms of the original situation. Choices and assumptions are present throughout this cycle.

The modeling cycle and general tools

Core Standards - Students understand that:

1. The behavior of quantities in physical, economic, public policy, social and everyday situations can be modeled using mathematics. Mathematics is used to model relationships among quantities, constraints and objectives.
2. Models are formulated to answer questions about the world based on an analysis of the situation and a conceptual model that involves assumptions and choices.
3. Quantities in the situation are represented by variables in the model, usually through measurement. Modeling includes decisions about what to measure and how, and how well the measurements work for the purpose.
4. Mathematical knowledge and skill are required in order to get results from a mathematical model even to devise a model in the first place. Areas of mathematics commonly used in modeling include linear, quadratic, exponential or other functions; probability and statistics; and geometry (solid, plane and coordinate). In active modeling, fluency with math content is required in order to focus on the larger problem.
5. Technology is often required in order to obtain results from a model.
6. The results of a mathematical model must be evaluated against evidence and the phenomena at hand. If the mathematics is correct, then unreasonable results point to unreasonable assumptions and the need to revise the model.
7. Real-world problems do not announce that they are amenable to mathematical analysis and solution; bringing mathematics to bear on such a problem is a highly creative act.

Core Standards - Students can and do:

a. Creatively apply the mathematics they know to situations in which it only imperfectly applies and achieve useful results by doing so.

For example, independently choose to describe HIV transmission as a random event with a fixed probability per sexual encounter.

b. Decide what measures are relevant to a problem.

For example, given the purpose at hand, is traffic safety best measured in terms of fatalities per year or fatalities per vehicle-mile? (or fatalities per 100 million vehicle-miles?)

c. Use network diagrams or other techniques to visualize complex situations with many factors, causes or agents.

For example, what agents and factors are responsible for setting the price of gasoline? How do they interact?

d. In situations with many factors, causes or agents, organize the factors/causes/agents into a hierarchy of importance.

For example, what are the primary, secondary, and relatively rare causes of lung cancer?

e. Use order of magnitude estimates, unprompted, to identify important effects, disregard unimportant effects and predict results of a more detailed model.

f. Use 2-by-2 tables, flowcharts, and other strategies to organize information and manage scenarios.

Modeling with geometry, equations, functions, probability, and statistics

Core Standards · Students can and do:

a. Model physical objects with geometric shapes.

Include common objects that can reasonably be idealized as two- and three-dimensional geometric shapes. Identify the ways in which the actual shape varies from the idealized geometric model.

b. Model situations with equations and inequalities.

Include situations well described by a linear inequality in two variables or a system of linear inequalities defining a region in the plane.

c. Model situations with common functions.

Include situations well described by linear, quadratic or exponential functions; and situations that can be well described by inverse variation ($f(x) = k/x$). Include identifying a family of functions that models features of a problem, and identifying a particular function of that family and adjusting it to fit by changing parameters. Understand the recursive nature of situations modeled by linear and exponential functions.

d. Model situations using probability and statistics.

Include using simulations to model probabilistic situations; describing the shape of a distribution of values and summarizing a distribution with measures of center and variability; modeling a bivariate relationship using a trend line or a regression line.

Mathematics: High School—Statistics

A Coherent Understanding of Statistics.

[Final draft of CCR narrative goes here.]

Summarizing and interpreting categorical, count and measurement data

Core Standards · Students understand that:

1. Statistical methods take variability into account to support making informed decisions based on quantitative studies designed to answer specific questions.
2. Visual displays and summary statistics condense the information in data sets into usable knowledge.

Core Standards · Students can and do:

a. Summarize comparative or bivariate categorical data in two-way frequency tables; interpret joint, marginal and conditional relative frequencies in the context of the data.
b. Compare data on two or more count or measurement variables by using plots on the real number line (dot plots, histograms and box plots); use appropriate statistics to summarize center (median, mean) and spread (interquartile range, standard deviation) of the data sets; interpret changes in shape, center and spread in the context of the data sets, accounting for possible effects of extreme data points.
c. Summarize bivariate quantitative data by giving a regression line and a measure of goodness of fit.

Making inferences and justifying conclusions drawn from data

Core Standards · Students understand that:

1. Statistics is a process for making inferences about population parameters based on a sample from that population; randomness is the foundation for statistical inference.
2. The design of an experiment or sample survey is of critical importance to analyzing the data and drawing conclusions.

Core Standards · Students can and do:

a. Use probabilistic reasoning to decide if a specified model is consistent with a given data-generating process.
b. Recognize the purposes of and differences among sample surveys, experiments and observational studies; explain how randomization relates to each.
c. Use data from a sample survey to estimate a population parameter.
d. Use data from a randomized experiment to compare two treatments.
e. Evaluate reports based on data.

Mathematics: High School—Probability

A Coherent Understanding of Probability.

[Final draft of CCR narrative goes here.]

Modeling random events with finite sample spaces

Core Standards - Students understand that:

1. Random phenomena can be modeled mathematically using a sample space in which sample points represent distinct outcomes, and in which each sample point is assumed to have the same probability.
2. Events are subsets of a sample space that can be defined using characteristics (or categories) of the sample points, as well as unions, intersections, or complements thereof ('and', 'or', 'not'). A sample point may belong to several events (categories).
3. If A and B are two events (categories), then the conditional probability of A given B, denoted by $p(A \mid B)$, is the fraction of sample points in B that also lie in A.
4. The laws of probability can be used to generate new probabilities from known probabilities.

Core Standards - Students can and do:

a. Compute theoretical probabilities of compound events by constructing and analyzing representations, including tree diagrams, systematic lists, and Venn diagrams
b. Use the addition and multiplication laws of probability to compute probabilities of complementary, disjunctive, and compound events.
c. Apply concepts such as intersections, unions and complements of events, and conditional probability and independence, to define or analyze compound events, calculate probabilities, and solve problems.
d. Construct and interpret two way tables to show probabilities when two characteristics (or categories) are associated with each sample point. Use a two way table to determine conditional probabilities.
e. Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations.
f. Use permutations and combinations to compute probabilities of compound events and solve problems.

Experimenting and simulating to model probabilities

Core Standards - Students understand that:

1. Sets of data obtained from surveys, simulations, or other means, can be used as probability models, by treating the data set itself as a sample space, in which the sample points are the individual pieces of data. The probability of an event within the data set is its relative frequency.
2. The law of large numbers provides the basis for estimating certain probabilities by use of empirical relative frequencies.
3. The probability of an outcome can be interpreted as an assertion about the long-run proportion of the time the outcome will occur if the random experiment is repeated a large number of times. The observed proportion of occurrence for the outcome of interest can be used as an estimate of the relevant probability.

Core Standards - Students can and do:

a. Calculate experimental probabilities by performing simulations or experiments involving a probability model and using relative frequencies of outcomes.

b. Compare the results of simulations (e.g., random number tables, random functions, and area models) with predicted probabilities. When there are substantial discrepancies between predicted and observed probabilities, explain them in terms of the assumptions of the probability model.
c. Use the relationship between conditional probabilities and relative frequencies in contingency tables to analyze decision problems.
d. Use the mean and standard deviation of a data set to fit it to a normal distribution (bell-shaped curve) and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets and tables to estimate areas under the normal curve.
e. Apply the binomial theorem to solve probability problems.

Using probability to make decisions

Core Standards - Students understand that:

1. A probability distribution is a collection of probabilities $\{p_1, \ldots, p_n\}$ for a set of mutually exclusive and jointly exhaustive events $\{E_1, \ldots, E_n\}$. The probabilities in a probability distribution sum to unity.
2. A random variable attaches a value to each event in a probability distribution. The expected value of the random variable is the weighted average of its possible values, with weights given by their respective probabilities.
3. When the possible outcomes of a decision can be assigned probabilities and payoff values, the decision can be analyzed as a random variable with an expected value, e.g. of a wager. If possible, this is the first thing to compute in a decision context.

Core Standards - Students can and do:

a. Calculate expected value to analyze mathematical fairness, payoff.
b. Evaluate and compare options in situations where all of the available options share the same expected value but carry different levels of risk.
c. Analyze each of two options and make a quantitatively informed decision in situations where one option has both a higher expected return and a higher level of risk. Include both low-stakes and high-stakes decisions.
d. Analyze decision problems using probability concepts.

Mathematics: High School—Geometry

A Coherent Understanding of Geometry.

[Final draft of CCR narrative goes here.]

Triangle Congruence

Core Standards - Students understand that:

1. Rigid motions move lines to lines and segments to segments; preserve the distance between points; and preserve measures of angles.
2. Two geometric figures are congruent if there is a sequence of rigid motions that carries one onto the other. This is the principle of superposition.
3. Criteria for triangle congruence can be thought of as answers to the following question: What information about the measures in a triangle ensures that all triangles drawn with those measures are congruent?
4. Criteria for triangle congruence can be established using rigid motions.

Core Standards - Students can and do:

a. Use (in reasoning and problem solving) precise definitions of angles, polygons, parallel and perpendicular lines, rigid motions (rotations, reflections, translations), parallelograms and rectangles; commit these definitions to memory.

b. Prove theorems about lines and angles; test conjectures and identify logical errors in fallacious proofs.

Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; measures of supplementary angles sum to 180°; two lines parallel to a third are parallel to each other; points on a perpendicular bisector of a segment are exactly those equidistant from the segment's endpoints.

c. Prove theorems about triangles; test conjectures and identify logical errors in fallacious proofs.

Theorems include: measures of interior angles of a triangle sum to 180°, base angles of isosceles triangles are equal, the triangle inequality, the longest side of a triangle faces the largest side and vice-versa, the exterior-angle inequality, and the segment joining midpoints of two sides of a triangle parallel to the third side and half the length.

d. Use and prove properties of and relationships among special quadrilaterals: parallelogram, rectangle, rhombus, square, trapezoid and kite.

e. Characterize parallelograms in terms of equality of opposite sides, in terms of equality of opposite angles, and in terms of bisection of diagonals; characterize rectangles as parallelograms with equal diagonals.

Similarity, Right Triangles and Trigonometry

Core Standards - Students understand that:

1. The dilation of a given line is parallel to the given line. (In particular, lines passing through the center remain unchanged.)
2. The dilation of a given segment is parallel to the given segment and longer or shorter in the ratio given by the scale factor. A dilation leaves a segment unchanged if and only if the scale factor is 1.
3. The assumed properties of dilations can be used to establish the AA, SAS and SSS criteria for similarity of triangles.
4. Similarity allows one to view side ratios in right triangles as properties of the angles themselves, leading to elementary definitions of sine, cosine and tangent.

Core Standards - Students can and do:

a. Use triangle similarity criteria to solve problems and to prove relationships in geometric figures.

b. Prove that two lines with well-defined slopes are parallel if and only if they have the same slope, and perpendicular if and only if the product of their slopes is equal to −1.

c. Give an informal explanation using successive approximation that a dilation of scale factor r changes the length of a curve by a factor of r and the area of a region by a factor of r^2.

d. Use and explain the relationship between the trigonometric ratios of complementary angles.

e. Use trigonometric ratios and the Pythagorean theorem to solve right triangles[66] in applied problems.

Circles

Core Standards - Students understand that:

1. All circles are similar.
2. There is a unique circle through three non-collinear points, or tangent to three non-concurrent lines.

Core Standards - Students can and do:

a. Identify and describe relationships among angles, radii, and chords.

Include the relationship between central, inscribed and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.

b. Identify and define radius, diameter, chord, tangent, secant and circumference.

c. Determine the arc lengths and the areas of sectors of circles, using proportions.

d. Construct a tangent line from a point outside a given circle to the circle.

e. Prove and use basic theorems about circles, and use these theorems to solve problems. Include:

- Symmetries of a circle
- Similarity of a circle to any other
- Tangent line, perpendicularity to a radius
- Inscribed angles in a circle, relationship to central angles, and equality of inscribed angles
- Properties of chords, tangents and secants as an application of triangle similarity.

Axiomatic Systems

Core Standards - Students understand that:

1. Mathematical statements are proven or disproven by deductive reasoning. Conjectures can arise from inductive reasoning, but they cannot be proven that way.
2. Precise definitions make possible rigorous logical reasoning, and definitions shared in common make possible the objective evaluation of one's own reasoning by others.
3. Logical reasoning requires avoiding common fallacies, such as using an example to prove the rule or confusing a statement with its converse.
4. Axiomatic systems require precise definitions, but some terms must be left "undefined." The axioms specify how the undefined terms behave.
5. The first three postulates of the *Elements* are models of straightedge and compass construction.
6. Hilbert and other mathematicians improved on the *Elements* by identifying its hidden assumptions and making them explicit with additional axioms.

[66] A right triangle has five parameters, its three lengths and two acute angles. Given a length and any other parameter, "solving a right triangle" means finding the remaining three parameters. (It is worth reflecting on why this problem is well-posed.)

7. Three classical construction problems (trisecting an angle, duplicating a cube and squaring a circle) inspired the development of much important mathematics.

8. The Parallel Postulate (axiom) distinguishes Euclidean geometry from other geometries. Other geometries, such as spherical and hyperbolic geometry, use alternatives to the Parallel Postulate. Many theorems of Euclidean geometry are not theorems in other geometries.

Core Standards - Students can and do:

a. Use the terms point, line and plane to define other geometric terms as line segments, angles and rays.
b. With ruler and compass:
   - Divide a segment into any number of equal parts.
   - Given two segments of lengths r and s, construct a segment of length rs and one of length r/s.
   - Given a segment of length r, construct a segment of length $\sqrt{r}$.

Trigonometry of General Triangles

Core Standards - Students understand that:

1. The Law of Sines generalizes the side-angle inequality.
2. The Law of Cosines generalizes the Pythagorean theorem.
3. The Laws of Sines and Cosines embody the triangle congruence criteria, in that three pieces of information are usually sufficient to completely solve a triangle. Furthermore, these laws yield two possible solutions in the ambiguous case, illustrating that "Side-Side-Angle" is not a congruence criterion.

Core Standards - Students can and do:

a. Explain proofs of the Law of Sines and the Law of Cosines.
b. Use the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).

Geometric Measurement and Dimension

Core Standards - Students understand that:

1. Congruence plays a fundamental role defining the concepts of length, area and volume.
2. Areas of polygons can be computed by dissecting them into triangles and using the fundamental property of area, that the area of a dissected figure is the sum of the areas of its components.
3. Lengths of curves and areas of curved regions can be defined informally using the concept of "limit."
4. Cavalieri's principle allows one to understand volume formulas informally by visualizing volumes as stacks of thin slices.

Core Standards - Students can and do:

a. Give definitions of rectangular prism, (right) pyramid, (right circular) cone, (right circular) cylinder and sphere.
b. For a pyramid or a cone, give an heuristic argument to show why its volume is (1/3) its height times the area of its base.
c. Use the behavior of length and area under dilations to prove the formulas for the circumference and area of a circle.

d. Apply formulas and solve problems involving volume and surface area of right prisms, right circular cylinders and right pyramids, cones, spheres and composite figures.
e. Identify and apply the 3:2:1 relationship among volumes of circular cylinders, hemispheres and cones with same height and circular base and 3:1 relationship between volume of a prism and pyramid with same base area and height.
f. Identify cross-sectional shapes of slices of three-dimensional objects, and identify three-dimensional objects traced out by rotations of two-dimensional objects.

Mathematics: High School—Calculus

Calculus is an important part of the high school curriculum for a large and growing number of students. To see well-established standards for this course, please see course descriptions such as those of the College Board, International Baccalaureate Organization, or any of the following states: California, Florida, Hawaii, Indiana, Mississippi, Pennsylvania, South Carolina, Tennessee, Utah, and Virginia. We invite feedback from states as to whether they would like to see Calculus in future drafts of the Common Core Standards.

Progressions in Grades K–8

Note, a progression may appear in more than one band.

Grades K-5

Number

- Counting and Cardinality
- Base Ten Computation
- Early Relations and Operations
- Quantity and Measurement
- Operations and the Problems They Solve
- Fractions

Geometry

- Shapes
- Coordinates
- Geometry

Data

- Statistics

Grades 6-8

Number

- The Number System

Algebra

- Ratios and Proportional Relationships
- Expressions and Equations
- Functions and the Situations They Model

Geometry

- Geometry

Data

- Statistics
- Probability

List of Progressions and Grade Ranges

Strand	Progression	Start	End
Number	Counting and Cardinality	K	K
	Early Relations and Operations	K	1
	Base Ten Computation	K	5
	Quantity and Measurement	K	5
	Operations and the Problems They Solve	2	4
	Fractions	3	5
	Ratios and Proportional Relationships	6	7
	The Number System	6	8
Geometry	Shapes	K	4
	Coordinate Geometry	5	5
	Geometry	6	8
Algebra*	Expressions and Equations	6	7
	Functions & The Situations They Model	8	8
Data*	Statistics	5	8
	Probability	7	8

* The Algebra and Data strands have concepts and skills in earlier grades that progressions in the Number strand.

GLOSSARY

Additive inverses. Two numbers whose sum is 0 are additive inverses of one another. Example: $3/4$ and $-3/4$ are additive inverses of one another because $3/4 + (-3/4) = (-3/4) + 3/4 = 0$.

Algorithm. A step by step routine that always gives some answer, rather than ever giving no answer; that always gives the right answer, and never gives a wrong answer; that can always be completed in a finite number of steps, rather than in an infinite number of steps; and that applies to all problems of a given type (e.g., adding any two multidigit whole numbers, or bisecting any angle). Cf. Wikipedia's "effective procedure," from which this definition is adapted.

Common logarithm. The common logarithm of x is the power to which you raise 10 in order to get x.

Congruent. Two plane or solid figures are congruent if one can be obtained from the other by a sequence of rigid motions (rotations, reflections, and translations).

Dilation. A transformation that moves each point along the ray through the point emanating from a fixed center, and multiplies distances from the center by a common scale factor.

Integer. A positive whole number, a negative whole number, or 0.

Mean. The sum of the values in a list divided by the number of values in the list. (To be more precise, this defines the *arithmetic mean*.)

Median. In a list of values, the value appearing at the center of a sorted version of the list—or the mean of the two central values, if the list contains an even number of values.

Multiplicative inverses. Two numbers whose product is 1 are multiplicative inverses of one another. Example: $3/4$ and $4/3$ are multiplicative inverses of one another because $3/4 \times 4/3 = 4/3 \times 3/4 = 1$.

Range. The difference between the greatest and smallest values in a list of numbers.

Rational number. A number expressible in the form a/b for integers a and $b \neq 0$. The rational numbers include positive and negative integers, positive and negative fractions, and 0.

Related fractions. Two fractions are *related* if one denominator is a factor of the other. (See Ginsburg, Leinwand and Decker (2009), *Informing Grades 1 6 Mathematics Standards Development. What Can Be Learned from High Performing Hong Kong, Korea, and Singapore?*, Table A1, p. A-5, grades 3 and 4.)

Similarity transformation. A rigid motion followed by a dilation.

Single-place number. The numbers that result when a whole number between 1 and 9 (inclusive) is multiplied by the numbers 10, 100, 1000, etc.

Teen number. A whole number that is greater than or equal to 11 and less than or equal to 19.

Transitive property of measurement order. If one object is bigger than a second, and the second object is bigger than a third object, then the first object is bigger than the third object.

International Benchmarking and the Common Core

The Common Core State Standards (CCSS) are designed to be **college- and career-ready** and **internationally benchmarked.** To that end, the development process included the review and consideration of many sources, including research studies, existing standards from the U.S and abroad, and the professional judgment of teachers, content area experts, and college faculty. This paper will briefly describe how international benchmarking was used to develop the CCSS.

What documents were used to ensure that the CCSS were internationally benchmarked?

To ensure that the standards prepare students to be globally competitive, the development team used a number of sources, including: the frameworks for PISA and TIMSS; the International Baccalaureate syllabi; the American Institutes for Research report , *Informing Grades 1-6 Mathematics Standards Development: What Can Be Learned From High-Performing Hong Kong, Korea, and Singapore* and; the A+ Composite found in *A Coherent Curriculum: The Case for Mathematics* by Bill Schmidt, Richard Houang, and Leland Cogan.

In addition, the development team looked to the standards of a number of individual countries and provinces to inform the content, structure and language of the CCSS. In *mathematics*, twelve set of standards were selected to help guide the writing of the standards: Belgium, Canada [Alberta], China, Chinese Taipei, England, Finland, Hong Kong, India, Ireland, Japan, Korea, and Singapore.[i] In *English language arts*, the writing team looked closely at ten sets of standards from Australia (New South Wales and Victoria), Canada (Alberta, British Columbia, and Ontario), England, Finland, Hong Kong, Ireland, and Singapore.[ii]

How were the international benchmarks used to inform the development of the CCSS?

The goal of the international benchmarking in the common core state standards development process was to ensure that the CCSS are as rigorous as comparable standards in the high-performing and other countries. However, the use of international benchmarks as evidence is no easy feat; it is not simply a matter of identifying the "best" source and copying it, or of aggregating all viable sources to find some set of shared expectations. Rather, international benchmarks were used to guide critical decisions in the following areas:

- *Whether particular content should be included:* One of the principal ways international standards were used in this development process was as a guide when making tough decisions about whether content should be included or excluded.
- *When content should be introduced and how that content should progress*: The progression of topics in the international mathematics standards helped the development team make decisions about when to introduce topics in the CCSS as well as when to stop focusing on them.
- *Ensuring focus and coherence*: Standards from other countries tend to be very focused, including only what is absolutely necessary.
- *Organizing and formatting the standards*: Certain organizational aspects or characteristics of international standards that promoted clarity and ease of reading and use served as a model for the CCSS.
- *Determining emphasis on particular topics in standards*: Where emphasis on particular topics was found repeatedly in international standard, this was instructive in determining their importance for inclusion in the CCSS.

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When the final version of the K-12 Common Core State Standards is released, it will be accompanied by a discussion of the evidence that was used in their development. In the meantime, the evidence from the September 2009 draft of the College and Career Ready Standards is available: The URL for the ELA document is http://www.corestandards.org/Files/ELAEvidence.pdf, and the URL for the mathematics document is http://www.corestandards.org/Files/MathEvidence.pdf.

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[i] Eight of these were high-performers on either TIMSS, PISA or both: Belgium, Canada [Alberta], Chinese Taipei, Finland, Hong Kong, Japan, Korea, and Singapore. England and Ireland, which have uneven performances on international assessments, were included because of their cultural links to the United States. China and India were included because of their growing global competitiveness.

[ii] Differences in language have a greater impact on the teaching and learning of language arts than of mathematics, so the teams looked primarily at English-speaking countries. All were high-performers on PISA except Singapore, which did not participate, and England, which as in mathematics was selected partly for its cultural links to the United States.

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APPENDIX B.1.4

ORC 3301.079 ACADEMIC STANDARDS – MODEL CURRICULUM

RATIONALE: COPY OF STATUTE REQUIRING OHIO'S STATE BOARD OF EDUCATION TO ADOPT THE COMMON CORE STANDARDS IN ENGLISH LANGUAGE ARTS AND MATHEMATICS AND OHIO-DEVELOPED STANDARDS IN SCIENCE AND SOCIAL STUDIES BY JUNE 2010 MEETING.

REFERENCED IN:
(B)(1)

3301.079 Ohio Revised Code: Academic standards - model curriculum

(A) (1) Not later than June 30, 2010, and at least once every five years thereafter, the [Ohio] state board of education shall adopt statewide academic standards with emphasis on coherence, focus, and rigor for each of grades kindergarten through twelve in English language arts, mathematics, science, and social studies.

The standards shall specify the following:

(a) The core academic content and skills that students are expected to know and be able to do at each grade level that will allow each student to be prepared for postsecondary instruction and the workplace for success in the twenty-first century;

(b) The development of skill sets as they relate to creativity and innovation, critical thinking and problem solving, and communication and collaboration;

(c) The development of skill sets that promote information, media, and technological literacy;

(d) The development of skill sets that promote personal management, productivity and accountability, and leadership and responsibility;

(e) Interdisciplinary, project-based, real-world learning opportunities.

(2) After completing the standards required by division (A)(1) of this section, the state board shall adopt standards and model curricula for instruction in computer literacy, financial literacy and entrepreneurship, fine arts, and foreign language for grades kindergarten through twelve. The standards shall meet the same requirements prescribed in divisions (A)(1)(a) to (e) of this section.

(3) The state board shall adopt the most recent standards developed by the national association for sport and physical education for physical education in grades kindergarten through twelve or shall adopt its own standards for physical education in those grades and revise and update them periodically.

The department shall employ a full-time physical education coordinator to provide guidance and technical assistance to districts, community schools, and STEM schools in implementing the physical education standards adopted under this division. The superintendent of public instruction shall determine that the person employed as coordinator is qualified for the position, as demonstrated by possessing an adequate combination of education, license, and experience.

(4) When academic standards have been completed for any subject area required by this section, the state board shall inform all school districts, all community schools established under Chapter 3314. of the Revised Code, all STEM schools established under Chapter 3326. of the Revised Code, and all nonpublic schools required to administer the assessments prescribed by sections 3301.0710 and 3301.0712 of the Revised Code of the content of those standards.

(B) Not later than March 31, 2011, the state board shall adopt a model curriculum for instruction in each subject area for which updated academic standards are required by division (A)(1) of this section and for each of grades kindergarten through twelve that is sufficient to meet the needs of students in every community. The model curriculum shall be aligned with the standards, to ensure that the academic content and skills specified for each grade level are taught to students, and shall demonstrate vertical articulation and emphasize coherence, focus, and rigor. When any model curriculum has been completed, the state board shall inform all school districts, community schools, and STEM schools of the content of that model curriculum.

All school districts, community schools, and STEM schools may utilize the state standards and the model curriculum established by the state board, together with other relevant resources, examples, or models to ensure that students have the opportunity to attain the academic standards. Upon request, the department of education shall provide technical assistance to any district, community school, or STEM school in implementing the model curriculum.

Nothing in this section requires any school district to utilize all or any part of a model curriculum developed under this division.

(C) The state board shall develop achievement assessments aligned with the academic standards and model curriculum for each of the subject areas and grade levels required by divisions (A)(1) and (B)(1) of section 3301.0710 of the Revised Code.

When any achievement assessment has been completed, the state board shall inform all school districts, community schools, STEM schools, and nonpublic schools required to administer the assessment of its

completion, and the department of education shall make the achievement assessment available to the districts and schools.

(D) (1) The state board shall adopt a diagnostic assessment aligned with the academic standards and model curriculum for each of grades kindergarten through two in English language arts and mathematics and for grade three in English language arts. The diagnostic assessment shall be designed to measure student comprehension of academic content and mastery of related skills for the relevant subject area and grade level. Any diagnostic assessment shall not include components to identify gifted students. Blank copies of diagnostic assessments shall be public records.

(2) When each diagnostic assessment has been completed, the state board shall inform all school districts of its completion and the department of education shall make the diagnostic assessment available to the districts at no cost to the district. School districts shall administer the diagnostic assessment pursuant to section 3301.0715 of the Revised Code beginning the first school year following the development of the assessment.

(E) The state board shall not adopt a diagnostic or achievement assessment for any grade level or subject area other than those specified in this section.

(F) Whenever the state board or the department of education consults with persons for the purpose of drafting or reviewing any standards, diagnostic assessments, achievement assessments, or model curriculum required under this section, the state board or the department shall first consult with parents of students in kindergarten through twelfth grade and with active Ohio classroom teachers, other school personnel, and administrators with expertise in the appropriate subject area. Whenever practicable, the state board and department shall consult with teachers recognized as outstanding in their fields.

If the department contracts with more than one outside entity for the development of the achievement assessments required by this section, the department shall ensure the interchangeability of those assessments.

(G) The fairness sensitivity review committee, established by rule of the state board of education, shall not allow any question on any achievement or diagnostic assessment developed under this section or any proficiency test prescribed by former section 3301.0710 of the Revised Code, as it existed prior to September 11, 2001, to include, be written to promote, or inquire as to individual moral or social values or beliefs. The decision of the committee shall be final. This section does not create a private cause of action.

(H) Not later than forty-five days prior to the initial deadline established under division (A)(1) of this section and the deadline established under division (B) of this section, the superintendent of public instruction shall present the academic standards or model curricula, as applicable, to the respective committees of the house of representatives and senate that consider education legislation. (I) As used in this section:

(1) "Coherence" means a reflection of the structure of the discipline being taught.

(2) "Focus" means limiting the number of items included in a curriculum to allow for deeper exploration of the subject matter.

(3) "Rigor" means more challenging and demanding when compared to international standards.

(4) "Vertical articulation" means key academic concepts and skills associated with mastery in particular content areas should be articulated and reinforced in a developmentally appropriate manner at each grade level so that over time students acquire a depth of knowledge and understanding in the core academic disciplines.

Amended by 128th General Assembly File No. 9, HB 1, § 101.01, eff. 10/16/2009.

APPENDIX B.2.1

ASSESSMENT CONSORTIA MOUS

RATIONALE: REQUIRED EVIDENCE FOR (B)(2). CONTAINS DOCUMENTATION OF OHIO'S PARTICIPATION IN THREE ASSESSMENT CONSORTIA: BALANCED ASSESSMENT CONSORTIUM; MOSAIC CONSORTIUM; SMARTER CONSORTIUM

REFERENCED IN:
(B)(2)

MOU for a State Consortium Developing Balanced Assessments of the Common Core Standards

This Non-Binding Memorandum of Understanding ("MOU") is entered into by and between the Balanced Assessment Consortium and Ohio. The purpose of this agreement is to establish a framework of collaboration for states in supporting assessment of the common core standards. The agreement also articulates tasks in support of a Multi-State Consortium in its implementation of an approved Standards and Assessment Section of a Race to the Top grant. The MOU outlines a set of working principles, the roles of states and local districts within the consortium, and a set of tasks that the Consortium would undertake.

Working Principles

A consortium of states developing a balanced assessment system for evaluating the common core standards would start with working principles derived from an examination of successful state systems in the U.S. and high-achieving systems internationally. For example:

1) **Assessments are grounded in a thoughtful, standards-based curriculum and are managed as part of a tightly integrated system of standards, curriculum, assessment, instruction, and teacher development**.

- Curriculum guidance is lean, clear, and focused on what students should know and be able to *do* as a result of their learning experiences. Assessment expectations are described in the curriculum frameworks or course syllabi and are exemplified by samples of student work.
- Curriculum and assessments are organized around a well-defined set of learning progressions within subject areas. These guide teaching decisions, classroom-based assessment, and external assessment.
- Teachers and other curriculum experts are involved in developing curriculum and assessments which guide professional learning and teaching. Thus, everything that comes to schools is well-aligned and pulling in the same direction.

2) **Assessments elicit evidence of actual student performance on challenging tasks that prepare students for the demands of college and career in the 21st century.** Curriculum and assessments seek to teach and evaluate a broad array of skills and competencies that generalize to higher education and work settings. They emphasize deep knowledge of core concepts within and across the disciplines, including problem solving, analysis, synthesis, and critical thinking, and include essays and open-ended tasks and problems, as well as selected response items.

3) **Teachers are involved in the development of curriculum and the development and scoring of assessments**. Scoring processes are moderated to ensure consistency and to enable teachers to deeply understand the standards and to develop stronger curriculum and instruction leading to greater student proficiency. The moderated scoring process is a strong professional learning experience that helps drive the instructional improvements that enable student learning, as teachers become more skilled at their own assessment practices and their development of curriculum to teach the standards. The assessment systems are designed to increase the capacity of teachers to prepare students for the contemporary demands of college and career.

4) **Assessments are structured to continuously improve teaching and learning**. Assessment *as*, *of*, and *for* learning is enabled by several features of assessment systems:

- The use of school-based, curriculum-embedded assessments provides teachers with models of good curriculum and assessment practice, enhances curriculum equity within and across schools, and allows teachers to see and evaluate student learning in ways that can feed back into instructional and curriculum decisions.

- Close examination of student work and moderated teacher scoring of both school-based components and externally developed open-ended examinations are sources of ongoing professional development that improve teaching.

- Developing both school-based and external assessments around learning progressions allows teachers to see where students are on multiple dimensions of learning and to strategically support their progress.

5) Assessment and accountability systems are designed to improve the quality of learning and schooling. Assessments aim to encourage and support the learning of ambitious intellectual skills in the way they are designed and used for informing teaching, learning, and schooling. Accountability systems publicly report outcomes and take these into account, along with other indicators of school performance, in a well-designed system focused on continual improvement for schools.

6) Assessment and accountability systems use multiple measures to evaluate students and schools.

Multiple measures of learning and performance are used to evaluate skills and knowledge. Students engage in a variety of tasks and tests that are both curriculum-embedded and on-demand, providing many ways to demonstrate and evaluate their learning. These are combined in reporting systems at the school and beyond the school level. School reporting and accountability are also based on multiple measures. Assessment data are combined with other information about schools' resources, capacities, practices, and outcomes to design intensive professional development supports and interventions that improve school performance.

7) New technologies enable greater assessment quality and information systems that support accountability.

New technologies enhance and transform the way the assessment process is developed, delivered, and used, providing adaptive tools and access to information resources for students to demonstrate their learning, and providing appropriate feedback by supporting both teacher scoring and computer-based scoring (now possible for both selected response and some forms of constructed-response items). By using technology to reduce costs for delivery of more open-ended assessment formats, scoring, and reporting, resources can be redirected to improvements in assessment quality.

Technology also organizes data about student learning, enhancing system accountability for instruction and reporting by providing more efficient, accurate, and timely information to teachers, parents, administrators, and policymakers. Technology helps to integrate information at as part of longitudinal data systems, contributing to a rich profile of accomplishment for every student.

State and Local Roles within a Consortium

States working within the Consortium would:

- Adopt and augment the Common Core standards as appropriate to their context.

- Create and deploy curriculum frameworks that address the standards—drawing on exemplars and tested curriculum models.
- Build and manage an assessment system that includes both on-demand and curriculum-embedded assessments that evaluate the full range of standards and allow evaluation of student progress. The Consortium may develop both joint assessments (commonly implemented by states) as well as other assessment tasks and items linked to the standards (and grounded in curriculum units) that can be incorporated into states' individual assessment plans for formative or summative purposes.
- Develop rubrics that embody the standards, and clear examples of good work, benchmarked to performance standards.
- Create oversight / moderation / audit systems for ensuring the comparability of locally managed and scored assessment components.
- Ensure that teacher and leader education and development infuse knowledge of learning, curriculum, and assessment.
- Implement high-quality professional learning focused on examination of student work, curriculum and assessment development, and moderated scoring.

Districts and schools would:

- Examine the standards and evaluate current curriculum, assessment, and instructional practice in light of the standards.
- Evaluate state curriculum guidance, and further develop and adapt curriculum to support local student learning, select and augment curriculum materials, and continually evaluate and revise curriculum in light of student learning outcomes.
- Incorporate formative assessments into the curriculum, organized around the standards, curriculum, and learning sequences to inform teaching and student learning.
- Participate in administering and scoring relevant portions of the on-demand and curriculum-embedded components of the assessment system, and examining student work and outcomes.
- Help design and engage in professional development around learning, teaching, curriculum, & assessment.
- Engage in review and moderation processes to examine assessments and student work, within and beyond the school.

Tasks the Consortium Would Undertake

The consortium of states would build on successful efforts already launched in a number of states, seeking to integrate the best knowledge and exemplars from existing efforts, so as to use resources efficiently, take advantage of well-tested approaches, and avoid reinventing the wheel. It would bring together leading curriculum and assessment experts to advise and support efforts to create a system for evaluating the Common Core, building on the most credible and well-vetted knowledge available in the field. With these supports, the Consortium could:

1. Support the Development of Curriculum Frameworks: When the Common Core standards have been released, vetted, and adopted, consortia of states would work with curriculum and assessment experts to develop (or adapt from previously successful work) curriculum frameworks, syllabi, and other materials mapped to the standards. There has been enormous investment in the United States in high-quality curriculum, for example through NSF and other

organizations at the national level, and in many states and districts. Other English-speaking nations have also developed high quality curriculum materials linked to standards and learning progressions that could be evaluated in this process. This effort would inventory and cull from efforts with a strong evidence base of success to support states in building out curriculum frameworks around which they can organize deeper curriculum development at the local level, state and local assessment development, instructional supports, and professional development.

2. Create a Digital Curriculum and Assessment Library: The results of this effort should ultimately be made available on-line in a digital platform that offers materials for curriculum building and, eventually, model syllabi for specific courses linked to the standards, formative and summative assessment tasks and instruments linked to the curriculum materials, and materials for training teachers and school leaders in both strategies for teaching specific curriculum concepts / units and assessment development and scoring. In addition, as described below, an electronic scoring platform supporting training, calibrating, benchmarking, and reporting would be developed and made available across the states.

3. Develop State and Local Assessments: The state consortium would work to create a **common reference examination, which includes selected-response, constructed response and performance components** aimed at higher-order skills, linked to the Common Core standards for grades 3-8, like the NECAP assessment recently developed by a set of New England states. This assessment would be designed to incorporate more rigorous and analytic multiple-choice and open-ended items than many tests currently include and would include strategically selected curriculum-embedded performance assessments at the classroom level that can be part of the summative evaluation, while also providing formative information.

These curriculum-embedded components would be developed around core concepts or major skills that are particularly salient in evaluating students' progress in English language arts and mathematics. (Eventually, work on science could be included.) Exemplars to evaluate and build upon are already available in many states and in nations like England that have developed a set of "tests and tasks" for use in classrooms that help teachers evaluate students' learning in relation to well-described learning progressions in reading, writing, mathematics, and other subjects.

Curriculum-embedded components would link to the skills evaluated in the "on-demand" test, allowing for more ambitious tasks that take more time and require more student effort than can be allocated in a 2 or 3-hour test on a single day; these components would evaluate skills in ways that expect more student-initiated planning, management of information and ideas, interaction with other materials and people, and production of more extended responses that reveal additional abilities of students (oral presentations, exhibitions, and product development, as well as written responses) that are associated with college and career success.

In the context of summative assessments, curriculum-embedded tasks would be standardized, scored in moderated fashion, and scores would be aggregated up to count as part of the external assessment. Curriculum-embedded assessments would also include marker tasks that are designed to be used formatively to check for essential understandings and to give teachers useful information and feedback as part of ongoing instruction. Thoughtful curriculum guidance would outline the scaffolding and formative assessment needed to prepare students to succeed on the summative assessments.

All components of the system would incorporate **principles of universal design** that seek to remove construct-irrelevant aspects of tasks that could increase barriers for non-native English speakers and students with other specific learning needs. In addition, designers who are skilled at developing linguistically supportive assessments and tests for students with learning disabilities would be engaged from the beginning in considering how to develop the assessments for maximum access, as well as how to design appropriate accommodations and modifications to enable as many students as possible to be validly assessed within the system.

The emphasis on evaluating **student growth over time** and on tying standards to a conception of learning progressions should encourage a growth oriented frame for both the "on-demand" examination and the more extended classroom assessments. The Consortium may consider the viability of incorporating computer-based adaptive testing that creates vertically scaled assessments based on the full range of learning progressions in ELA and math. This would allow students to be evaluated in ways that give greater information about their abilities and their growth over time. This approach would not preclude the evaluation of grade-level standards, which could be part of any students' assessment, nor would it preclude a significant number of constructed response, open-ended items, as the technology for machine-scoring structured open-ended items is now fairly well-developed. Strategic use of partial teacher scoring for these items would also be a desirable element of the system to support teachers' understanding of the standards and assessments, and their planning for instruction.

The emphasis on evaluating student growth should also inform the development of the curriculum-embedded elements of the system, which should be selected or developed to strategically evaluate students' progress along the learning continuum. Centrally developed tasks administered and scored by teachers with moderation (see below), using common rubrics, would be part of the set of reported scores. In states with experience and capacity, it may be possible to begin to incorporate information about student learning that teachers develop from their own classroom evidence, linked to the standards and learning progressions and guided by the curriculum frameworks. This could be an optional aspect of the Consortium's work for states and communities with interest and capacity.

At the **high school level**, the Consortium might explore one or both of two options for assessment:

- **Course- or syllabus-based systems** like those in England, Australia, Singapore, Hong Kong, Alberta (Canada), as well as the International Baccalaureate. Generally conceptualized as end-of-course-exams in this country, this approach should become a more comprehensive course assessment approach like that pursued in these other countries. Such an approach would include within-course performance assessments that count toward the examination score, as well as high-quality assessment end-of-course components that feature constructed response as well as selected response items. Within-course performance assessments would tap central modes of inquiry in the disciplines, ensuring that students have the opportunity to engage in scientific investigations, literary analyses and other genres of writing, speaking and listening; mathematical modeling and applications; social scientific research. Such an approach might require an ELA and math assessment at a key juncture that evaluates an appropriate benchmark level for high school standards, and then, as in high-achieving nations, allow for pursuit of other courses/ assessments that are selected by students

according to their interests and expertise. These could serve as additional information on the diploma for colleges and employers.

- **Standards-driven systems** that might include a more comprehensive benchmark assessment in ELA and mathematics complemented by collections of evidence that demonstrate students' abilities to meet certain standards within and across the disciplines. This set of assessments would allow more curriculum flexibility in how to meet the standards. Systems like these are used in some provinces in Canada and Australia, in states like Rhode Island, Wyoming, Nebraska, and New Hampshire, and in systems of schools like the New York Performance Standards Consortium, the Asia Society, and Envision Schools. Sometimes these sets of evidence are organized into structured portfolios, such as the Technology portfolio in New Hampshire and the broader Graduation portfolios in these sets of schools that require specific tasks in each content area, scored with common rubrics and moderation.

- **A mixed model** could combine elements of both course- and standards-driven models, allowing some demonstrations of proficiency to occur in any one of a range of courses (rather than a single, predetermined course) or even outside the bounds of a course, like the efforts by some states to allow students to pass courses via demonstrations of competence rather than seat time (e.g. NH, OH). Such a system could also include specific components intended to develop and display research and inquiry skills that might also be interdisciplinary, such as the Project Work requirements in England, Singapore, and the International Baccalaurate, and the Senior Project requirements in Pennsylvania and Ohio.

4. Develop Moderation and Auditing Systems for Teacher-Scored Work: The consortium would develop protocols for managing moderation and auditing systems and training scorers so as to enable comparable, consistent scoring of performance assessments. In other nations' and states' systems that include these features routinely, procedures have been developed to ensure both widespread teacher involvement – often as part of professional development time – and to create common standards and high levels of reliability in evaluating student work. A range of models are possible, and the consortium would serve as a resource to individual states in developing and implementing strong, efficient approaches.

5. Develop Technology to Support the Assessment System: Technology should be used to enhance these assessments in a number of ways: by delivering the assessments; in on-line tasks of higher-order abilities, allowing students to search for information or manipulate variables and tracking information about the students' problem-solving processes; in some cases, scoring the results or delivering the responses to trained scorers / teachers to assess from an electronic platform. Such a platform may also support training and calibration of scorers and moderation of scores, as well as efficient aggregation of results in ways that support reporting and research about the responses. This use of technology is already being used in the International Baccalaureate assessment system, which includes both on-demand and classroom-based components.

In order to gain the efficiency and cost benefits of machine scoring and the teaching and learning benefits of teachers' moderated scoring, a mixed system could be developed where computer-based scoring is incorporated on constructed response tasks where useful – though teachers would score some of these tasks for anchoring and learning purposes – while other tasks that require human scoring engage most teachers in scoring to support improvements in instruction.

RESPONSIBILITIES OF ALL SEAs PARTICIPATING IN THE CONSORTIUM

1) Each participating SEA in the Consortium will appoint a key contact person.

2) These key contacts from each State will maintain frequent communication with the parties administering the Balanced Assessment Consortium to facilitate cooperation under this MOU.

3) Participating SEA grant personnel will work together to determine appropriate timelines for project updates and status reports throughout the whole grant period.

This Non-binding Memorandum of Understanding shall be effective beginning with the date of the last signature hereon:

SEA Superintendent/- Participating State Chief/Commissioner (or equivalent authorized signatory)

Deborah S. Delisle

Signature

January 6, 2010

Date

Deborah S. Delisle

Print Name

Superintendent of Public Instruction

Title

Please email this signed page to

Tammy Morrill
Tammy.Morrill@maine.gov

****PLEASE email this signed page only by January 7, 2010****

MOSAIC

Multiple Options for Student Assessment and Instruction Consortium

Memorandum of Understanding

This Non-Binding Memorandum of Understanding ("MOU") is entered into by and between the lead state(s): Wisconsin, Nebraska, and Missouri, and Ohio. The purpose of this agreement is to establish a framework of collaboration, as well as articulate tasks in support of a Multi-State Consortium in its implementation of an approved Standards and Assessment Section of a Race to the Top grant. States might choose to participate in this Consortium even if their Race to the Top grant application is not funded.

I. PROJECT PROPOSAL

A. PARTICIPATING SEA RESPONSIBILITIES

A Consortium of states proposes to build a balanced assessment system of formative and benchmark assessment in a Race to the Top grant application. A state might choose to participate in this agreement through funding of its own choosing. The name of the system to be built is Multiple Options (for) Student Assessment (and) Instruction Consortium (MOSAIC). The MOSAIC system will be designed to complement a summative assessment system aligned to the Common Core such as the one being proposed under the SMARTER Consortium or any other Consortia that may develop a summative assessment aligned to the Common Core.

The proposed Consortium tasks and activities described in the Race to the Top application include the tasks that follow below. States participating in the Consortium will need to determine which of the tasks they wish to undertake with this Consortium. This decision may be made after the submission of the MOU.

Task 1.1.1 COMMON CORE: **The consortium states will adopt the Common Core Standards.** Within one year of state adoption, all districts within the consortium states will have adopted the Common Core Standards, will have integrated the standards to their local curriculum, and will have aligned professional development to familiarize staff with the college and career-ready expectations.

Task 1.1.2 PROFESSIONAL DEVELOPMENT—CURRICULAR INTEGRATION: **The consortium states will develop and build professional development materials around the instructional integration of Common Core standards.** This will include curricular frameworks aligned to the Common Core, defining of learning progressions within content areas, materials on instructional strategies, and suggested interventions. All materials will be disseminated across the states within the consortium and made available in a web-banked system.

Task 1.1.3 INSTRUCTIONAL SUPPORT SYSTEM: **The consortium states will have access to a computerized system that will provide opportunities for districts to** load the system with formative/local assessment tasks, items, and instructional materials including performance assessments. These can be shared across states, and customized for local use. All will be aligned with the Common Core and will be available electronically to students and teachers with timely data turn-around.

Task 1.1.4 STATE FLEXIBILITY: **Each state will define the level at which districts/schools in their state participate in the formative/benchmark assessment system. This may vary from state to state, depending on how each state defines voluntary versus optional participation.** (One level of required participation within a state might be to require the state's persistently low performing schools and districts to participate in this comprehensive assessment system, and to require that student performance data be tracked over time for growth and improvement.)

Task 1.1.5 REPORT DEVELOPMENT: **Each state will contribute to the development of district, school, and student-level performance reports on the Common Core.** Reports will be generated in parent-friendly and teacher-friendly formats to track progress on the Common Core standards. Emphasis will be placed upon growth and improvement over time, with customized feedback about suggested next-steps based on the student's performance.

Task 1.1.6 BENCHMARK ASSESSMENT SYSTEM: **Each state will contribute to the development of a benchmark assessment item bank with the capabilities for adaptive testing.** From this item bank, common diagnostic/benchmark tests will be developed across the "total package" consortia states through a consortia bid process to a single vendor. Each state will contribute field-tested items to the bank. This bank will be used to diagnose student strengths and deficiencies and serve as an "early warning" system. Common performance standards and cut scores for these diagnostic/benchmark tests will be set across the consortium of states. The common tests will be loaded into the computerized system for immediate data turn around. The common tests will be available to districts/schools within each state as defined by that state – varying levels of participation will require different cost to each state to implement, most likely on a per-pupil basis. (States participating at the Partner or Associate level may access items in the bank, but may not utilize the consortia-developed common assessments).

Task 1.1.7 PROFESSIONAL DEVELOPMENT—USING DATA TO IMPROVE INSTRUCTION: **Each state will contribute to the development of hands-on training and workshop modules for educators that focus on user-friendly strategies to make data-informed instructional decisions based upon formative, benchmark, and summative assessment results.** All materials will be disseminated across the collaborating states.

The selection of tasks by each SEA participating in the Consortium will determine the level of participation of each respective state. There are three levels of participation that may be selected by each SEA in the Consortium. While the level of participation does not need to be selected at the time of signing the MOU, by its signature the state is indicating its interest in participating at a minimum of Level Three.

- **Level One: "Total Package"** – The state participates in **all seven tasks** with a common vendor, and shares in all resources available through the project, including all formative/benchmark assessments developed under the project. The state has an active role in developing, disseminating and sharing professional development tasks and materials.

- **Level Two: "Partner"** – The state contributes to the item bank (**Tasks 1.1.1, 1.1.2, and 1.1.6**) and professional development materials, and may use components in their state for state-specific work. (ex: state does not use common assessments developed from the bank; instead, uses the bank to create their own assessment tools with a separate vendor)

- **Level Three: "Associate"** – The state contributes to the item bank, (**Task 1.1.6 only**) and may use components in their state for state-specific work. The state does not contribute to or have access to professional development components developed through the project.

B. RESPONSIBILITIES OF ALL SEA PARTICIPATING IN THE CONSORTIUM

1) Each participating SEA in the Consortium will appoint a key contact person for the Race to the Top grant.

2) These key contacts from each State and the lead state(s) will maintain frequent communication to facilitate cooperation under this MOU.

3) Participating SEA grant personnel will work together to determine appropriate timelines for project updates and status reports throughout the whole grant period.

This Non-binding Memorandum of Understanding shall be effective beginning with the date of the last signature hereon:

SEA Superintendent/- Participating State Chief/Commissioner (or equivalent authorized signatory)

Deborah S. Delisle — January 6, 2010

Signature — Date

Deborah S. Delisle — Superintendent of Public Instruction

Print Name — Title

Authorized Lead SEA Official - Lead State
By its signature below, the lead state(s) hereby accepts the SEA as a Participating SEA in the Consortium

Official State Designee — Date

Print Name — Title

Please email this signed page by January 5, 2010 to

lynette.russell@dpi.wi.gov **and** **pat.roschewski@nebraska.gov**

or fax to

(Fax) 608.266.8770 **and** **(Fax) 402.471.4311**

****PLEASE email this signed page only by January 5, 2010****

Summative Multi-State Assessment Resources for Teachers and Educational Researchers (SMARTER) Memorandum of Understanding

This non-binding Memorandum of Understanding (MOU) is entered into by and between the states of Delaware, Hawaii, Idaho, Nebraska, Oregon, Tennessee, Utah, Washington, Wisconsin and Wyoming (referred to as "Lead States") and Ohio ("Your State"), as a participating state. The purpose of this MOU is to establish a consortium of states (Consortium) to serve as a framework of collaboration as required to submit a proposal for a Multi-State Consortium Common Assessment Race to the Top grant. The working title for the proposal is the "Summative Multi-State Assessment Resources for Teachers and Educational Researchers" (SMARTER). In the event the proposal is approved and fully funded by the U.S. Department of Education, the final proposal will serve as the official agreement.

1. States in the Consortium will assign a key contact to assist in the drafting of the proposal, and to the extent practicable will engage their teachers, school and district administrators and institutions of higher education in the development and review of the proposal to ensure the design of the assessment system meets the needs of a variety of stakeholders.

2. States may withdraw from the Consortium prior to the establishment of the draft budget for the proposal. The anticipated date for the draft budget is 30 days before the proposal is due to the U.S. Department of Education.

3. States in the Consortium agree in principle to the following elements to be included in a proposal to the U.S. Department of Education:
    a. The purpose of the proposal is to develop a high quality summative assessment system that is aligned to the Common Core Standards, mutually adopted by Consortium states.
    b. The assessment system will use online adaptive tests, innovative item design and open-ended items to assess the full breadth of cognitive demand described by the Common Core Standards.
    c. Proposal writing will be governed by staff from the Lead States that have agreed to this MOU. Governance protocols for proposal development will be established by 2/15/2010.
    d. If funded, the assessment system will be governed by staff from states that are members of the Consortium, and will be guided with the support of selected technical experts. Governance protocols for the assessment system will be a deliverable of the grant.
    e. The assessment system will include teachers, school and district administrators, state departments of education and institutions of higher education in the design, administration, scoring and reporting of the assessments.
    f. States in the Consortium will report student, school, district and state results based upon a single common set of rigorous achievement standards. Additionally, states in the consortium may choose to report student achievement benchmarked to a variety of achievement standards including NAEP, international assessments, and benchmarks predictive of student success in college and careers.
    g. States in the Consortium will use the summative assessment system to measure school and district effectiveness to meet federal accountability requirements
    h. The assessments will be designed based on principles of Universal Design and will be consistent with professional standards as described by the APA/AERA/NCME *Standards for Educational and Psychological Testing*.
    i. The Consortium will coordinate with the MOSAIC consortium as appropriate and with other interested multi-state formative and benchmark assessment initiatives so that schools and districts will have access to a variety of high quality instructionally supportive assessment options that together yield a coherent balanced assessment system.
    j. The assessment system will use open source software applications accessible to any vendor procured by states in the Consortium.

k. States in the Consortium will create and adhere to common administration guidelines including accommodations and allowable tools and assistive devices based on high quality research regarding student learning and assessment.
l. Grant funds allocated to LEAs will in part be used to ensure participation opportunities for teachers. The estimated allocation and purpose of funds will be described in the budget section of the proposal.
m. States in the Consortium will participate in common procurement practices and deliverables to the extent the procurements are directly related to Consortium-wide activities described in the proposal. Lead states will construct a procurement process taking into account minimum procurement standards used in all participating states.
n. States in the Consortium will share a common reporting format consistent with a goal of aligning reporting systems.
o. States in the Consortium will share common security protocols regarding test items.
p. States in the Consortium will work with their institutions of higher education and teacher preparation institutions to ensure teachers are prepared to use and contribute to the summative assessment system.

This non-binding Memorandum of Understanding shall be effective beginning with the date of the last signature hereon:

Participating State SEA Superintendent/Chief/Commissioner
(or equivalent authorized signatory)

Deborah S. Delisle — Signature
January 6, 2010 — Date

Deborah S. Delisle — Print Name
Superintendent of Public Instruction — Title

Authorized Oregon SEA Official, on behalf of Lead States
By its signature below, the lead states hereby accept the SEA as a Participating SEA in the Consortium

Official State Designee — Signature
January 6, 2010 — Date

Lillie Gray — Print Name
Interim Director Procurement Services — Title

Please sign and date this agreement by no later than January 8th, 2010.
FAX signed copy to Tony Alpert at: (503) 378-5156 or email scanned copy to Tony.Alpert@state.or.us

APPENDIX B.2.2

LISTS OF STATES PARTICIPATING IN ASSESSMENT CONSORTIUM

RATIONALE: REQUIRED EVIDENCE FOR (B)(2).

REFERENCED IN:
(B)(2)

Balanced Assessment Consortia Participating States (36 States)

State
Alabama
Arizona
Arkansas
California
Connecticut
Delaware
Illinois
Indiana
Georgia
Iowa
Kansas
Kentucky
Maine
Maryland
Massachusetts
Michigan
Mississippi
Missouri
Montana
Nebraska
New Hampshire
New Jersey
North Carolina
North Dakota
Ohio
Oklahoma
Pennsylvania
Rhode Island
South Carolina
South Dakota
Tennessee
Utah
Washington DC
West Virginia
Wisconsin
Wyoming

States Participating in the MOSAIC Consortium

The following states have submitted a signed Memorandum of Understanding (MOU) to participate in the Multiple Options for Student Assessment and Instruction Consortium (MOSAIC) consortium to provide high-quality summative assessments. Listed below are the states that have submitted a signed MOU to participate in MOSAIC.

State	Date MOSAIC MOU-Received	Lead or Participating State
Delaware	January 5th, 2010	Participating
Hawaii	December 31st, 2009	Participating
Idaho	December 22nd, 2009	Participating
Illinois	January 8th,2010	Participating
Iowa	January 5th, 2010	Participating
Kansas	January 5th, 2010	Participating
Kentucky	January 5th, 2010	Participating
Maryland	January 5th, 2010	Participating
Michigan	January 4th, 2010	Participating
Minnesota	January 8th,2010	Participating
Mississippi	January 5th, 2010	Participating
Missouri	January 5th, 2010	Lead
Montana	January 7th, 2010	Participating
Nebraska	January 6th, 2010	Lead
New Jersey	January 5th, 2010	Participating
North Dakota	January 5th, 2010	Participating
Ohio	January 6th, 2010	Participating
Oklahoma	January 10th, 2010	Participating
Oregon	January 6th, 2010	Participating
Pennsylvania	January 8th, 2010	Participating
South Carolina	January 6th, 2010	Participating
South Dakota	January 4th, 2010	Participating
Tennessee	January 5th, 2010	Participating
Utah	January 5th, 2010	Participating
Washington	January 4th, 2010	Participating
Wisconsin	January 6th, 2010	Lead
Wyoming	January 4th, 2010	Participating
Total # of states that have submitted signed MOUs for MOSAIC*	27	

* As of 1/15/2010

States participating in the SMARTER consortium (as of 1/14/2010)

The following states have submitted a signed Memorandum of Understanding (MOU) to participate in the Summative Multi-State Assessment Resources for Teachers and Educational Researchers (SMARTER) consortium to provide high-quality summative assessments.

State	Date SMARTER MOU-Received	Lead or Participating State
Nebraska	January 4th, 2010	Lead
Washington	January 4th, 2010	Lead
Hawaii	January 4th, 2010	Lead
Wyoming	January 5th, 2010	Lead
Utah	January 5th, 2010	Lead
Tennessee	January 5th, 2010	Lead
Wisconsin	January 6th, 2010	Lead
Kentucky	January 6th, 2010	Participating
Kansas	January 6th, 2010	Participating
Minnesota	January 6th, 2010	Lead
Michigan	January 6th, 2010	Lead
Ohio	January 6th, 2010	Participating
South Carolina	January 6th, 2010	Participating
Oregon	January 6th, 2010	Lead
Montana	January 8th, 2010	Participating
Illinois	January 8th, 2010	Lead
Idaho	January 7th, 2010	Lead
Delaware	January 7th, 2010	Lead
Mississippi	January 11th, 2010	Participating
District of Columbia	January 11th, 2010	Participating
California	January 12th, 2010	Participating
Colorado	January 13th, 2010	Lead
New York	January 14th, 2010	Lead
Total # of states that have submitted signed MOUs for SMARTER	23	

Listed below are the states that have submitted a signed MOU to participate in SMARTER. In addition, also included are those states that have submitted formal statements of their intent to participate in SMARTER, but are not able to submit a signed MOU in time for the Race To the Top first round application deadlines.

State	Status of SMARTER MOU
Nebraska	Signed
Washington	Signed
Hawaii	Signed
Wyoming	Signed
Utah	Signed
Tennessee	Signed
Wisconsin	Signed
New Mexico	To be signed after AG review
Kentucky	Signed
Kansas	Signed
Minnesota	Signed
Michigan	Signed

State	Status of SMARTER MOU
Ohio	Signed
South Carolina	Signed
Oregon	Signed
Montana	Signed
Illinois	Signed
Idaho	Signed
Delaware	Signed
Mississippi	Signed
District of Columbia	Signed
Colorado	Signed
California	Signed
New York	Signed
Anticipated total # of states that will participate in SMARTER	**24**

APPENDIX B.3.1

LIST OF NETWORKS AND ORGANIZATIONS SUPPORTING STANDARDS IMPLEMENTATION

RATIONALE: DOCUMENT LISTING PUBLIC AND PRIVATE ORGANIZATIONS THAT WILL PROVIDE SUPPORT AT THE STATE, REGIONAL AND LOCAL LEVELS THROUGH THE PROCESS OF IMPLEMENTING THE COMMON CORE STANDARDS.

REFERENCED IN:
(B)(3)

List of Networks and Organizations Supporting Standards Implementation

Ohio has a rich tradition of collaborative work around the implementation of standards and assessments. The work has been lead and supported by a variety of organizations and entities in a variety of ways. It is expected that this will continue with the transition to enhanced standards and high quality assessments. In addition to the two organizations mentioned in the body of the proposal, ORC and OSLN, the following provide examples of the groups that will support the transition:

- Battelle for Kids
- Buckeye Association for School Administrators
- Curriculum-based Professional Associations (Ohio Council for the Social Studies, Ohio Council of Teachers of English Language Arts, Ohio Council of Teachers of Mathematics, Ohio Council of the International Reading Association, Science Education Council of Ohio)
- Early Childhood Quality Network
- Educational Service Centers (Regional entities which serve as an official conduit and delivery system for Ohio's statewide school improvement and education reform efforts)
- eTECH Ohio
- High Aims and SMART Consortia
- Higher Education (The higher education system in Ohio supports PK-12 education in a variety of important ways. There are centers and outreach programs at nearly every institution that work directly with schools and LEAs in their region or statewide. Just a few of the representative examples are: The Ohio State University Mathematics Coaches Program; Akron University-Center of Literacy; Southeast Ohio Center for Excellence in Science and Mathematics at Ohio University; Center for Mathematics & Science Education, Teaching & Technology at John Carroll University)
- InfOhio
- KnowledgeWorks
- Ohio Academy of Science
- Ohio Association of Career and Technical Education
- Ohio Association of Supervision and Curriculum Development
- Ohio Board of Regents
- Ohio Coalition for the Education of Children with Disabilities
- Ohio Education Association
- Ohio Education Technology Agencies (CET, Educational Technology for Southeast Ohio, Instructional Technology Services of Central Ohio, Northwest Ohio Educational Technology, Southwestern Ohio Instructional Technology Association, Western Reserve Public Media, Public Broadcasting Foundation of Northwest Ohio, WVIZ/PBS Ideastream)
- Ohio Federation of Teachers
- Ohio Mathematics and Science Coalition
- State Support Teams
- Teaching and Learning Collaborative

APPENDIX C.1.1

DATA QUALITY CAMPAIGN'S SUMMARY OF OHIO'S COMPLIANCE WITH 10 ESSENTIAL ELEMENTS OF A HIGH QUALITY LONGITUDINAL DATA SYSTEM

RATIONALE: DOCUMENT INDICATING THAT OHIO MEETS 9 OF THE 10 ELEMENTS IDENTIFIED AS ESSENTIAL COMPONENTS OF A HIGH-QUALITY LONGITUDINAL DATA SYSTEM BY THE DATA QUALITY CAMPAIGN.

REFERENCED IN:
(C)(1)

DATA QUALITY CAMPAIGN
Using Data to Improve Student Achievement
www.DataQualityCampaign.org

OHIO

DQC 2009 Annual Survey Update and State Progress Report

The Data Quality Campaign (DQC) was launched in 2005 to help states develop robust longitudinal data systems that can provide policymakers and educators with information to help adjust policies and practices to improve student achievement. The DQC has identified 10 Essential Elements of a robust data system (see below) and 10 Actions all states must take to ensure effective use of data (see reverse side).

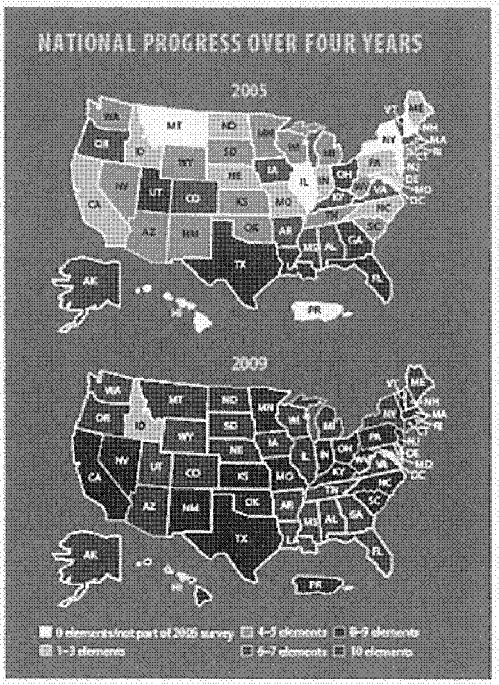
State Status on the 10 Essential Elements

Element		State Status
1.	A unique student identifier	✓
2.	Student-level enrollment, demographic and program participation information	✓
3.	The ability to match individual students' test records from year to year to measure academic growth	✓
4.	Information on untested students	✓
5.	A teacher identifier system with the ability to match teachers to students	✓
6.	Student-level transcript information, including information on courses completed and grades earned	✓
7.	Student-level college readiness test scores	✓
8.	Student-level graduation and dropout data	✓
9.	The ability to match student records between the P–12 and postsecondary systems	✗
10.	A state data audit system assessing data quality, validity and reliability	✓

Key Policy Questions

States that have all 10 Essential Elements have the capacity to answer key policy questions. Based on survey responses, Ohio has the ability to answer the following key policy questions:

▷ Which schools produce the strongest academic growth for their students? *(Elements 1, 2, 3, 4)*	YES
▷ Which middle school achievement levels indicate that a student is on track to succeed in rigorous courses in high school? *(Elements 1, 3, 6, 7)*	YES
▷ Does the state have the necessary elements to calculate a longitudinal graduation rate, according to the calculation agreed to in the 2005 National Governors Association compact? *(Elements 1, 2, 8, 10)*	YES
▷ What high school performance indicators (e.g., enrollment in rigorous courses or performance on state tests) are the best predictors of students' success in college or the workplace? *(Elements 1, 3, 6, 7, 8, 9)*	NO
▷ What percentage of high school graduates require remedial education in college? *(Elements 1, 8, 9)*	NO
▷ Which teacher preparation programs produce graduates whose students have the strongest academic growth? *(Elements 1, 3, 4, 5)*	YES



State Contact
Beth Juillerat, *Chief Information Officer* ■ Ohio Department of Education ■ beth.juillerat@ode.state.oh.us

For additional information on your state's results, go to www.DataQualityCampaign.org.

OHIO

State Higher Education Executive Officers (SHEEO)
15 Characteristics of an Ideal Postsecondary Data System

	Characteristics	State Status
1.	A Unique Statewide Student Identifier.	☑
2.	Student-Level Enrollment, Degree Completion, and Demographic Data for All Public Colleges and Universities.	☑
3.	Student-Level Financial Aid Data.	☑
4.	Student-Level Transfer Data.	☑
5.	Student-Level Persistence and Graduation Data.	☑
6.	Student-Level (1) Remediation Data and (2) Developmental Education Participation and Success Data.	☑
7.	Student-Level Course/Transcript-Level Data.	☑
8.	Student-Level Data on Assessed Academic Achievement.	x
9.	Privacy Protection for All Individually-Identifiable Student Records.	☑
10.	The Ability to Match Student Records with Data on K-12 Educational Activities.	x
11.	The Ability to Match Student Records with Data on Employment.	☑
12.	Inclusion of Independent and For-Profit Institutions of Higher Education.	x
13.	A Single State-Level Student Unit Record (SUR) System for All Public Institutions.	☑
14.	Data Audit System Assessing Data Quality, Validity, and Reliability.	☑
15.	Alignment with Broader State Goals, Demonstrated Usability, and Sustainability.	☑

APPENDIX C.1.2

ABSTRACT OF OHIO'S FEDERAL STATE LONGITUDINAL DATA SYSTEMS GRANT 2005

RATIONALE: ABSTRACT OF OHIO'S 2005 FEDERAL STATE LONGITUDINAL DATA SYSTEMS GRANT WHICH PROVIDES THE FOUNDATION FOR OHIO'S PLANNED LONGITUDINAL DATA WORK THROUGH RTTT.

REFERENCED IN:
(C)(1)

2005 State Longitudinal Data Systems Grant Abstract
Project Title: Longitudinal Data System
Funding amount requested: $5.6 M in total funding for three years

The major focus of the proposed work: The Longitudinal Data System (LDS) is a key element in the Ohio Department of Education's (ODE) commitment to create and sustain a unified statewide data exchange system to address federal and state directives for timely and accurate data and to serve the agency's customers— students, teachers, school districts, researchers and regional information centers. Using School Interoperability Framework (SIF), Ohio will have a common language for representing data and a reliable, secure and consistent protocol for sharing data vertically from the local to the state to the federal level. The expansion of value-added information will serve as a self-inquiry system for teachers and principals to determine the effects of schooling. Aligned to the No Child Left Behind Act of 2001, LDS is based on the four basic principles of stronger accountability, increased flexibility and local control, expanded options for parents and an emphasis on proven teaching and learning strategies.

This focus is a lever of change for the Ohio data system: Ohio is in the midst of a data system transition that began in 1998 when a change in state legislation authorized the reporting of personally unidentifiable student level data via the use of a unique data verification code. In 2002, through the use of a third-party administrator (IBM), Ohio implemented the Statewide Student Identification System (SSID) to assign unique permanent identification numbers to students. ODE began collecting unidentifiable individual student data in school year 2002-2003.

While changes were made to the Education Management Information System (EMIS) to support the collection of student level data, much of the system functionality remains unchanged from the 1990's system design. EMIS was designed to process and manage aggregated student data not to manage individual student level records over time. As a result, even though ODE now has student level data, ODE's ability to efficiently and effectively manage the data and its ability to perform or facilitate statewide longitudinal data analysis to improve student achievement is limited. While ODE has made significant investments in various technologies and development efforts, it has not been afforded the resources necessary to design and develop the necessary system components to fully realize the benefits of the data and ensure appropriate use of data.

Key strategies to align federal, state, regional, district, school and classroom levels: LDS will build upon a statewide data system by creating the following products:

- Data definition and data format standards for shared data
- Standard transfer mechanism for sharing data
- Relational database to efficiently manage longitudinal data on student records assigned permanent unique identification numbers
- Comprehensive data dictionary to support reporting of quality data and appropriate, consistent use and representation of data
- Enterprise data warehouse for all program areas, facilitates longitudinal data analysis on student achievement and links students to teachers via course.
- Appropriate and secure access to data by districts, legislators, general public, and researchers
- Decision support tools/applications to analyze the data
- Automated vertical reporting to the US Department of Education
- Professional development for educators on using data
- Evaluation of effectiveness of the LDS

APPENDIX C.1.3

ABSTRACT OF OHIO'S FEDERAL STATE LONGITUDINAL DATA SYSTEMS GRANT 2009

RATIONALE: ABSTRACT OF OHIO'S 2009 FEDERAL STATE LONGITUDINAL DATA SYSTEMS GRANT, WHICH IS CURRENTLY UNDERWAY, COMPLEMENTING OHIO'S PLANNED LONGITUDINAL DATA WORK THROUGH RTTT.

REFERENCED IN:
(C)(1)

2009 State Longitudinal Data Systems Grant Abstract
Ohio: Taking the Necessary Actions to Ensure the Effective Use of Data
Funding amount requested: $5,135,883

Ohio's P-12 and higher education data systems are highly regarded at the state and national levels and both contain a wealth of longitudinal information and decision support capabilities for their stakeholders. Additionally, two previously awarded Statewide Longitudinal Data System (SLDS) grants are enabling Ohio to improve system interoperability through the implementation of data standards based upon the Schools Interoperability Framework (SIF) for both data reporting to the state and student records exchange between local education agencies.

However, gaps in the system still exist. The current P-12 student data system within ODE cannot be linked to data on students served by early childhood programs or services funded within other state agencies, nor can it be linked to postsecondary education student data. Longitudinal student data exists in the P-12 data warehouse but the focus of analysis has been on building and district performance for accountability purposes rather than for longitudinal analysis of student achievement, teacher effectiveness or program effectiveness.

The Ohio Department of Education (ODE) and the Ohio Board of Regents (OBR) are committed to building a high quality P-20 SLDS that supports continuous improvement at all levels of the education system. ODE and OBR are dedicated to taking the actions necessary to ensure that Ohio's SLDS will be used to identify early childhood programs that are associated with strong school readiness outcomes, identify programs that encourage students to stay in school, identify students who are falling behind and implement remediation strategies, provide information on teacher and principal effectiveness and determine students' preparation to meet the demands of postsecondary education and the 21st century workforce.

State Legislative Changes & Interagency Collaboration Support a P-20 SLDS

Recent state legislative changes require that all early childhood programs, services and funding currently administered by multiple state agencies be administered by ODE. Legislation also requires the development of a standard high school transcript format for sharing data with postsecondary institutions. Proposed legislation would enable the use of the P-12 student identifier by higher education and allow the creation of a single P-20 data repository. Collaborative discussions between the various state agencies and the governor's office occur on a regular basis including two formal groups -the Early Childhood Cabinet and College and Career Readiness Policy Institute.

Proposed Actions for Building a P-20 SLDS and Ensuring Effective Use of Data

Ohio is requesting funds to expand the ability of its SLDS to link and share student data, to ensure data can be accessed by stakeholders, to build the capacity for effective use of data and to provide professional development and training to stakeholders to ensure effective use of data. The outcomes will include:

- Development of an early childhood data system integration plan
- Implementation of an electronic transcript brokerage service for sharing transcript data between P-12 and Higher Education
- Expansion of Ohio's Statewide Longitudinal Data Warehouse to facilitate analysis of program effectiveness and to address other key policy questions
- Development of reporting and analysis user tools to address key policy questions and ensure transparency of data reporting

APPENDIX C.1.4

OVERVIEW OF OHIO'S PARTICIPATION IN THE CENTER FOR EDUCATIONAL LEADERSHIP AND TECHNOLOGY'S TEACHER-STUDENT DATA LINK PROJECT

RATIONALE: ABSTRACT OF THE TEACHER-STUDENT DATA LINK (TSDL) PROJECT, FUNDED BY THE BILL & MELINDA GATES FOUNDATION AND CONDUCTED BY THE CENTER FOR EDUCATIONAL LEADERSHIP AND TECHNOLOGY (CELT) WITH GUIDANCE AND DISSEMINATION SUPPORT FROM THE DATA QUALITY CAMPAIGN (DQC). .

REFERENCED IN:
(C)(1)

Abstract

The Teacher-Student Data Link (TSDL) Project is funded by the Bill & Melinda Gates Foundation and conducted by the Center for Educational Leadership and Technology (CELT) with guidance and dissemination support from the Data Quality Campaign (DQC). This project is a cross-state, collaborative effort focused on developing a common, best practice definition of "Teacher of Record" and business processes for collecting and validating linked teacher and student data. This important initiative brings five states together to leverage their collective experiences, knowledge, and resources to determine a common definition and approach to one of the most critical components of their data systems and a key step in using accountability data to increase student learning.

In support of the TSDL project, CELT will be assisting the Arkansas, Florida, Georgia, Louisiana, and Ohio Departments of Education – and three of their local education agencies (LEAs) in conducting a comprehensive needs assessment of the data collection, verification, storage, and reporting processes and systems related to linked teacher-student and assessment data. This analysis will include the types of collaboration and communication between the SEAs and the LEAs, and the appropriate program areas within the SEA. CELT's field work and analysis extends to the school district and the school in order to assess how they collect data and verify its quality.

Following the assessment phase, each SEA will partner with its three LEAs to pilot TSDL recommendations with technical assistance from CELT. These pilot initiatives will focus on improving the policies, processes, and data systems from the classroom to the state level as a way of improving/expanding the alignment of teacher and student data.

Throughout the project, CELT will work closely with the Data Quality Campaign (DQC) and incorporate its Ten Essential Actions in the TSDL project. CELT staff will assist DQC with policy reviews and dissemination of project activities, learnings, and results to other SEAs and national education associations.

The TSDL work is structured to provide the participating SEAs and LEAs with support, guidance, and technical assistance throughout the two-year project. The major deliverables include:

- Contemporary research and emerging best practices.
- SEA / LEA specific assessment and needs analysis reports.
- Cross-state report with short- and long-term recommendations.
- Common definition of "Teacher of Record" with associated policies, processes, and technology architecture that will guide and inform implementation.
- Processes to support valid and reliable use of unique student and teacher identifiers.
- Strategies for validating teacher and student profiles and classroom rosters.
- Case studies that can be used for replication at the SEA / LEA level.
- Database of research, best practices, and action plans.
- Data models for collecting, reporting, and updating the Teacher-Student Data Link.

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Project Director:	Rick Rozzelle, Center for Educational Leadership and Technology (CELT), Tel. (704) 249-2112, rrozzelle@celtcorp.com
Contractor:	Center for Educational Leadership and Technology 65 West Boston Post Road Marlborough, MA 01752 Tel: 508-624-4474 Fax: 508-624-6565 Website: www.celtcorp.com
Project Manager:	Dr. Nancy Wilson, Center for Educational Leadership and Technology (CELT), Tel. (774) 249-9368, nwilson@celtcorp.com
Project Timeline:	October 2009 – October 2011
Participants:	• State Education Agencies – Arkansas, Florida Georgia, Ohio, and Louisiana • Three Local Education Agencies (LEAs)
Project Methodology:	• Comprehensive Research Review • Assessment and Needs Analysis – Key Stakeholder Interviews – Document Reviews – Focus Groups – Web Sessions • Roster Validation • Web Survey • Pilot Implementation and Review

Project Milestones:		
	• Organize Project, Plan Site Visits, Review Research and Best Practices	October – December 2009
	• Conduct SEA and LEA Site Visits	January – February 2010
	• Connect cross-state SEA teams	February – October 2011
	• SEA / LEA Assessment Reports with Short / Long Term Recommendations	March 2010
	• Develop Case Studies and Cross-state Analysis Report	April 2010
	• Sub-Grant Awards to Pilot SEA / LEA Teams for Pilot Implementation of Model Definition, Business Processes, and Short Term Recommendations	May 2010 – October 2011
	• Lessons Learned, Critical Success Factors, and Next Steps	September - October 2011

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APPENDIX C.1.5

AM. SUB. HB 290 -SELECTED CODE

RATIONALE: SECTION OF OHIO REVISED CODE AUTHORIZING THE SUPERINTENDENT OF PUBLIC INSTRUCTION AND THE CHANCELLOR OF THE BOARD OF REGENTS TO AUTHORIZE RESEARCH USING DATA CONTAINED IN THE STATE'S LONGITUDINAL DATA SYSTEM.

REFERENCED IN:
(C)(1)

(C) That the superintendent and the chancellor jointly shall develop procedures for the maintenance of the data in the repository and shall designate the types of research that may be conducted using that data. Permitted uses of the data shall include, but are not limited to, the following:

(1) Assisting the department, superintendent, or state board in performing audit and evaluation functions concerning preschool, elementary, and secondary education as required or authorized by any provision of law, including division (C) of section 3301.07 and sections 3301.12, 3301.16, 3301.53, 3301.57, 3301.58, and 3302.03 of the Revised Code;

(2) Assisting the chancellor in performing audit and evaluation functions concerning higher education as required or authorized by any provision of law, including sections 3333.04, 3333.041, 3333.047, 3333.122, 3333.123, 3333.16, 3333.161, 3333.374, 3333.72, and 3333.82 of the Revised Code.

(D) That the superintendent and the chancellor, from time to time, jointly may enter into written agreements with entities for the use of data in the repository to conduct research and analysis designed to evaluate the effectiveness of programs or services, to measure progress against specific strategic planning goals, or for any other purpose permitted by law that the superintendent and chancellor consider necessary for the performance of their duties under the Revised Code. The agreements may permit the disclosure of personally identifiable student information to the entity named in the agreement, provided that disclosure complies with the "Family Educational Rights and Privacy Act of 1974," 88 Stat. 571, 20 U.S.C. 1232g, as amended, and regulations promulgated under that act prescribing requirements for such agreements. The superintendent shall notify the state board of each agreement entered into under this division.

APPENDIX C.1.6

ARRA SLDS ABSTRACT

RATIONALE: ABSTRACT OF OHIO'S RECENTLY SUBMITTED ARRA STATE LONGITUDINAL DATA SYSTEMS GRANT PROPOSAL WHICH, IF APPROVED, WILL COMPLEMENT OHIO'S PLANNED LONGITUDINAL DATA WORK THROUGH RTTT.

REFERENCED IN:
(C)(1)

Ohio's Statewide Longitudinal Data System
Increasing Efficiencies through Data Standards and System Interoperability
Funding amount requested: $2,945,000

Building On the Success of Previous Efforts

The Ohio Department of Education (ODE) recognizes that a high quality, efficient Statewide Longitudinal Data System (SLDS) is critical for providing the timely, accurate data needed to drive higher achievement, to reduce achievement gaps among students and to answer key education policy questions. Ohio has successfully met 8 of the 10 essential elements, as defined in the 2007 Data Quality Campaign survey, for a P-12 SLDS and is committed to building upon its prior efforts to continuously improve the quality and timeliness of data provided to all stakeholders for evidence based decision making.

Ohio is currently engaged in a School Interoperability Framework (SIF) implementation for its statewide data collection system. This standardization of data definitions and the creation of a consistent protocol for sharing data between local education agencies and the state will improve the timeliness and accuracy of the data collected by the state and made available for decision making to improve student achievement. The proposed project will be an expansion of this effort and will take Ohio's SLDS to the next level by expanding the use of SIF, allowing the electronic exchange of student records between local education agencies and developing a standard high school transcript format for electronic data transfer to higher education. The availability of student records electronically and in a standardized format is critical so that educators may instantly share and transfer information, enabling a timely assessment of a student's prior educational history. This will enable student placement in the most appropriate curriculum and programs to meet his or her individualized needs. Also, this project will allow the student information systems in Ohio to become interoperable and minimize the administrative burden of manual data entry that is frequently time consuming and prone to error.

A Lever of Change for the Ohio Data System

Ohio's data system has progressed steadily over the past ten years evolving into a robust SLDS system that links data across time facilitating longitudinal analysis of student performance data and that provides decision support capabilities at both the local and state level. Beginning with the 2009-2010 school year, the system will be based upon internationally recognized data standards for data reporting to the state. While restrictions related to the sharing of K-12 data still exist in the state legislation, recent legislative changes have begun to open the gates for data sharing. This includes allowing the Ohio Department of Health to utilize the K-12 unique student identification system for infants and toddlers who receive special education services and the development of a standard format for high school transcripts for sharing with institutions of higher education.

Opening the Gates for Seamless Data Sharing

This project will build upon existing technological and data standards architecture to:

- Support the timely sharing of reliable data among local education agencies,
- Enable the creation of a standard high school transcript format for sharing with institutions of higher education.

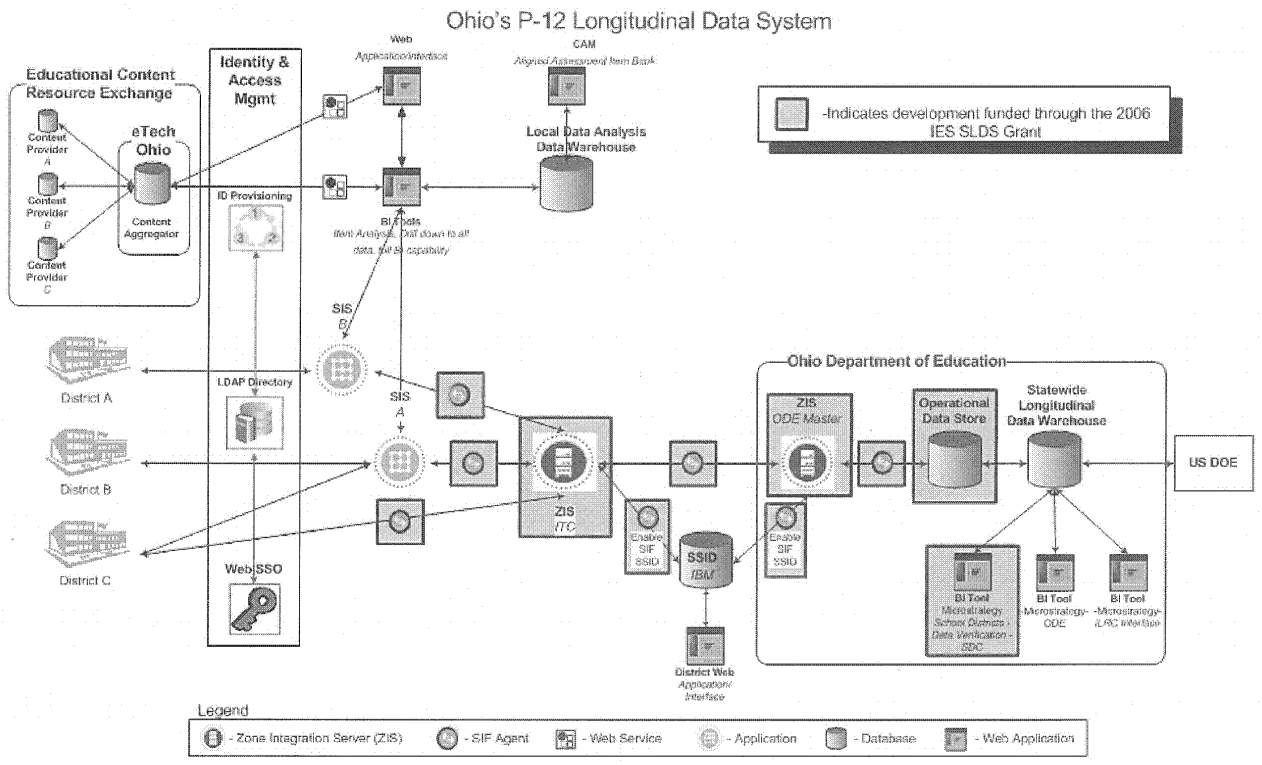
APPENDIX C.1.7

OHIO'S STATE LONGITUDINAL DATA SYSTEM ARCHITECTURE DIAGRAMS

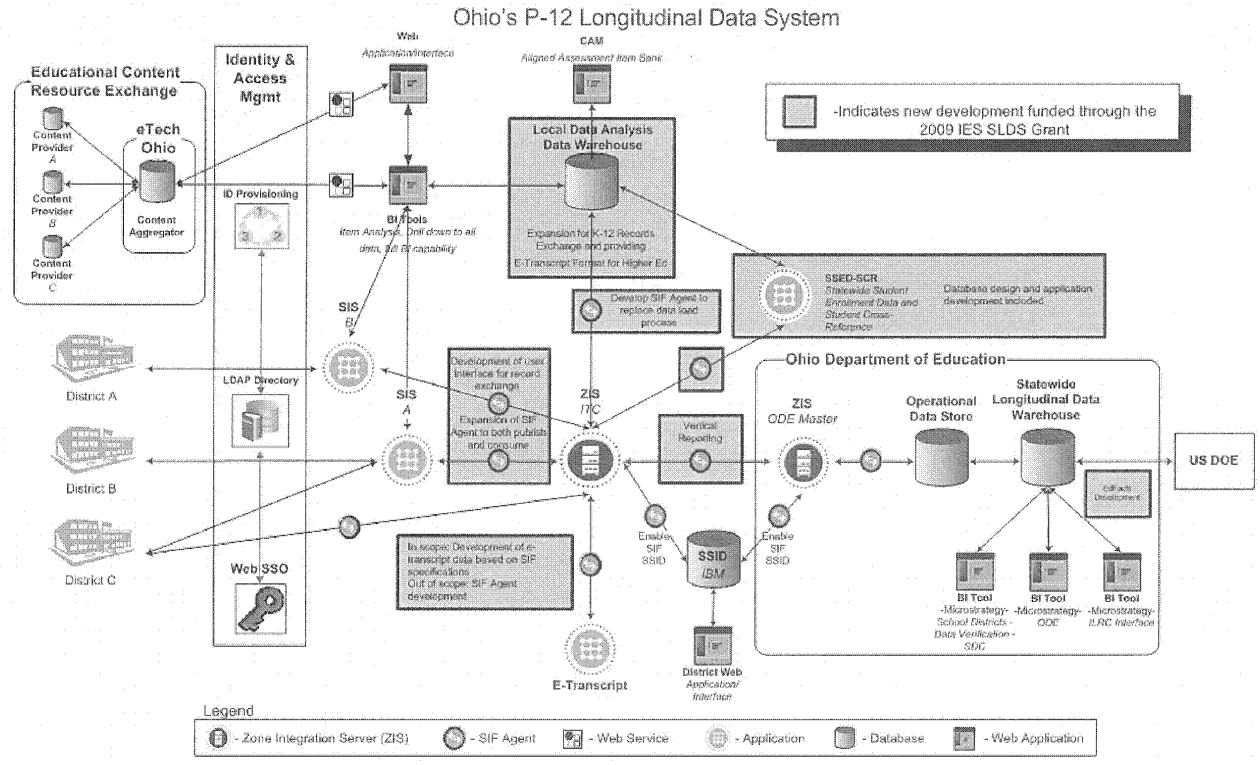
RATIONALE: DIAGRAMS OF OHIO'S STATE LONGITUDINAL DATA SYSTEM ILLUSTRATING IMPROVEMENTS AND INVESTMENTS MADE THROUGH OHIO'S TWO FEDERAL SLDS GRANTS AS WELL AS THOSE PROPOSED IN OHIO'S RTTT PLAN.

REFERENCED IN:
(C)(1)

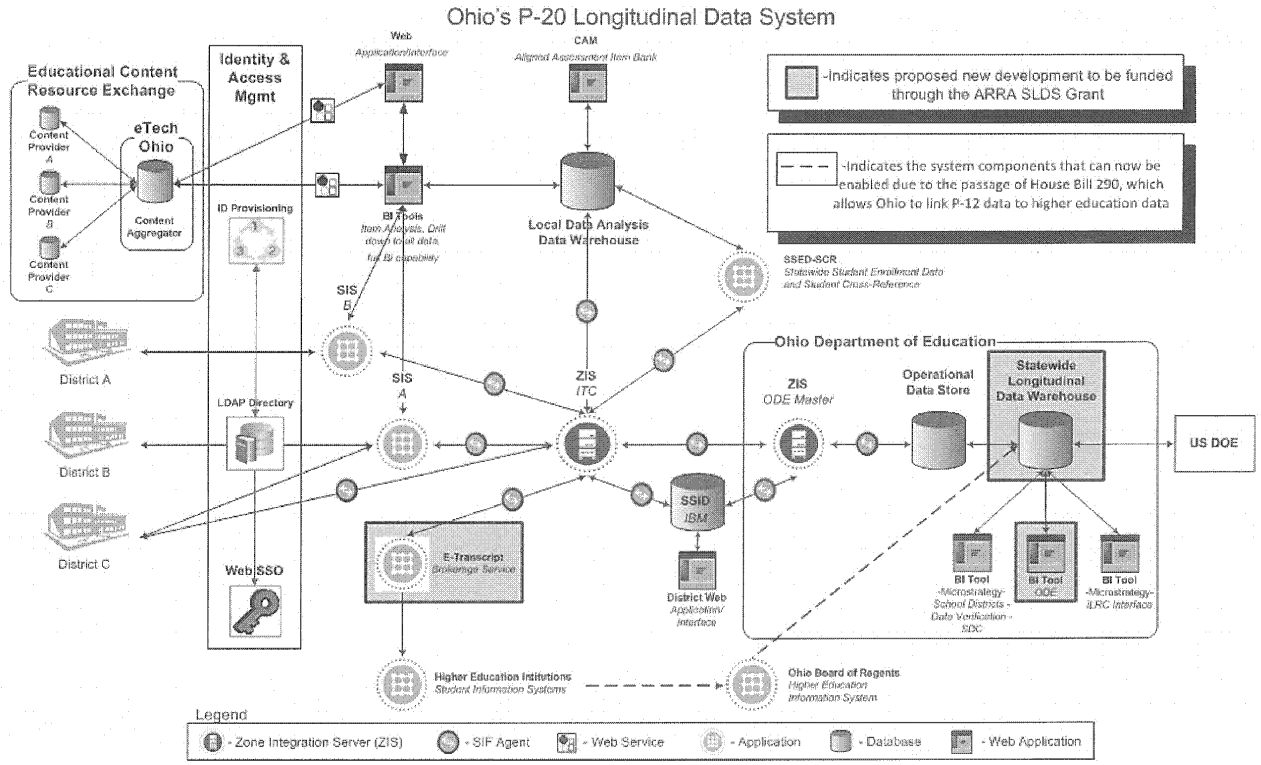
This diagram displays the SLDS architecture that existed at ODE prior to the 2006 IES SLDS Grant. The development of the highlighted items was funded with this grant. This grant established the SIF Infrastructure at ODE.



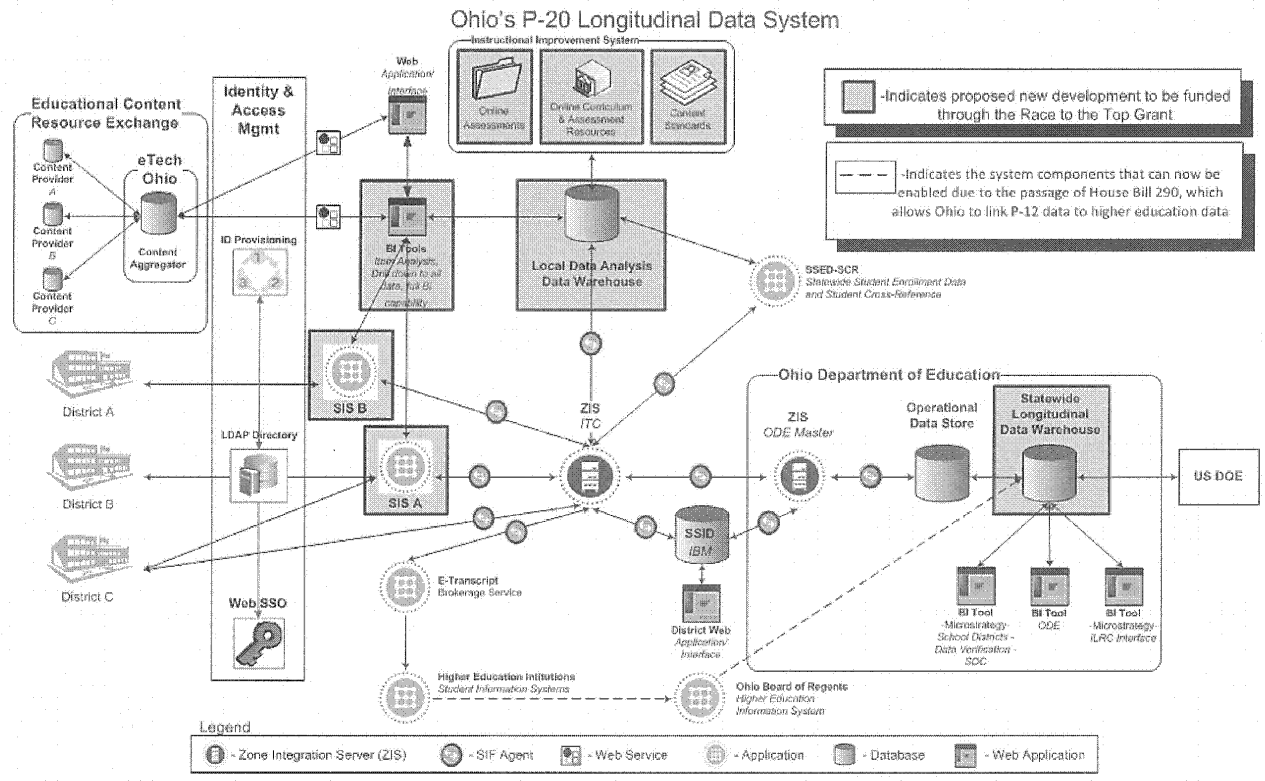
This diagram displays the SLDS architecture that existed at ODE prior to the 2009 IES SLDS Grant. The work for this grant is currently in progress. The development of the highlighted items is being funded with this grant.



This diagram displays the future state of Ohio's SLDS after the work for the 2009 IES SLDS grant is completed. The highlighted items indicate development work that was included in the ARRA SLDS grant application. If awarded this grant, Ohio will begin this work in 2010.



This diagram displays the future state of Ohio's SLDS after the work for the 2009 IES SLDS and the ARRA SLDS grants is completed. The highlighted items indicate development work that will be funded as part of the Race to the Top grant application.



APPENDIX C.2.1

DATA TOOLS CATALOG SUMMARY TABLE

RATIONALE: DESCRIPTION OF OHIO'S EDUCATION DATA TOOLS, THEIR INTENDED USE AND INTENDED AUDIENCES.

REFERENCED IN:
(C)(2)

Data Tools Catalog		
Data Tool	**Description**	**Intended Audience**
Battelle for Kids-Focus	A Web-enabled, data-based, goal-setting process for educators that articulates a vision for improvement from a bottom-up perspective. This process focuses on principals as instructional leaders and relies on teachers to use and understand data. This process has three levels of analysis: (1) What results are we producing? (2) Why are we getting these results? (3) How do we improve? Using numerous data sources, coherent, focused strategies may be developed. Numerous tools in this catalog can help populate the analysis.	Districts
D3A2	The Data Driven Decisions for Academic Achievement (D3A2) initiative provides a systematic approach for educators to access data and aligned resources. D3A2 users can identify and access resources to meet the specific needs of their students. The tool is an easy-to-use resource that has the potential to save time, improve instruction and raise student achievement.	Teachers and administrators
Data Primer	The Ohio Data Primer is an online training tool that provides an introduction to the general concept of using data. It provides an instructional resource designed to help educators become more comfortable with thinking about and using data for the purposes of instructional decision making.	Principals and teachers
Decision Framework	The Decision Framework (DF) is a process designed to assist District Leadership Teams (DLTs) and Building Leadership Teams (BLTs) in making informed decisions – based on what their data tell them – about where to spend their time, energy and resources to make significant and substantial improvements in student performance. To that end, the DF will help DLTs and BLTs: • Sort through and categorize data in meaningful ways; • Prioritize areas of need and make decisions based on an analysis of data; • Identify root causes of prioritized needs; and • Develop a more focused plan leading to improved student achievement.	District and Building Leadership Teams
Exceptional Children District Performance	The Individuals with Disabilities Education Improvement Act of 2004 requires states to annually report to the public the performance of each district on the targets in the State Performance Plan. These required reports must include the state targets for specified indicators, provide the district performance compared to those targets and indicate whether or not the district met the targets.	Administrators
iLRC	The iLRC is an interactive tool developed for parents, educators, lawmakers, community members and researchers that provides current and historical Local Report Card data. Users are able to locate information about a school or district, including proficiency test results, graduation rates, financial data and demographics.	Administrators and the public
Measure Up	This tool is designed to help school leaders understand, explain and analyze their Local Report Card data. It provides visual displays and explanations of all data pertinent to determining the report card rating for each district and building in Ohio, including the state indicators, Adequate Yearly Progress, Performance Index scores, "Safe Harbor" and performance of subgroups.	Administrators

Move Ahead	Developed in conjunction with the Center for Special Needs Populations at The Ohio State University, Move Ahead is a diagnostic tool designed to help districts determine where they are in terms of working with data, and to help implement a formal data team process and/or strengthening of a data culture where all are involved in using data to improve student performance.	Districts
School Climate Survey	This student survey provides data on the quality and character of school life. Data is classified into four areas: Safety (rules and norms, sense of physical security, sense of social-emotional security); Teaching and Learning (support for learning, social and civic learning); Interpersonal Relationships (respect for diversity, social support - adults, social support - students); and Institutional Environment (school connectedness/engagement, physical surroundings).	Administrators, teachers, students and parents
Success	This online tool serves as a starting point for tools that can help in understanding Ohio's statewide assessments for the Ohio Achievement Tests and for the Ohio Graduation Tests (OGT). This includes data to help understand what students should know and be able to do by the end of each grade and to help students in high school get ready for the OGT.	Parents, students, teachers and administrators
Surveys of Enacted Curriculum	The Surveys of Enacted Curriculum, a research-based data tool that allows teachers, administrators and policy-makers to examine the extent of alignment between the enacted curriculum (what is taught), the intended curriculum (what is required) and the assessed curriculum (what is tested).	Teachers and administrators
Value-Added	Value-added represents the fourth component of Ohio's accountability system that measures growth or improvement over a period of time to determine the "value" gained by a student during that time period. This statistical method is used to measure schools' and districts' impact on the rate of student progress from year to year. It is a growth measurement that will enable schools and districts to better determine the impact of their curriculum and instructional practices on student achievement.	Administrators and teachers

APPENDIX C.2.2

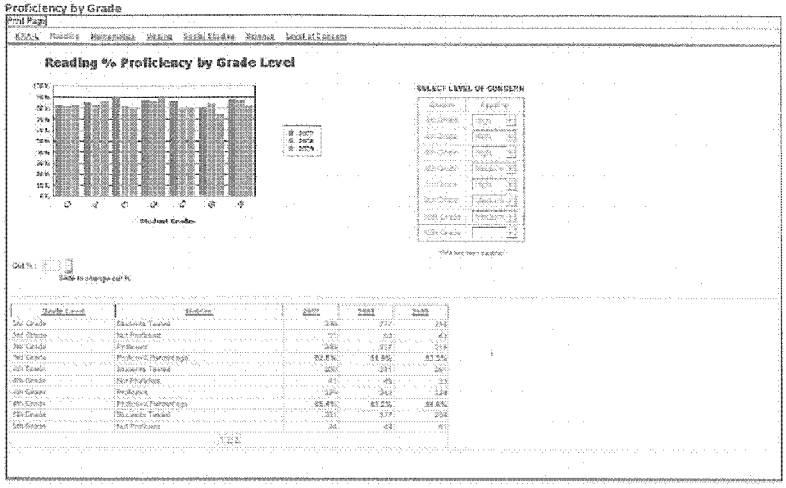
DATA TOOLS SCREEN SHOTS

RATIONALE: SCREEN SHOTS ILLUSTRATING THE DATA TOOLS DESCRIBED IN ATTACHMENT C.2.1.

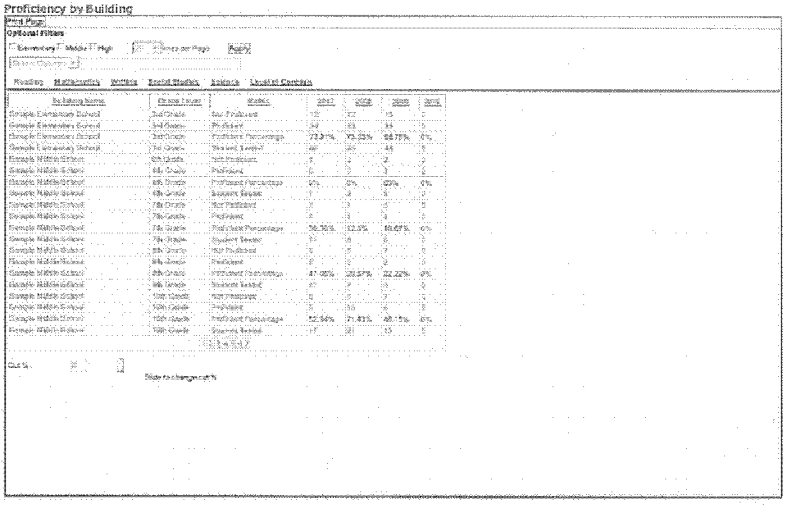
REFERENCED IN:
(C)(2)

Decision Framework Screenshots

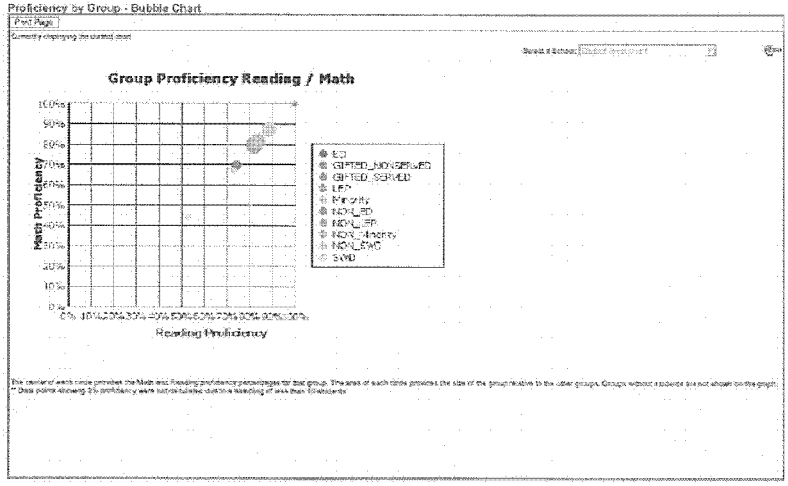
Proficiency by Grade



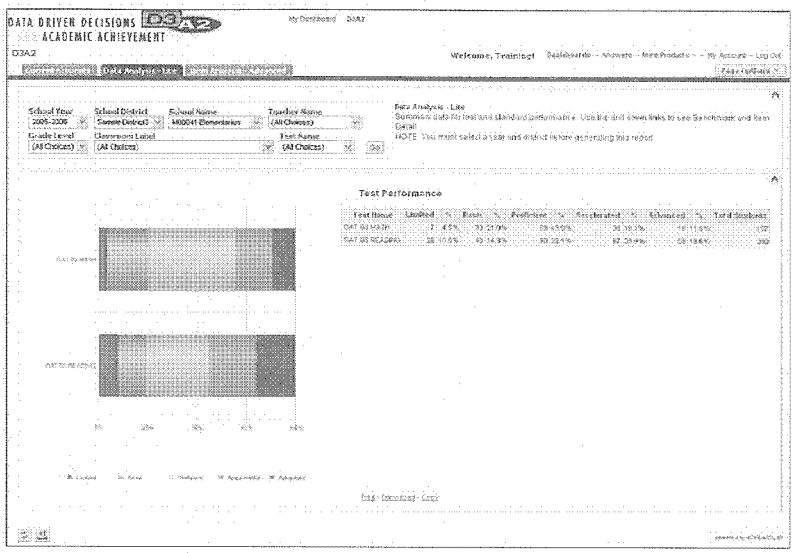
Proficiency by Building

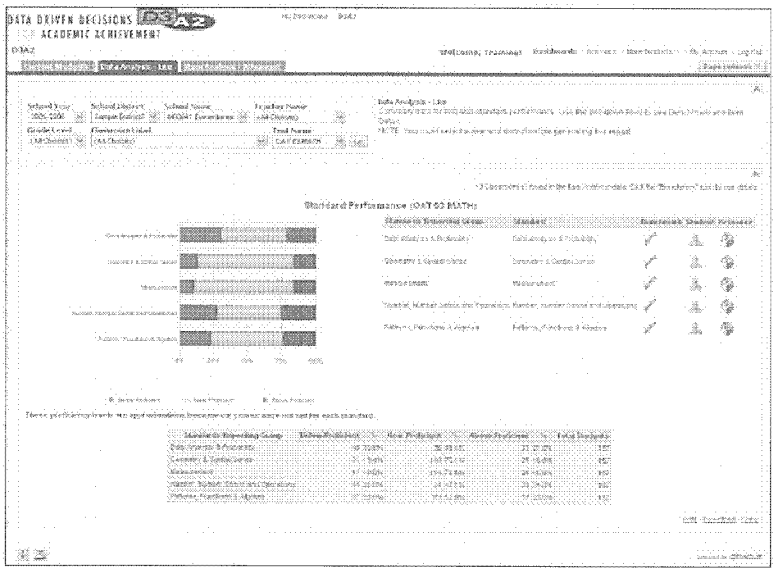


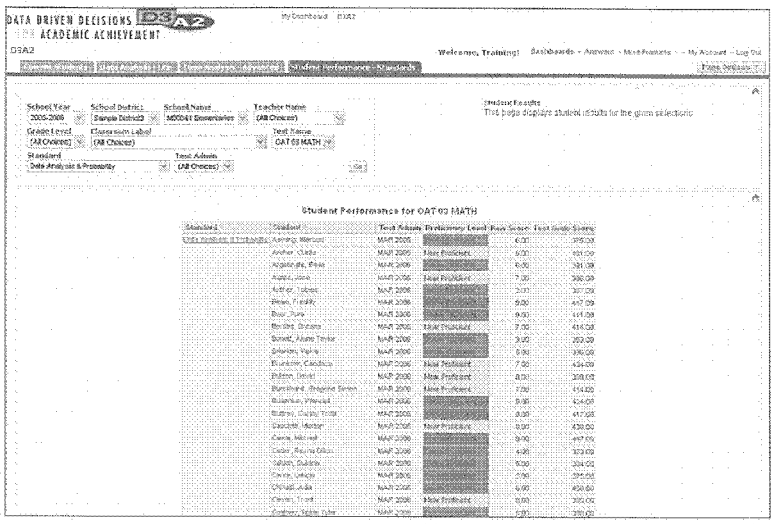
Proficiency by Group - Bubble Chart

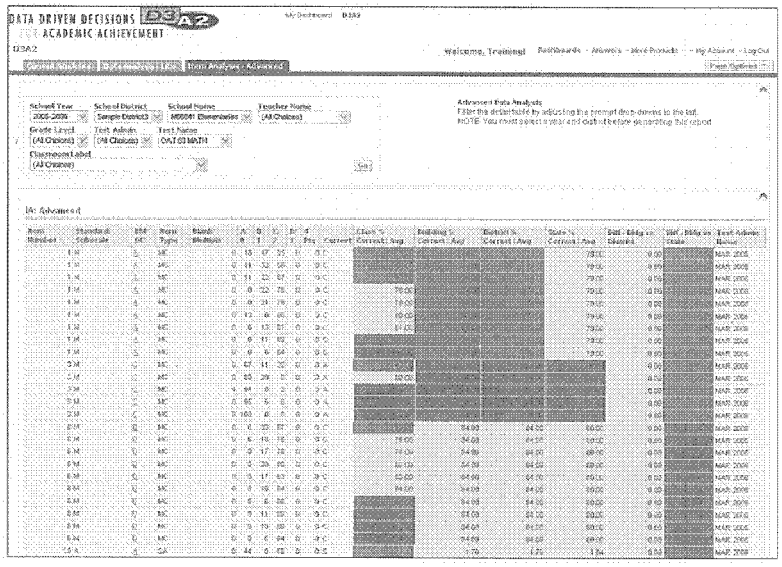


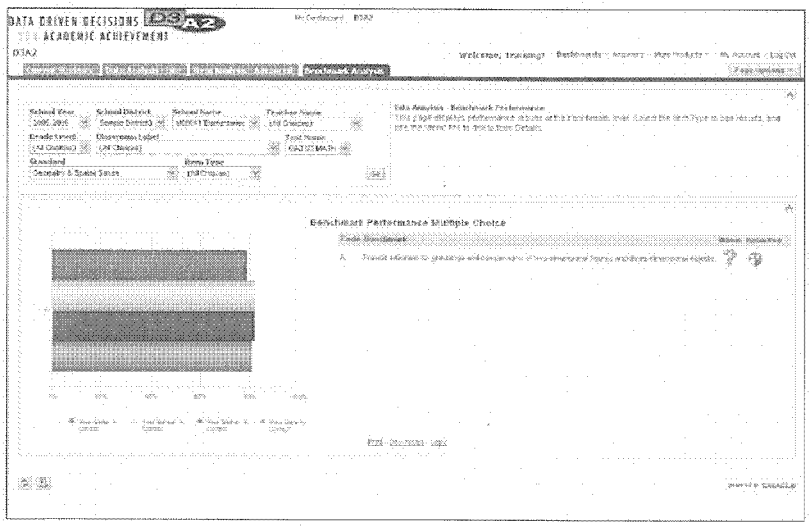
D3A2


DATA DRIVEN DECISIONS
ACADEMIC ACHIEVEMENT
D3A2
Test Performance

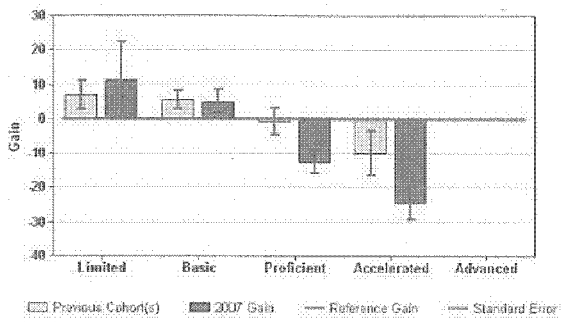

DATA DRIVEN DECISIONS
ACADEMIC ACHIEVEMENT
D3A2


DATA DRIVEN DECISIONS
ACADEMIC ACHIEVEMENT
Welcome, Training!
Student Performance for OAT 03 MATH


DATA DRIVEN DECISIONS
ACADEMIC ACHIEVEMENT
Welcome, Training!


DATA DRIVEN DECISIONS
ACADEMIC ACHIEVEMENT
Welcome, Training!

Value-Added



			Predicted Proficiency Group				
			Limited	Basic	Proficient	Accelerated	Advanced
Mathematics	Reference Line		0.0	0.0	0.0	0.0	0.0
	2007	Gain	11.4	5.0	-12.5	-24.6	
		Std Err	10.8	3.3	3.3	4.8	
		No. of Students	5	14	35	9	2
		% of Students	7.7	21.5	53.9	13.8	3.1
	Previous Cohort(s)	Gain	7.0	5.5	0.8	-10.0	
		Std Err	4.1	2.8	3.9	5.5	
		No. of Students	7	17	18	10	1
		% of Students	0.0	0.0	0.0	0.0	0.0

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APPENDIX C.3.1

STATEMENT OF OHIO'S COMPLIANCE WITH THE FAMILY EDUCATIONAL RIGHTS & PRIVACY ACT (FERPA)

RATIONALE: DOCUMENT PROVIDING EVIDENCE THAT OHIO'S DATA COLLECTION AND REPORTING ACTIVITIES ARE COMPLIANT WITH THE FEDERAL FAMILY EDUCATIONAL RIGHTS & PRIVACY ACT.

REFERENCED IN:
(C)(3)

Statement of Ohio's Compliance with the Family Educational Rights and Privacy Act (FERPA)

- Ohio law prevents the Department from having personally identifiable student information. To keep students from being personally identified, Ohio uses a statewide student identifier (SSID) for all students enrolled in public education. The SSID is used as a data verification code instead of using the Social Security Number as a data verification code. Ohio does NOT share the unique data verification code, except in situations that are in compliance with the Family Educational Rights and Privacy Act (FERPA) and state legislation. State legislation specifies that if the State Superintendent contracts for analysis or research that requires the unique data verification code, the study or project must maintain the confidentiality of student data at all times.

- All student-level data reported by the Department are reported only at an aggregate level. When releasing aggregated information, Ohio protects the confidentiality of student data by releasing data only in cases where the subgroup size is greater than 10. Data that are reported to the public are reported at a district/building level.

- In 2007, a formal Information Security program was established at ODE and includes the development of a structured data classification process within the agency to ensure that the confidentiality, integrity and availability of the data are protected.

APPENDIX C.3.2

COLLEGE AND CAREER READINESS POLICY INSTITUTE RESEARCH QUESTIONS

RATIONALE: DOCUMENT CONTAINING PROPOSED RESEARCH QUESTIONS DEVELOPED THROUGH OHIO'S INVOLVEMENT IN THE COLLEGE AND CAREER READINESS POLICY INSTITUTE.

REFERENCED IN:
(C)(3)

Supporting Ohio's College- and Career-Readiness Goals with Data Analysis and Use
(Draft – 09/28/09)

Ohio is participating in the *College & Career-Ready Policy Institute*, a partnership of Achieve, the Data Quality Campaign, the EducationCounsel, Jobs for the Future and the National Governors Association Center for Best Practices and a few other American Diploma Project Network states. The Institute is supported by the Bill & Melinda Gates Foundation. The Longitudinal Data Working Group was constituted to address policy issues around longitudinal data systems.

This document captures one aspect of the working group's work – the identification of key college- and career-readiness goals, the necessary data to support the measurement of these goals, and how to improve Ohio's performance.

1. **Ohio wants students that leave middle school to be ready for high school work.**

Key ideas for this goal

- Metric: Number and percent of students (disaggregated) proficient on eighth-grade state assessments.
- Question: What are the indicators that serve as good predictors for "high school ready?"

Current State

What data does Ohio have to tell if students are ready for high school when they leave middle school?

- State test results from sixth-, seventh- and eighth-grade testing – currently includes mathematics and reading.
- State Ohio Graduation Tests (OGT) results that could be mapped back to eighth-grade test results.
- Student discipline and attendance data (non-academic risk indicators).
- Student mobility data (currently district-to-district, but building-to-building available soon).
- Course-taking information – specifically high school credit-bearing courses taken in middle school.

What is this data used for currently? What analyses are performed? Is any of it longitudinal?

- Data is used to populate state, district and building report cards, rating districts and buildings as part of the state's accountability system.
- Data is available to teachers so they can identify incoming students and their strengths and weaknesses.
- Data is used to drive Ohio's predictive model that uses value-added computations applied to each student's current and past test scores to predict future outcomes.

Future State

What additional analyses, including longitudinal analyses, could be performed with this data to identify policies and practices relative to this goal?

- Ohio could look to see the extent to which performance on the eighth-grade state achievement tests are good predictors of high school success.
- Ohio could attempt to identify relationships between problems with discipline, attendance or mobility in middle school and how such phenomena relates to subsequent high school performance.

What additional data could be collected to improve this goal?

- Improved data linking teachers to students.

What additional analyses, including longitudinal, could be performed with this additional data to identify policies and practices relative to this goal?

- Ohio could attempt to identify teachers that are particularly successful in helping at-risk students succeed in high school.

2. **Ohio wants students that graduate from high school to be ready for college work (completion).**

Key ideas for this goal

- Metric: Cohort graduation rate (four year, five year, six year).
- Metric: Percent of students that score at "college ready" levels on ACT or SAT tests.
- Metric: Students entering college with test results that indicate the need for developmental education.
- Question: What are key indicators that predict college success?

Current State

What data does Ohio have to tell if students are ready for college work when they graduate from high school?

- OGT test results.
- ACT/SAT test results (if students have taken these exams).
- Dual enrollment information, mostly Post Secondary Enrollment Options (PSEO).
- AP course taking and test results (reported individually without student identifiers).
- Developmental education course taking data.
- High school courses taken and outcomes (pass/not pass) for high school students.
- Core course-taking and course information that could drive the awarding of Honors Diplomas or Awards of Merit.
- Data on International Baccalaureate courses.

What is this data used for currently? What analyses are performed? Is any of it longitudinal?

- OGT data is reported on state, district and building report cards – and used in determining accountability designations.
- ACT/SAT data is reported on report cards – but does not count as part of the accountability system.
- PSEO data is reported on report cards – but does not count as part of the accountability system.
- College remediation reports – data produced by high schools.

Future State

What additional analyses, including longitudinal analyses, could be performed with this data to identify policies and practices relative to this goal?

- Ohio could look at college performance data and map it back to high school experience to identify indicators of college success.
- Ohio is starting to look at the developmental course-taking data to understand success rates and identify best practices.

What additional data could be collected to improve this goal?

- COMPASS® and other placement test scores taken before college admission (Ohio will begin collecting this data in 2010.)

What additional analyses, including longitudinal, could be performed with this additional data to identify policies and practices relative to this goal?

- Ohio could look at whether placement test scores correlate to other high school indicators.

3. **Ohio does not want students dropping out of the K-12 or higher education systems. Ohio wants to be able to identify students that are falling behind and implement effective remediation strategies to get them back on track (prevention).**

Key ideas for this goal

- Metric: Dropout rate.
- Metric: College persistence rate.
- Question: What are those indicators that provide an early warning that a student may be at risk for not completing high school or college?
- Question: What are the most effective practices for successful intervention/remediation?

Current State

What data does Ohio have to tell if students are dropping out?

- Graduation rate and dropout rate data.

What is this data used for currently? What analyses are performed? Is any of it longitudinal?

Future State

What additional analyses, including longitudinal analyses, could be performed with this data to identify policies and practices relative to this goal?

- Ohio could examine the academic/non-academic history of dropouts to identify indicators of students being at-risk of dropping out.

What additional data could be collected to improve this goal?

What additional analyses, including longitudinal, could be performed with this additional data to identify policies and practices relative to this goal?

4. **Ohio wants students to pursue education beyond high school.**

Key ideas for this goal

- Metric: Percentage/number of students that go to college (disaggregated), apprenticeships or career-technical education.
- Question: What factors contribute most to students pursuing post-secondary education?
- Question: What are the key barriers to pursuit of post-secondary education?

Current State

What data does Ohio have to tell if students are going to pursue education beyond high school?

- Data about public school students that go to college at Ohio public higher education institutions (does not paint complete picture of college-going patterns).
- Survey data from career-technical graduates indicating post-graduate endeavors, including whether they pursue military service.

What is this data used for currently? What analyses are performed? Is any of it longitudinal?

Future State

What additional analyses, including longitudinal analyses, could be performed with this data to identify policies and practices relative to this goal?

What additional data could be collected to improve this goal?

- Data related to enrollment in private colleges and out-of-state colleges (outside Ohio's control).
- Better data about enrollment in apprenticeship programs and career-technical education programs.
- Ability to link K-12 data to wage record data.

What additional analyses, including longitudinal, could be performed with this additional data to identify policies and practices relative to this goal?

- Data analysis to improve Ohio's understanding of which/how many students go on to education beyond high school.

5. **For those students that return to gain knowledge and skills, Ohio wants to ensure that they are successful in their re-entry into the educational system (recovery) and achieve college readiness.**

Key ideas for this goal

- Metric: Success in college course-taking of students who enroll in college one year or later after leaving the K-12 system.
- Question: What are the most effective strategies to assist students with re-entering the educational system?

Current State

What data does Ohio have to tell if students re-entering the educational system are succeeding?

- Placement exam scores (expected by 2010).
- Developmental education course-taking and success (pass/not pass) rates.

What is this data used for currently? What analyses are performed? Is any of it longitudinal?

Future State

What additional analyses, including longitudinal analyses, could be performed with this data to identify policies and practices relative to this goal?

What additional data could be collected to improve this goal?

What additional analyses, including longitudinal, could be performed with this additional data to identify policies and practices relative to this goal?

APPENDIX D.1.1

ALTERNATIVE ROUTES TO CERTIFICATION PROVISIONS

RATIONALE: SECTIONS OF OHIO REVISED CODE THAT AUTHORIZE OHIO'S ALTERNATIVE PATHWAYS TO CERTIFICATION.

REFERENCED IN:
(D)(1)

ORC 3319.26 Alternative educator licenses.

(A) The state board of education shall adopt rules establishing the standards and requirements for obtaining an alternative resident educator license for teaching in grades four to twelve, or the equivalent, in a designated subject area. However, an alternative resident educator license in the area of intervention specialist, as defined by rule of the state board, shall be valid for teaching in grades kindergarten to twelve.

(B) The superintendent of public instruction and the chancellor of the Ohio board of regents jointly shall develop an intensive pedagogical training institute to provide instruction in the principles and practices of teaching for individuals seeking an alternative resident educator license. The instruction shall cover such topics as student development and learning, pupil assessment procedures, curriculum development, classroom management, and teaching methodology.

(C) The rules adopted under this section shall require applicants for the alternative resident educator license to satisfy the following conditions prior to issuance of the license:

(1) Hold a minimum of a baccalaureate degree;

(2) Successfully complete the pedagogical training institute described in division (B) of this section;

(3) Pass an examination in the subject area for which application is being made.

(D) An alternative resident educator license shall be valid for four years , except that the state board, on a case-by-case basis, may extend the license's duration as necessary to enable the license holder to complete the Ohio teacher residency program established under section 3319.223 of the Revised Code.

(E) The rules shall require the holder of an alternative resident educator license, as a condition of continuing to hold the license, to do all of the following:

(1) Participate in the Ohio teacher residency program;

(2) Show satisfactory progress in taking and successfully completing at least twelve additional semester hours, or the equivalent, of college coursework in the principles and practices of teaching in such topics as student development and learning, pupil assessment procedures, curriculum development, classroom management, and teaching methodology;

(3) Take an assessment of professional knowledge in the second year of teaching under the license.

(F) The rules shall provide for the granting of a professional educator license to a holder of an alternative resident educator license upon successfully completing all of the following:

(1) Four years of teaching under the alternative license;

(2) The twelve semester hours, or the equivalent, of the additional college coursework described in division (E)(2) of this section;

(3) The assessment of professional knowledge described in division (E)(3) of this section. The standards for successfully completing this assessment and the manner of conducting the assessment shall be the same as for any other individual who is required to take the assessment pursuant to rules adopted by the state board under section 3319.22 of the Revised Code.

(4) The Ohio teacher residency program;

(5) All other requirements for a professional educator license adopted by the state board under section 3319.22 of the Revised Code.

Amended by 128th General Assembly File No. 9, HB 1, § 101.01, eff. 10/16/2009.

Effective Date: 06-09-2004

OAC 3301-24-10 Alternative Educator License.

(A) Alternative educator license. The nonrenewable two year alternative educator license, valid for teaching the subject area named in such license in grades seven to twelve, shall be issued to an individual who is deemed to be of good moral character and who evidences the following:

(1) A baccalaureate degree;

(2) A major with a GPA of at least 2.5 in the subject area to be taught, or extensive work experience directly related to the area to be taught or a masters degree with a GPA of at least 2.5 in the subject area to be taught.

(3) Completion of six semester hours of professional education coursework within the past five years, with a GPA of 2.5, and from a college or university approved to prepare teachers, including:

(a) Three semester hours in the developmental characteristics of the adolescent through young adult student; and

(b) Three semester hours in teaching methods, including a supervised field experience and

(4) Successful completion of the state board of education required examination for teacher licensure that measures content knowledge of the subject area for which the alternative educator license is sought.

(B) The employing school district shall plan for a mentoring program for alternatively-licensed educators, including the following, and shall submit such plan to the department of education:

(1) Assistance in acquiring knowledge of the school curriculum, responsibilities for implementing the curriculum, and the instructional resources available for such implementation;

(2) Assistance with management tasks; and

(3) Assistance in the improvement of instructional skills and classroom management.

(C) Eligibility for a provisional teacher license. A provisional license will be issued to the holder of an alternative educator license upon successful completion of the following:

(1) Two years of successful teaching experience under the alternative educator license as verified by the employing district superintendent;

(2) Completion of twelve additional semester hours of professional education coursework, with a GPA of 2.5 or above, prior to expiration of the alternative educator license, from a college or university approved to prepare teachers, in the principles and practices of teaching, student development and learning; pupil assessment procedures; curriculum development; classroom management; and teaching methodology; and

(3) Successful completion of the state board of education examination required for teacher licensure that measures professional knowledge.

(D) After receiving the two-year provisional license, the educator must then meet the teacher licensure standards to transfer from a provisional to a professional license, and to renew that license.

R.C. 119.032 review dates: 04/06/2009 and 04/06/2014

Promulgated Under: 119.03

Statutory Authority: 3301.07, 3319.26

Rule Amplifies: 3319.26

Prior Effective Dates: 3/15/00, 1/16/04

ORC 3319.27 Alternative principal license.

(A) The state board of education shall adopt rules that establish an alternative principal license. The rules establishing an alternative principal license shall include a requirement that an applicant have obtained classroom teaching experience. Beginning on the effective date of the rules, the state board shall cease to issue temporary educator licenses pursuant to section 3319.225 of the Revised Code for employment as a principal. Any person who on the effective date of the rules holds a valid temporary educator license issued under that section and is employed as a principal shall be allowed to continue employment as a principal until the expiration of the license. Employment of any such person as a principal by a school district after the expiration of the temporary educator license shall be contingent upon the state board issuing the person an alternative principal license in accordance with the rules adopted under this division.

(B) The state board shall adopt rules that establish an alternative administrator license, which shall be valid for employment as a superintendent or in any other administrative position except principal. Beginning on the effective date of the rules, the state board shall cease to issue temporary educator licenses pursuant to section 3319.225 of the Revised Code for employment as a superintendent or in any other administrative position except principal. Any person who on the effective date of the rules holds a valid temporary educator license issued under that section and is employed as a superintendent or in any other administrative position except principal shall be allowed to continue employment in that position until the expiration of the license. Employment of any such person as a superintendent or in any other administrative position except principal by a school district after the expiration of the temporary educator license shall be contingent upon the state board issuing the person an alternative administrator license in accordance with the rules adopted under this division.

Effective Date: 06-09-2004

OAC 3301-24-11 Alternative principal license.

(A) A one-year alternative principal license (renewable two times), valid for serving as principal or assistant principal, shall be issued at the request of the superintendent of a city, educational service center, local, exempted village, or joint vocational school district to an individual who is deemed to be of good moral character and who evidences the following:

(1) Bachelor of arts/bachelor of science or masters degree from an accredited institution;

(2) Grade point average of at least 3.0;

(3) Two or more years of teaching experience or five years of documented successful work experience in education, management or administration.

(B) The employing school district shall provide a mentoring program for alternatively-licensed principals or assistant principals that includes the following:

(1) Assignment of a mentor;

(2) Completion of interstate school leaders licensure consortium (ISLLC) self-assessment (available online through ODE's website at www.ode.state.oh.us/teaching-profession/teacher/recruitment_retention/alt_cond/);

(3) Development of a personal learning plan approved by the mentor and superintendent; and

(4) Assistance in acquiring critical knowledge in the following areas: facilitating a vision, school culture and instructional program, managing the school organization, collaboration and community engagement, ethics and integrity, and understanding publics.

(C) For non-educators issued an alternative principal license, the employing school district shall develop and implement a planned program for obtaining classroom teaching experience (one hundred eighty clock hours with a

minimum of ninety hours in both year one and year two). Such a program must require the alternatively-licensed principal or assistant principal to work with a master teacher(s) to obtain teaching experience based on guidelines developed by the Ohio department of education.

(D) Eligibility for a provisional license for principals. A provisional license will be issued to the holder of an alternative principal license upon successful completion of the following:

(1) Three years of successful experience under the alternative principal license;

(2) For individuals not holding a master's degree, completion of a master's degree in education administration from an accredited institution;

(3) For individuals with a master's degree, completion of six semester hours in school law, school supervision, and teacher evaluation, plus an additional six semester hours from an accredited university or ninety clock hours of professional development based on pre-assessment data and personal learning goals;

(4) Participating in a structured mentoring program provided by the school district as outlined in paragraph (B) of this rule;

(5) For non-educators, verification by the superintendent of successful completion of classroom teaching experience requirement based upon input from a master teacher(s); and

(6) Successful completion of the state board of education examination required for administrators.

(E) After receiving the two-year provisional license, the educator must then complete the entry year program for principals and meet the requirements for a professional license.

(F) Eligibility for a professional license for principals. A professional license for principals will be issued upon successful completion of all requirements in paragraphs (A) through (E) of this rule.

Effective: 09/23/2005

R.C. 119.032 review dates: 09/23/2010

Promulgated Under: 119.03

Statutory Authority: 3301.07, 3319.27

Rule Amplifies: 3319.27

3319.28 Provisional educator license for STEM school teacher.

(A) As used in this section, "STEM school" means a science, technology, engineering, and mathematics school established under Chapter 3326. of the Revised Code.

(B) Notwithstanding any other provision of the Revised Code or any rule adopted by the state board of education to the contrary, the state board shall issue a two-year provisional educator license for teaching science, technology, engineering, or mathematics in grades six through twelve in a STEM school to any applicant who meets the following conditions:

(1) Holds a bachelor's degree from an accredited institution of higher education in a field related to the subject area to be taught;

(2) Has passed an examination prescribed by the state board in the subject area to be taught.

(C) The holder of a provisional educator license issued under this section shall complete a structured apprenticeship program provided by an educational service center or a teacher preparation program approved under section 3333.048 of the Revised Code, in partnership with the

STEM school that employs the license holder. The apprenticeship program shall include the following:

(1) Mentoring by a teacher or administrator who regularly observes the license holder's classroom instruction, provides feedback on the license holder's teaching strategies and classroom management, and engages the license holder in discussions about methods for fostering and measuring student learning;

(2) Regularly scheduled seminars or meetings that address the following topics:

(a) The statewide academic standards adopted by the state board under section 3301.079 of the Revised Code and the importance of aligning curriculum with those standards;

(b) The achievement assessments prescribed by section 3301.0710 of the Revised Code;

(c) The school district and building accountability system established under Chapter 3302 of the Revised Code;

(d) Instructional methods and strategies;

(e) Student development;

(f) Assessing student progress and providing remediation and intervention, as necessary, to meet students' special needs;

(g) Classroom management and record keeping.

(D) After two years of teaching under a provisional educator license issued under this section, a person may apply for a five-year professional educator license in the same subject area named in the provisional license. The state board shall issue the applicant a professional educator license if the applicant meets the following conditions:

(1) The applicant completed the apprenticeship program described in division (C) of this section.

(2) The applicant receives a positive recommendation indicating that the applicant is an effective teacher from both of the following:

(a) The chief administrative officer of the STEM school that most recently employed the applicant as a classroom teacher;

(b) The educational service center or teacher preparation program administrator in charge of the apprenticeship program completed by the applicant.

(3) The applicant meets all other requirements for a professional educator license adopted by the state board under section 3319.22 of the Revised Code.

(E) The department of education shall evaluate the experiences of STEM schools with classroom teachers holding provisional educator licenses issued under this section. The evaluation shall cover the first two school years for which licenses are issued and shall consider at least the schools' satisfaction with the teachers and the operation of the apprenticeship programs.

Amended by 128th General Assembly File No. 9, HB 1, § 101.01, eff. 10/16/2009.

Effective Date: 2007 HB119 09-29-2007

3301-24-15 Provisional educator license for STEM schools.

(A) Provisional license for STEM school teacher: A two-year provisional educator license for teaching science, technology, engineering or mathematics in grades six through twelve, which shall be valid only for teaching in a STEM school, defined as a science, technology, engineering, and mathematics school established pursuant to Chapter 3326. of the Revised Code, shall be issued to an individual who is deemed to be of good moral character,

who has been engaged as a teacher by a STEM school, and who evidences the qualifications specified in paragraphs (A)(1) and (A)(2) of this rule.

(1) The individual holds a bachelor's degree from an accredited institution of higher education in a field related to the subject area to be taught; and

(2) The individual has passed an examination prescribed by the state board of education in the subject area to be taught.

(B) Apprenticeship program: The holder of a provisional educator license issued pursuant to this rule shall complete a structured apprenticeship program provided by an educational service center or a teacher preparation program approved under section 3319.23 of the Revised Code in partnership with the STEM school that employs the license holder. The apprenticeship program shall include the components specified in paragraphs (B)(1) and (B)(2) of this rule.

(1) Mentoring by a teacher or administrator who regularly observes the license holder's classroom instruction, provides feedback on the license holder's teaching strategies and classroom management, and engages the license holder in discussions about methods for fostering and measuring student learning;

(2) Regularly scheduled seminars or meetings that address the topics specified in paragraphs (B)(2)(a) to (B)(2)(g) of this rule:

(a) Statewide academic standards adopted by the state board of education pursuant to section 3301.079 of the Revised Code and the importance of aligning curriculum with those standards;

(b) Achievement tests prescribed by section 3301.0710 of the Revised Code;

(c) The school district and building accountability system established pursuant to Chapter 3302. of the Revised Code;

(d) Instructional methods and strategies;

(e) Student development;

(f) Assessing student progress and providing remediation and intervention, as necessary, to meet student special needs; and

(g) Classroom management and record keeping.

(C) Eligibility for a professional educator license: Upon successful completion of the requirements specified in paragraphs (C)(1) to (C)(4) of this rule an individual holding a provisional educator license issued pursuant to this rule may apply for a five year professional educator license in the same subject area named in the provisional license.

(1) Two years of successful teaching under a provisional educator license issued pursuant to this rule;

(2) Successful completion of the apprenticeship program described in paragraph (B) of this rule;

(3) Evidence of a positive recommendation indicating that the applicant is an effective teacher from the chief administrative officer of the STEM school that most recently employed the applicant as a classroom teacher; and

(4) Evidence of a positive recommendation indicating that the applicant is an effective teacher from the educational service center or teacher preparation program administrator in charge of the apprenticeship program completed by the applicant.

Effective: 09/19/2008

R.C. 119.032 review dates: 09/19/2013

Promulgated Under: 119.03

Statutory Authority: 3301.07, 3319.22, 3319.28

Rule Amplifies: 3319.28, 3326.13

ORC 3319.65 Credential review board.

The state board of education shall establish a credential review board. The credential review board shall carry out any functions assigned to it by the state board with respect to assessing individuals pursuing alternative routes to educator licensure and out of state educators seeking licensure in Ohio. The credential review board may also carry out any other duties the state board considers appropriate.

Effective Date: 06-09-2004

APPENDIX D.1.2

ALIGNMENT OF OHIO'S ALTERNATIVE PATHWAYS AND RTTT APPLICATION DEFINITION ELEMENTS

RATIONALE: DESCRIPTION OF THE ELEMENTS OF OHIO'S ALTERNATIVE PATHWAYS AS DEFINED BY THE RTTT APPLICATION.

REFERENCED IN:
(D)(1)

D.1.2: Alignment of Ohio's Alternative Pathways and RttT Application Definition Elements

A) Can be provided by various types of qualified providers, including both institutions of higher education and other providers operating independently from institutions of higher education	
AEL	Alternative teacher licensure candidates may fulfill the requirement for a major in the subject area to be taught through utilization of successful work experience directly related to the subject area, rather than through coursework at an institution of higher education. Candidates also may fulfill certain professional education coursework requirements of the AEL route through alternative means such as documented successful experience, as determined by the Credential Review Board.
APL	Alternatively licensed principals are required to develop a personal learning plan incorporating training and professional development in critical areas such as managing the school organization, school culture and the instructional program, which may be delivered by providers operating independently from institutions of higher education. Candidates also are required to complete training in school law, school supervision and evaluation, which also may be provided either by institutions of higher education or state approved providers.
CRB	The Credential Review Board is required by statute to assess individuals pursuing alternative routes to educator licensure, for the purpose of developing individualized plans to earn licensure in Ohio. An essential part of this process is consideration of factors such as candidates' experience and accomplishments, professional development work completed through non university based providers, and other types of professional training and successful performance that may serve as a basis for meeting licensure requirements through alternative means. All CRB candidates could eventually qualify for licensure if they took enough additional college coursework, but that is not the goal- the idea is that factors other than college coursework play an important role in determining the qualifications of alternative route candidates.
PSL	The holder of a provisional license for STEM school teaching is required to complete a structured apprenticeship program including mentoring and seminars addressing topics such as instructional methods and strategies, classroom management, and assessing student progress. The structured apprenticeship program may be a partnership between the employing STEM school and EITHER an educational service center OR a college teacher preparation program, so the involvement of an institution of higher education is just one possible option, not a necessity.
B) Are selective in accepting candidates	
AEL	Candidates for the alternative educator license must have completed a 30 semester hour or 45 quarter major in the subject to be taught with a minimum GPA of 2.5 OR have extensive successful work experience in the subject to be taught. Candidates for alternative licensure are selected by Ohio school districts for employment from a pool of candidates that may include many candidates who are already traditionally licensed. The willingness of employing school districts to invest extra time and resources in the professional development and training of alternatively licensed candidates reflects selectivity geared towards nontraditional candidates who bring successful career experience and expertise from other fields into Ohio schools and classrooms.
APL	Candidates for the APL must have a cumulative GPA of at least 3.0 and documented successful work experience in education, management or administration. Candidates for alternative licensure are selected by Ohio school districts from a pool of candidates that may include many candidates who are already traditionally licensed. The willingness of employing school districts to invest extra time and resources in the professional development and training of alternatively licensed candidates reflects selectivity geared towards nontraditional candidates who bring successful career experience and expertise from other fields into Ohio schools.
CRB	It is a strategic goal of the CRB to maintain the high expectations for teacher quality established by the State Board of Education and the Ohio Department of Education. Decisions of the CRB are guided by a critical awareness of the substantial link between high quality teachers and student achievement. Issues of candidate quality are constantly at the forefront of CRB deliberations and decisions.
PSL	Candidates for this license must hold a bachelor's degree in a field related to the subject to be taught and pass an examination in the subject area to be taught. Candidates must be selected by the employing STEM school, and only those selected candidates would be able to obtain the provisional STEM license. The STEM schools for which this license is intended represent a select group of schools who have received grants designed to significantly strengthen Ohio's competitiveness in STEM fields. Since a primary goal of the program is to establish Ohio as a leader in educating the next generation of world class scientists, engineers, innovators and inventors, selection of high quality teacher candidates who are experts in rapidly evolving science and technology fields represents a critical component of this effort.
C) Provide supervised, school based experiences and ongoing support such as effective mentoring and coaching;	

AEL	Candidates for the AEL must complete a supervised field experience as one of the prerequisite requirements for alternative licensure. While teaching under the AEL, candidates participate in a structured mentoring program to gain knowledge and support in areas such as the school curriculum, instructional resources, instructional skills and classroom management.
APL	APL holders are required to participate in a structured mentoring program and to develop a personal learning plan approved by the mentor and employing superintendent. Ongoing support and mentoring focuses on the acquisition of critical knowledge and skills for successful beginning principal performance.
CRB	In prescribing individual licensure plans for alternative candidates, the CRB utilizes the mentoring component of the alternative educator pathway to ensure that candidates receive essential support to maximize the quality and success of their beginning classroom performance. Also, the CRB utilizes supervised school based experiences and mentoring completed by alternative route candidates from other states towards fulfillment of Ohio licensure requirements.
PSL	A central component of the provisional license for STEM schools is the structured apprenticeship program model. Under this model, the employing STEM school in partnership with either an educational service center or a teacher preparation institution provides mentoring by a teacher or administrator who regularly observes the license holder's classroom instruction, provides feedback on the license holder's teaching strategies, and engages the license holder in discussions about methods for fostering and measuring student learning. An additional required component is regularly scheduled seminars or meetings addressing topics such as statewide academic content standards, district and building accountability systems, instructional methods and strategies and assessing student progress.
D) Significantly limit the amount of coursework required or have options to test out of courses	
AEL	Candidates may utilize extensive work experience related to the subject area, in place of an academic major in the area. Candidates complete significantly less professional education coursework than traditionally licensed candidates, and need to complete only 6 semester hours of professional education coursework prior to obtaining an AEL.
APL	Candidates are required to complete training and professional development in school law, school supervision and teacher evaluation, and additional professional development work based on self-assessment data and personal learning goals, and this training may be completed as clock hours of professional development, rather than college coursework.
CRB	The CRB allows factors including professional experience and accomplishments of candidates, as well as successful performance on licensure exams, to serve as a basis for meeting licensure requirements without having to take additional college coursework.
PSL	The provisional license for STEM schools may be issued to an individual who holds a bachelor's degree in a field related to the subject to be taught and who passes an examination in the subject area to be taught. A degree or an academic major specifically in the area to be taught is not a requirement; rather, it would be successful performance on the subject matter examination that would be the primary indicator of qualification. Also, candidates are not required to complete any professional education coursework through a college or university, either prior to obtaining the provisional STEM license, or in order to eventually qualify for a professional teaching license. Successful completion of the structured apprenticeship program and successful teaching experience stand in place of the professional education coursework that is required by traditional teacher preparation programs.
E) Upon completion, award the same level of certification/licensure that traditional preparation programs award upon completion.	
AEL	Candidates who complete the alternative educator pathway receive the same level of licensure as those candidates who complete a traditional teacher preparation program
APL	Candidates who successfully complete the alternative principal pathway receive the same professional principal license as those candidates who complete a traditional principal preparation program.
CRB	The CRB grants full professional licensure and provides pathways to full professional licensure for candidates whose cases they review.
PSL	Successful completion of the structured apprenticeship program, two years of successful teaching under the provisional STEM license, and evidence of positive recommendations from the chief administrative officer of the STEM school and the educational service center program administrator would result in eligibility for full professional licensure.

APPENDIX D.3.1

OHIO'S TEACHER EQUITY PLAN

RATIONALE: OHIO'S PLAN TO IDENTIFY, CORRECT AND MONITOR ANY INEQUITABLE DISTRIBUTION OF THE STATE'S HIGHLY QUALIFIED, EXPERIENCED TEACHERS.

REFERENCED IN:
(D)(3)

OHIO'S TEACHER EQUITY PLAN

To ensure high-quality teachers in every Ohio classroom

Department of Education

OHIO'S TEACHER EQUITY PLAN

To ensure high-quality teachers in every Ohio classroom

If there is one clear message that has emerged from educational research, it is this: *teachers make a difference in student learning*. Teachers matter most, and high quality teachers matter even more.

Research on the critical importance of teachers is not new. Over the last 10 years, major studies show that the single most important factor in determining how much students learn is how much their teachers know – their preparation and qualifications, content knowledge and teaching skill (The George Lucas Foundation, 2005). These high-quality teachers have extensive teacher preparation, classroom experience, and in-depth knowledge of the subjects they teach. A 1999 review of policies in 50 states strongly suggests that the quality of teachers is directly related to improved student performance. In fact, students' backgrounds – poverty level, language background and minority status – are less influential in predicting achievement levels than the quality of the teaching force (Darling-Hammond, 1999). Researchers say that while schools can have powerful effects on achievement, variation in teacher quality has the most effect on how much a student achieves (Hanushek, et al., 1998).

The public agrees. In a 1998 poll, nine out of 10 Americans said the best way to improve student achievement is to provide a qualified teacher in every classroom (Haselkorn & Harris, 1998). A 2004 poll confirmed that 91 percent of the American public and 90 percent of public school teachers believe teacher quality is most important – more than parental involvement, facilities, resources or the quality of school principals (Teaching Commission, 2004).

There is no question that Ohio has unacceptable gaps in student achievement, especially between black and white students and between low-income and higher-income students. Unfortunately, Ohio's own research shows that children in low-performing schools, who need the most experienced, most educated, most skilled teachers, sometimes get the least effective educators (Levin, Driscoll, & Fleeter, 2005).

To more equitably distribute highly qualified, experienced teachers, Ohio has developed the Teacher Equity Plan under the umbrella that all teachers should have access to a lifelong resource and support system from the time they enter teaching until they retire. The plan presents a comprehensive set of 68 strategies, organized around nine supportive elements, that clearly demonstrate Ohio's good faith effort to improve the distribution of its most effective teachers.

Developing policies and strategies, however, is not enough. Ohio is ready and poised to move from recommending strategies to taking action. The time is right for Ohio's educational system to provide every child with a competent, caring and highly qualified teacher.

The plan is in place and the work is underway.

Strategies to Ensure an Equitable Distribution of Highly Qualified Teachers

Ohio's Teacher Equity Plan is built upon two key strategies. These strategies are based upon Ohio's quantitative and qualitative research findings and are targeted at identifying, correcting and monitoring any inequitable distribution of the state's highly qualified, experienced teachers:

Key Strategy 1: Increase the percentage of highly qualified teachers in Ohio to 100 percent; and

Key Strategy 2: Continuously monitor and improve the distribution patterns of Ohio's teachers to ensure that poor and minority students are not being taught at higher rates than other students by inexperienced, unqualified and out-of-field teachers.

Supporting Ohio's two key strategies is a comprehensive set of 68 sub-strategies, organized around nine supportive elements. The 68 sub-strategies are the results of findings from Ohio's district- and school-level quantitative data analyses, Schools of Promise case study research, the expertise of the Education Trust partnership project's work group, and national research on teacher quality.

Element 1: Ohio's Data and Reporting Systems Sub-Strategies

1. 1 Collect and publicly report data on the distribution of teacher talent including the percentage of highly qualified teachers in each core subject area and the percentage of highly qualified teachers in schools not meeting Adequate Yearly Progress (AYP).

1. 2 Collect data on teachers' certificates/licenses held; enable educators, parents and other stakeholders to review up-to-date information on the credentials of their schools' teachers and leaders and the achievement levels of various groups of students through a web-based data system.

1. 3 Collect and publicly report data that describe patterns of teacher turnover and mobility, specifically in high-need schools.

1. 4 Advocate for the development of a data system that reports the number of teachers changing *schools* within their district, changing *positions* within their district, *moving* to other districts or into administration, or *leaving* the profession.

1. 5 Collect data related to teachers' perceptions about working conditions associated with high teacher turnover including time, facilities and resources, leadership and professional development.

1. 6 Monitor, on an ongoing basis, the specific staffing needs of Ohio's schools through the generation of data reports that identify subject and location area shortages.

1. 7 Utilize and continuously improve a Web-based recruitment system that matches districts' teaching vacancies with prospective teachers.

1. 8 Develop and implement a data and reporting system that is able to link teacher qualifications to student achievement (value-added data); use the value-added data to reliably measure students' individual progress and to determine the impact of educational, instructional and program practices on student achievement. [Note: By the 2007-2008 school year, Ohio will have a statewide information bank on value-added data.]

Element 2: Ohio's Teacher Preparation Sub-Strategies

2. 1 Create new teacher standards and ensure that the new standards serve as the foundation for preparing all of Ohio's teachers.

2. 2 Develop an annual report on the quality of teacher education in Ohio that provides data on passing rates and the number and specialization of teachers produced by each institution of higher education; expand the performance measures contained in the annual report.

2. 3 Strengthen the collaboration between the Ohio Department of Education and the Ohio Board of Regents to address the over-supply and under-supply of teachers in certain subject areas and types of districts; explore imposing ceiling caps to manage the over-supply of teachers in some areas and the possible use of financial incentives to colleges and universities that recruit, graduate and place teachers in shortage areas.

2. 4 Advocate for the establishment of goals for each institution of higher education related to the number of graduates in high-need subjects and based on the staffing needs of Ohio's high-need schools.

2. 5 Expand the number of Ohio's Charter Colleges of Education that are based on an apprenticeship approach to teacher preparation and designed to meet the specific staffing shortages of partnering high-need school districts.

2. 6 Advocate for the establishment of state college loan forgiveness programs to channel prospective teachers toward schools that have difficulty attracting sufficient numbers of qualified teachers; provide up-to-date information on available federal loan forgiveness programs to prospective teachers.

2. 7 Require teacher preparation programs to include cultural competency in their curriculum to help new teachers understand and appreciate the students, families and communities that they serve.

2. 8 Conduct research on the link between teacher preparation and student performance; use student achievement data to systematically identify what works in teacher preparation and how to improve the state's teacher preparation programs.

Element 3: Ohio's Out-of-Field Teaching Sub-Strategies

3. 1 End the temporary licensing of teachers in Ohio.

3. 2 Publicly report up-to-date information on teachers' certificates/licenses held; notify districts when teachers are not properly credentialed in the subjects they are assigned to teach.

3. 3 Develop and implement a Revised HQT Plan that outlines Ohio's initiatives to ensure that 100 percent of its teachers will be highly qualified by the 2006-2007 school year; provide a variety of professional development opportunities for teachers to become highly qualified.

3. 4 Expand high-quality alternative routes into the profession to allow individuals with relevant expertise in hard-to-fill subjects to enter the profession; ensure that *all* routes into teaching and the principalship are high-quality and standards-based.

3. 5 Streamline licensing and certification procedures.

3. 6 Provide stipends to teachers for teaching mathematics, science or special education in schools that have been identified as hard-to-staff.

3. 7 Provide funds to school districts to contract with institutions of higher education to provide instruction in mathematics, science and foreign language.

3. 8 Develop and fund partnerships with institutions of higher education to train already licensed teachers to become certified in high-need subject areas.

3. 9 Support the development of partnerships between institutions of higher education and high-need school districts to provide professional development for teachers in the hard-to-staff subject areas of mathematics and science.

3. 10 Provide technical assistance to hard-to-staff school personnel to help them fully utilize all of the features of the state's Web-based recruitment system.

3. 11 Promote partnerships that help districts recruit and hire qualified international teachers of hard-to-fill subjects and specializations.

3. 12 Utilize a Credential Review Board to review the licensure applications of alternative-route and out-of-state candidates.

Element 4: Ohio's Recruitment and Retention of Experienced Teachers Sub-Strategies

4. 1 Require and fund high-quality induction experiences for all new teachers and principals, including those who enter the profession through alternative routes; advocate for funds to prioritize induction in high-need schools by providing three years of structured mentoring designed to support teachers and principals.

4. 2 Provide mentor training to experienced teachers to assist them in mentoring entry-year teachers.

4. 3 Improve state-level data systems to reduce the time it takes to issue educator licenses.

4. 4 Provide incentives to highly qualified, experienced teachers to teach in high-need schools.

4. 5 Advocate for collecting data on the number of teachers changing *schools* within their district, changing *positions* within their district, *moving* to other districts or into administration, or *leaving* the profession; conduct exit interviews to identify the factors influencing teacher mobility.

4. 6 Target support to National Board Certification candidates who teach in regions with high numbers of high-need schools and provide incentives so they stay.

4. 7 Explore the idea of providing an opportunity for "high value added" teachers in high-need schools to apply for incentives and rewards to encourage them to stay.

Element 5: Ohio's Professional Development Sub-Strategies

5. 1 Develop and implement new professional development standards; target funds to support only those professional development activities that are aligned with Ohio's new professional development standards and the *No Child Left Behind* (NCLB) definition of high-quality professional development.

5. 2 Require low-performing school districts as well as districts with unacceptably wide achievement gaps to demonstrate compliance with the state's professional development standards through their Comprehensive Continuous Improvement Plans.

5. 3 Implement a statewide technical assistance support system that provides targeted assistance to low-performing districts and schools.

5. 4 Target additional high-quality professional development that focuses on the analysis and use of data to help districts identify achievement gaps and raise the academic performance of all students.

5. 5 Create local professional development regional support sites to ensure that Ohio's new professional development standards will be used by all educators to guide the development of their own plans for professional growth.

5. 6 Develop professional development academies focused on the specific needs of teachers in the state's Appalachian region.

5. 7 Expand the use of technology to support teachers' professional growth including more opportunities for online mentoring support and the use of digital tools.

5. 8 Provide training to school district personnel in value-added growth models.

Element 6: Ohio's Specialized Knowledge and Skills Sub-Strategies

6. 1 Require new teachers to demonstrate, through the Praxis III assessment, their ability to teach diverse learners.

6. 2 Place subject specialists/coaches in high-need schools; provide targeted coaching to teachers who teach reading and mathematics.

6. 3 Develop and promote research-based coaching models.

6. 4 Make a major investment in preparing principals for the unique challenges of high-need schools (e.g., how to promote student learning, how to hire effective teachers).

6. 5 Study the school organization, culture, instructional practices and characteristics of teachers in high-poverty, high-minority schools that significantly raise student achievement (*Schools of Promise*).

Element 7: Ohio's Working Conditions Sub-Strategies

7. 1 Strengthen school leadership through the development and implementation of new principal standards.

7. 2 Increase the pool of high-quality principals through alternative administrator preparation programs.

7. 3 Require and fund high-quality induction experiences for all new principals, including those who enter the profession through alternative routes.

7. 4 Develop a framework of essential criteria for school districts to follow when creating locally determined evaluation systems to assess the performance of principals.

7. 5 Collect data related to teachers' perceptions about working conditions associated with high teacher turnover including time, facilities and resources, leadership and professional development.

7. 6 Keep good teachers where they are needed most by providing tools and resources for improving the working conditions in high-need schools.

7. 7 Adopt school climate guidelines to provide physically safe and emotionally secure environments for all students and staff; adopt a substance abuse and violence prevention policy.

7. 8 Create smaller schools and/or smaller units within schools.

7. 9 Prioritize funds for the renovation of high-need school facilities and construct new facilities based on need.

Element 8: Ohio's New Compensation Systems Sub-Strategies

8. 1 Implement new compensation systems that: recognize challenging schools; are linked to value-added data; and allow for tiered career paths.

8. 2 Provide monetary incentives to encourage highly qualified, experienced teachers who teach in high-need schools to stay.

8. 3 Apply for Teacher Incentive Funding to develop innovative compensation plans that reward teachers who demonstrate success in improving student achievement and closing achievement gaps.

8. 4 Develop career advancement structures to raise compensation for master or mentor teachers.

8. 5 Assist school districts in developing locally determined evaluation systems to assess the performance of teachers.

8. 6 Pay teachers who earn National Board Certification an annual stipend in addition to their regular salary.

Element 9: Ohio's Policy Coherence Sub-Strategies

9. 1 Combine the action plan required of the state's partnership with the Education Trust and the NCLB-required state teacher equity plan to produce *one aligned state plan;* ensure that the state plan evidences coherent policies and aligned strategies that are targeted to improving the distribution of Ohio's highly qualified, experienced teachers.

9. 2 Ensure that Ohio's polices related to equitable teacher distribution are grounded in data analyses findings and are aligned with the state's long-term strategic goals and policy environment.

9. 3 Ensure that state testing policies and systems of rewards and sanctions do not inadvertently drive teachers and principals away from high-need schools.

9. 4 Build and nurture national- and state-level strategic partnerships that promote policy coherence and strategy alignment.

9. 5 Develop strong working relationships between ODE and Ohio's General Assembly.

For more information about Ohio's Teacher Equity Plan, contact:

Center for the Teaching Profession
Office of Educator Equity
25 South Front Street, Mail Stop 501
Columbus, OH 43215-4183
1-877-644-6338 toll free
(614) 728-1726
(614) 752-8996

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APPENDIX E.2.1

OHIO DIFFERENTIATED ACCOUNTABILITY MODEL

RATIONALE: OVERVIEW OF OHIO'S DIFFERENTIATED ACCOUNTABILITY MODEL, INCLUDING KEY FEATURES OF THE MODEL AND INTEGRATION OF THE OHIO IMPROVEMENT PROCESS.

REFERENCED IN:
(E)(2)

OIP Implementation: Getting Started!

These new intervention options require implementation of the *Ohio Improvement Process* (OIP), a four-stage process that involves: (1) using data to identify the district's critical needs; (2) developing a single coherent plan (CCIP) with a limited number of focused goals and strategies for addressing those needs; (3) implementing fully the plan across the district; and (4) monitoring the degree of implementation and evaluating the effects of the improvement process on student performance.

The first step in preparing for OIP implementation at the district level is the establishment (or re-establishment) of a district leadership team (DLT). The use of leadership teams to distribute key leadership functions and direct district-wide implementation of effective practices facilitates the intentional alignment of resources to address identified weaknesses. It also shifts the focus from the individual as leader to a team of individuals responsible for doing the right work, doing it collectively across the system, and holding each other accountable for the desired effect on student performance.

The right work, or the essential practices that must be implemented across the system for sustainable improvements to be made, is defined across six core areas by the *Ohio Leadership Advisory Council* (OLAC). These six areas include: (1) data and the decision-making process; (2) focused goal setting process; (3) instruction and the learning process; (4) community engagement process; (5) resource management process; and (6) board development and governance process.

In districts and schools that have shown steady and sustainable improvement, leadership teams use data to identify a few district goals and strategies around instruction and achievement, intentionally focus effort across the district on implementing strategies and action steps to achieve the goals, and continually monitor the degree of implementation and its desired effect on student performance. April Dominic, OLAC member and superintendent of Big Walnut Local Schools, describes the importance of focus when she says:

> *"All the leadership standards depend on one thing – the will to focus. Leaders must insist that we target all resources, focus every discussion/decision and continuously communicate the focus until every classroom demonstrates the vision. A mentor always said to me, "Leadership is saying no to good ideas" and this has never been more true. If we don't learn to do this in education, we will continue to have a history of disconnected good ideas that frequently change and never see large scale change in every classroom."*

At stage one of the OIP the DLT uses the *Ohio Decision Framework* to review relevant data and answer essential questions, helping to focus the team on the most important problems or critical needs of the district. The OLAC performance assessment rubric, an electronic tool for use by teams in benchmarking their performance against OLAC essential leadership practices, provides a source of data for use in answering questions about leadership. Completion of the decision framework results in a district profile that should be used to affirm priority areas for goals and strategies.

OIP Guiding Principles

- Improvement is everyone's responsibility – at all levels of the district and in all districts.
- Leadership – the purpose of which is the improvement of instructional practice and performance, regardless of role – is a critical component of the OIP and must be addressed in more meaningful ways to ensure scalability and sustainability of improvement efforts on a district-wide basis.
- State-developed products and tools, including professional development, must be designed for universal accessibility and applicability to/for every district in the state.
- A unified state system of support requires the intentional use of a consistent set of tools and protocols by all state-supported regional providers, rather than allowing for multiple approaches across the state, based on preference.

At stage two, the DLT develops a focused plan with a limited number of goals and strategies based on the decision framework profile and directs building leadership teams (BLTs) to complete the building decision framework, reviewing relevant data and identifying any additional focused action steps – related to district goals – that are relevant to their building. Each BLT develops a school improvement plan with action steps aligned to the district goals and strategies. Stages 1 and 2 should be completed about every five years unless the district encounters significant changes that would warrant an intensive review of the data and the re-establishment of district goals. Otherwise, it is anticipated that district goals would remain stable over time.

At stages three and four, the focus is on full implementation of the district and school plans, the ongoing collection and review of data by the DLT and BLTs to gauge the degree of implementation, and the evaluation of the effects of implementation on the achievement of all students and student groups. A five-year *OIP Implementation Schedule* that includes major steps and target time lines is provided on page 4. See the center OIP Graphic for a description of each stage of the OIP.

Five-Year OIP Implementation Schedule

Stage	Target Time Frame	Steps
Prepare for Plan Development	Early Fall of Year 1	*Superintendent meets with external facilitator to receive introduction to OIP*
		Superintendent convenes/reconvenes DLT and provides orientation to OIP
		DLT takes OLAC performance assessment
Stage 1: Identify Critical Needs	By early November	DLT understands structure and organization of the Decision Framework (DF), including collection and organization of local data
		DLT completes the DF, which becomes CCIP needs assessment*
		DLT identifies and affirms critical needs for student performance content and expectations and conditions areas
Stage 2: Develop Focused Plan	By early January	DLT develops up to four (4) focused SMART goals based on DF profile results
		DLT develops a limited number (3 to 5) of research-based strategies per goal and indicators for each strategy
		DLT develops district action steps and completes project "management" template
	By mid-February	DLT works with Building Leadership Teams (BLT) to complete building DF and complete OLAC performance assessment
	By early April	DLT works with BLTs to develop building action steps aligned to district goals and strategies and complete project management template
	June	DLT submits district and school improvement plans as the district CCIP
Stage 3: Implement the Focused Plan	Years 2-5	DLT/BLTs work with district employees and provide development to implement the district plan and school improvement plans (SIPs)
	Annually (Years 2-5)	DLT approves SIPs and provides resources and assistance to schools to support plan implementation
	Ongoing (Years 2-5)	DLT collects data on strategy indicators and refines district plan based on such data and, on a quarterly basis, updates progress on the project management template
Stage 4: Monitor the Improvement Process	Ongoing (Years 2-5)	DLT provides regular progress reports to superintendent for informing board of education
	Ongoing (Years 2-5)	DLT evaluates degree of plan implementation, changes in educator practices, and impact on student achievement
	Ongoing (Years 2-5)	DLT uses monitoring and evaluation data to modify instructional practice and revise plan

*The CCIP is a unified grants application that requires district personnel to work together in the development of one coherent plan that aligns and focuses the work across the district.

More than Compliance

Differentiated accountability provides a vehicle for moving away from a focus on external controls imposed from outside the school district to a focus on internal accountability that holds all adults in the system accountable for improving instructional practice and student learning. Rather than focusing on making improvement on a "school-by-school" basis, the OIP provides a more systematic approach using a connected set of processes and tools for helping districts redefine expectations for how people operate collectively across the district as a system. Recent meta-analytical studies on the impact of district and school leadership on student achievement provide strong support for the creation of leadership teams to clarify shared leadership roles/responsibilities at the district and school level, and validate leadership team structures needed to implement quality planning, implementation, and ongoing monitoring on a system-wide basis. When school board members, superintendents, central office staff, principals, and teachers "stay the course" on the right work, as defined by focused goals for instruction and achievement, student learning increases.

*For more information about the OLAC Leadership Development Framework, contact the Ohio Department of Education, Center for School Improvement, at 614.466.5834, or the Buckeye Association of School Administrators at 614.846.4080.

Ohio's Differentiated Accountability Model:

Promoting Flexibility, Innovation for District-wide Improvement of Instructional Practice and Student Performance

In spring 2008, Secretary of Education Margaret Spellings invited states to participate in a pilot to implement a differentiated accountability model for distinguishing between schools and districts in need of intensive intervention and those that are closer to meeting their goals. The pilots are intended to provide states with additional flexibility for innovation in providing more targeted and effective interventions for districts and schools in need of improvement.

Differentiated accountability represents a significant new development in accountability policy and practice by using federal requirements/funds as a lever for building district/school capacity to improve student performance and by better targeting state support for district-wide continuous improvement under NCLB authority. However, states' differentiated accountability models must maintain the current measurement of adequate yearly progress (AYP) under section 1111 of NCLB.

Overview of Ohio's Model

As one of six states awarded the opportunity to use differentiated accountability, Ohio's model offers a systematic approach that assists districts and their schools in using data to target improvement efforts by identifying their greatest needs and aligning work around a limited number of focused goals. It does not change how districts or schools make or miss Adequate Yearly Progress (AYP), local report card indicators, or school or district designations. It does:

- Allow student progress to be considered when determining improvement status, reducing the impact of how long a district or school has missed AYP;
- Place districts and/or schools that miss AYP into categories based on degree of complexity and level of support needed instead of how long a district or school has missed AYP;
- Categorize districts and their schools based upon the collective percentage of student groups not meeting AYP in reading and mathematics; and
- Require districts and their schools to move through the Ohio Improvement Process (OIP) together, rather than being treated as individual disconnected entities.

Features of Ohio's Differentiated Accountability Model

- [illegible]
- [illegible]
- Organizes district/school data to customize intervention ... to critical needs as determined through a comprehensive needs assessment.
- Accelerates support and better targets resources and assistance to the districts and schools that need the most support.
- Provides high quality consistent training and support through a unified regional infrastructure.

Under the current system of federal accountability under NCLB, a series of sanctions is applied based on the length of time a school or district has been in improvement status. Each year the district or school continues to miss AYP, increasing consequences are imposed that range from offering transfer options and tutoring for students to restructuring school or district governance. Under the current law, the consequences are the same whether the district/school missed AYP for one group of students in one subject area or missed the mark for multiple groups of students in both reading and mathematics.

For districts in corrective action (i.e., those that failed to meet AYP for more than four years), consequences can include replacing district personnel; removing particular buildings from the jurisdiction of the district and establishing alternative governance and supervision arrangements; appointing a receiver/trustee to administer the affairs of the district in place of the superintendent and local school board; and abolishing or restructuring the district.

In contrast to the current system, Ohio's Differentiated Accountability model treats districts and their schools as part of a system – rather than as fragmented entities within the system – and requires the district and its buildings to move through the improvement process as a unit. Instead of focusing on the number of years that a school or district missed AYP, Ohio's new model categorizes districts and schools into three risk categories (low-, medium-, and high-support) based on the aggregate percentage of student groups not meeting AYP in reading and mathematics, and provides them with different options for interventions in addition to those required by law.

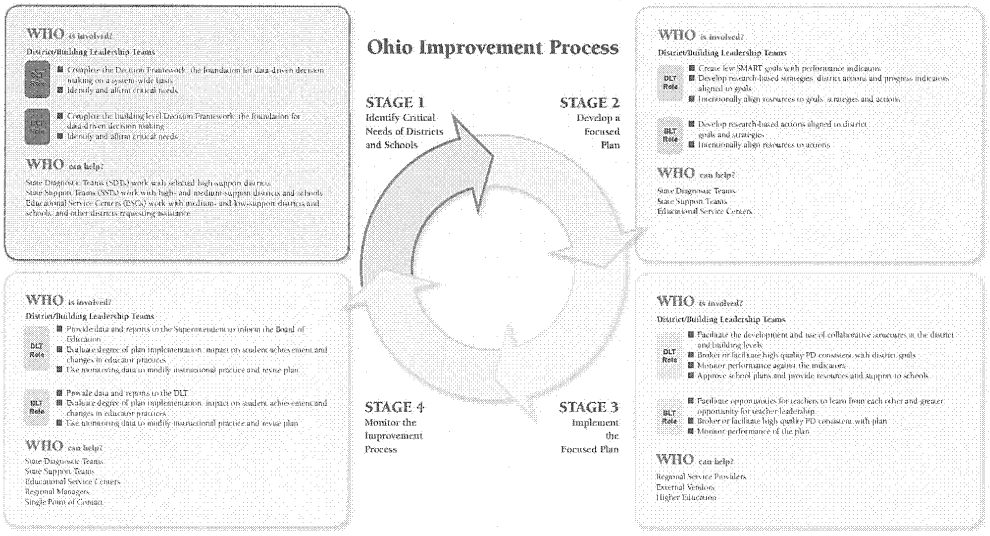
Support Categories for Districts Under Ohio's Differentiated Accountability Model

LOW SUPPORT	MEDIUM SUPPORT	HIGH SUPPORT
• District and all buildings in improvement status fall to meet less than 20 percent of AYP measures • Supported by Educational Service Centers (ESCs)	• District and all buildings in improvement status fall to meet 20–29 percent of AYP measures • Supported by State Support Teams (SSTs) and/or ESCs	• District and all buildings in improvement status fail to meet more than 29 percent of AYP measures • Supported by SSTs

Required/Optional Interventions Under Differentiated Accountability	District Level of Support Needed					
	LOW		MEDIUM		HIGH	
	Required	Optional*	Required	Optional*	Required	Optional*
Public school choice required for all identified Title I-funded buildings	√		√		√	
Supplemental Educational Services (SES) required for all Title I-funded buildings identified and failing to make AYP for three or more years	√		√		√	
Statement of process that the district has demonstrated as a commonly-used (or high-quality) support district	√		√		√	
Use the Ohio Decision Framework to create district and building needs assessments	√		√		√	
Develop district and building-focused improvement plans based on needs assessment guidance	√		√		√	
10 percent of Title I funds directed to Professional Development (PD)—at the building and/or district level, as appropriate	√		√		√	
Annual, measurable objectives for each affected disaggregated group	√		√		√	
Establish a District Leadership Team (DLT) and Building Leadership Teams (BLTs), chiefly conduct business in accordance with the DLT/BLT framework		√	√		√	
Choice returns and is serviced by the State Support Team as defined by the State					√	
Choice driven by a state-approved Diagnostic Team with supportive step-by-step evaluation of district-level critical areas that are those associated with the reasons the school did not make adequate yearly progress (AYP)				√		√
Data-driven, high-quality professional development plan under the oversight of the State Support Team						√
Reopen the school as a public charter school						√
Replace all or most of the building staff (which may include the principal) who, in the view of the local district, can be expected to help the school make adequate yearly progress				√		√
Institute and fully implement a new curriculum including PD for teachers				√		
Significantly decrease management authority at the building level				√		
Appoint an outside expert to advise the building on its progress				√		
Extend the school year or school day for the building				√		
Restructure the internal organizational structure of the building				√		
Enter into a contract with an entity to operate the public school						√
Additional options for districts failing to meet AYP for a fourth consecutive year and not making significant progress toward the required goals and additional interventions for districts failing to meet AYP for a fifth consecutive year: • Defer programmatic funds or reduce administrative funds • Replace district personnel who are relevant to the failure to meet AYP • Remove particular school buildings from the jurisdiction of the district and establish a separate governance structure • Appoint a receiver or trustee to administer the affairs of the district in place of the superintendent and school board • Invoke the Academic Distress Commission of the district created AYP for four consecutive years and is authorized to declare a Fiscal Emergency using state accountability measures						√

*Optional: districts added to this list in the district section, or state mod does not make or more

NOTE: Districts and buildings operating in the same two-year category and not making significant progress toward the required goals add additional interventions in each of the three years. Significant progress is defined as an average increase in scores over the most three years of assessments for each required student group that, if maintained, indicates all students in identified groups will be proficient by 2013–2014. The same two districts require additional interventions on building in any category that are demonstrating significant progress.



District and building leadership teams form the foundation for implementation of the Ohio Improvement Process. These teams, referred to as DLTs and BLTs by the Ohio Leadership Advisory Council, serve to distribute key leadership functions and create a common culture of expectations for focusing and following through on the right work. They help district and school personnel move past a programmatic focus to a focus on collective work to improve instruction and student learning.

While membership varies by district, most DLTs are comprised of the district superintendent or assistant superintendent, selected central office personnel, teacher and principal representatives, and others (e.g., treasurer or person in charge of business operations; parent/family members, school board representatives). BLTs include the principal or assistant principal, teacher representatives, and often others as noted above. Both DLTs and BLTs maintain a district-wide focus on high achievement for all learners.

APPENDIX E.2.2

DESCRIPTION OF THE STATE SYSTEM OF SUPPORT

RATIONALE: OVERVIEW OF OHIO'S UNIFIED STATE SYSTEM OF SUPPORT WHICH FACILITATES IMPROVEMENT EFFORTS AT THE LEA, REGIONAL AND STATE LEVELS.

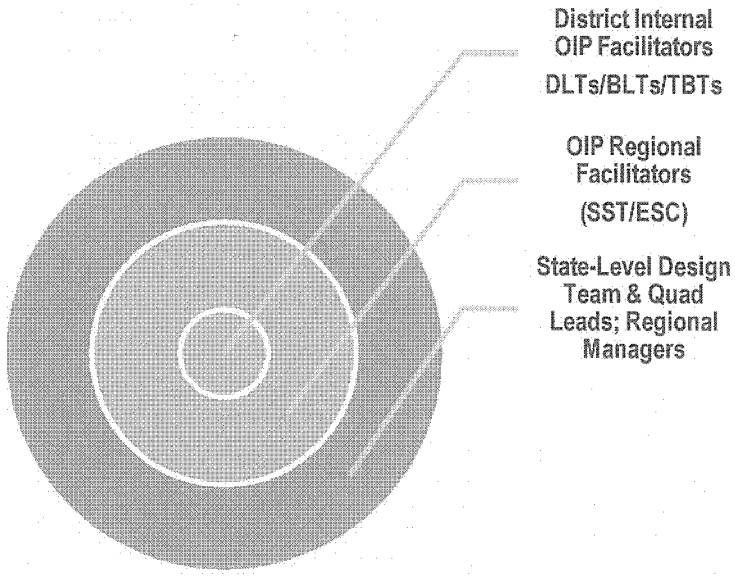
REFERENCED IN:
(E)(2)

Ohio's Statewide System of Support

Ohio's State System of Support (SSOS) is designed to build capacity at all levels (i.e., state, regional, district, and school) to continuously improve instructional practice and performance through the use of the Ohio Improvement Process. Implementation of the OIP is a large-scale statewide effort that better positions the state and the regions to anticipate and address critical needs reported by districts and their schools.

Ohio believes that the state's role is to ensure high quality, consistent support to any district/school, regardless of status, through development of a high functioning statewide system of support. To that end, Ohio has created several interrelated structures that support the ongoing development of its SSOS (see Figure 1).

Figure 1: Components of Ohio's Statewide System of Support



The District Leadership Team (DLT) and Building Leadership Teams (or Community School Leadership Teams in the case of community schools) lead the ongoing process of improvement. This includes:

- Use of the Ohio Decision Framework tool, which helps districts, buildings, and community schools more efficiently complete a comprehensive needs assessment based on data;
- Use of the needs assessment to drive development of the major components of the district's comprehensive continuous improvement plan (CCIP), focusing on a limited number of parallel goals and strategies specific to remedying the district's and schools' most pressing problems; and
- Use of the implementation management/monitoring component of the CCIP to support ongoing monitoring of the degree of implementation of district/building/community school strategies and actions, and resulting changes in adult practices and student outcomes.

Regional managers (state education agency personnel) (1) support and validate the effective implementation of the Ohio Improvement Process (OIP); (2) provide oversight of the performance agreement between fiscal agents and the Ohio Department of Education; and (3) provide observational information to ODE about the region and its districts.

In addition to the support and oversight role performed by regional managers, a **State-level Design Team** with representation from each of Ohio's state support team (SST) regions, as well as representatives from higher education, districts, ESCs, and ODE works to ensure consistency and focus in the design of training and facilitation materials and protocols used by regional facilitators. Four state support team members, one from each quadrant of the state, are designated as "**quad leads**" and are responsible for the development, in cooperation with the SLDT, and ongoing delivery of training for SST/ESC personnel, district internal facilitators, and district and building leadership teams.

External facilitators from state support teams and Ohio's 56 educational service centers (ESCs) provide ongoing support to district internal facilitators, district leadership teams (DLTs), school-level or building leadership teams (BLTs), and teacher-based teams (e.g., grade-level teams, vertical/horizontal teams, data teams, content area teams, etc.) in making and sustaining improvements in instructional practice and achievement for all students/student groups on a district-wide basis.

APPENDIX E.2.3

PERSISTENTLY LOWEST ACHIEVING SCHOOLS IDENTIFICATION METHODOLOGY

RATIONALE: DESCRIPTION OF THE METHODOLOGY USED TO IDENTIFY OHIO'S PERSISTENTLY-LOWEST ACHIEVING SCHOOLS AND EVIDENCE OF ALIGNMENT TO REQUIREMENTS OF THE FEDERAL RACE TO THE TOP PROGRAM AND THE SCHOOL IMPROVEMENT GRANT.

REFERENCED IN:
(E)(2)

The Definition and Selection of Ohio's Persistently Lowest Achieving Schools for the Federal Race to the Top Program and the School Improvement Grant

Ohio's "Persistently Lowest Achieving Schools" includes the **lowest achieving five percent of Title 1 schools in school improvement** *and* the **lowest achieving five percent of Title 1 Eligible secondary schools regardless of school improvement status**. In addition to the lowest achieving five percent, both groups of schools (Title 1 funded and Title 1 eligible) must include any secondary school that has a graduation rate less than 60 percent over a five year period.

The selection criteria used by Ohio to identify the persistently lowest achieving schools directly follows the US Department of Education's guidance for the Race to the Top (RTTT) programs and the School Improvement Grants (SIG). While the RTTT definition of persistently lowest achieving schools is less prescriptive and allows states some discretion in considering additional indicators of academic achievement, the SIG definition is very specific as to which measures must be used in defining achievement, and specifically notes that no other indicators of student performance may be considered when identifying the lowest-achieving schools. As a result, Ohio's definition and selection of persistently lowest achieving schools tightly adheres to the SIG guidance.

Identifying eligible schools
To identify the lowest achieving schools eligible to receive SIG and RTTT funding, all schools were divided into two categories:

1. **Title 1 Schools** (received Title 1 funding in FY 2010) that are in school improvement.
2. **Title 1 Eligible secondary schools** that do not receive Title 1 funding, regardless of school improvement status.

Dropout recovery schools were not included in either group of schools. This type of school pertains mainly to community schools that serve over-age, under-credited students who have dropped out of high school. While the RTTT guidance states than an SEA may not exclude a particular population of students (e.g., LEP, students with disabilities, etc.) from its list of lowest achieving schools, there is one exception – dropout recovery schools.

> Addendum on 12/18/2010 for SIG: "One narrow exception to the general rule above may be a school that is specifically designed to serve over-age, under-credited students—*i.e.*, a school designed to re-engage students who have dropped out of high school and who, by definition, cannot graduate within the standard number of years—and that might automatically be identified as among the persistently lowest-achieving schools by virtue of the 60 percent graduation rate prong of the definition. An SEA may determine, on a case-by-case basis, giving careful consideration to the mission of the school, student performance, and the intent of the SIG final requirements, to exclude such a school from its list of persistently lowest-achieving schools."

Measuring achievement
In determining the lowest achieving schools, SIG requires that states look at two factors – 1) the school's current performance in reading and mathematics, and 2) the school's progress on reading and mathematics over a number of years. SIG permits states to determine the "number of years" – Ohio has selected five years as its timeframe for measuring progress. In addition, states have the discretion to determine how they will weight these two factors when coming up with a "single" performance score.

The SIG guidance is very explicit that no other indicators of student performance may be considered when identifying the lowest-achieving schools. Further, the SIG guidance states that performance in reading and mathematics must be for the "all students group," which includes limited English Proficient students and students with disabilities, even students with disabilities who take an alternative assessment.

To obtain a measure of each school's current performance, ODE combined each school's 2009 grade level performance in reading and mathematics (grades 3 through 11) into a single weighted-average percent proficient for that building. To measure each school's progress over time, ODE created a single weighted- average percent proficient for reading and mathematics over a five year period (2005-2009).

Each school's current performance and its measure of progress over time were weighted equally at 50 percent and combined into a single measure – "combined percent proficiency." This single number for each school was used to rank all eligible

schools in each category (e.g., Title 1 schools in school improvement or Title 1 eligible secondary schools). Using the rank, ODE then identify the lowest achieving schools.

Identifying Ohio's persistently lowest achieving schools
The RTTT and SIG guidance requires states to identify the **lowest achieving five percent** in each category of schools – Title 1 schools in school improvement and Title 1 eligible secondary schools. Using ODE's ranking of the "combined percent proficiency" measure, the lowest five percent of the schools on the list are automatically put into the category of "persistently lowest achieving schools."

In addition to the lowest achieving five percent, RTTT and SIG require states to include **secondary schools with graduation rates less than 60 percent over a number of years** in their list of "persistently lowest achieving schools."

Putting all eligible schools into three tiers for SIG
For the purpose of using SIG funds, the federal guidance requires states to put all eligible schools into the following three Tiers:

Tier 1 Schools – lowest achieving five percent of Title 1 schools in school improvement or Title 1 secondary schools with a five year graduation rate less than 60 percent.

Tier 2 Schools – lowest achieving five percent of Title 1 eligible secondary schools or Title 1 eligible secondary schools with a five year graduation rate less than 60 percent.

Tier 3 Schools – All Title 1 schools in school improvement that are not in Tier 1 (the persistently lowest performing schools) are put into Tier 3 for the purpose of using SIG funds.

Title 1 eligible secondary schools that do not meet the criteria for Tier 2 are removed from the list of schools eligible to apply for SIG monies. For more detail on the breakdown of SIG tiers, see the SIG Guidance dated 12/18/2009.

Schools identified in SIG Tier 1 and SIG Tier 2 meet the definition of persistently lowest achieving schools for the purpose of Race to the Top Program.

> [RTTT Guidance dated November 2009] "Persistently lowest-achieving schools means, as determined by the State: (i) Any Title I school in improvement, corrective action, or restructuring that (a) Is among the *lowest-achieving five percent of Title I schools in improvement*, corrective action, or restructuring or the lowest-achieving five Title I schools in improvement, corrective action, or restructuring in the State, whichever number of schools is greater; or (b) Is *a high school that has had a graduation rate* as defined in 34 CFR 200.19(b) *that is less than 60 percent over a number of years*; and (ii) *Any secondary school that is eligible for, but does not receive, Title I funds* that (a) Is among the *lowest-achieving five percent of secondary schools* or the lowest-achieving five secondary schools in the State that are eligible for, but do not receive, Title I funds, whichever number of schools is greater; or (b) Is a high school that has had a graduation rate as defined in 34 CFR 200.19(b) that is less than 60 percent over a number of years."

APPENDIX E.2.4

DESCRIPTION OF THE OHIO HIGH SCHOOL TRANSFORMATION INITIATIVE

RATIONALE: DESCRIPTION OF THE OHIO HIGH SCHOOL TRANSFORMATION INITIATIVE, A COLLABORATION BETWEEN ODE, LEAS, USDOE, THE BILL AND MELINDA GATES FOUNDATION, THE KNOWLEGEWORKS FOUNDATION AND OTHER FOUNDATIONS TO TURN AROUND OHIO'S LOWEST-ACHIEVING HIGH SCHOOLS.

REFERENCED IN:
(E)(2)

Ohio High School Transformation Initiative (OHSTI)

In 2002, the Ohio Department of Education, in partnership with KnowledgeWorks Foundation (KWF), the Bill & Melinda Gates Foundation (BMGF), and the U.S. Department of Education, entered the high school improvement arena at the primary point of service delivery, the school. With KnowledgeWorks as its primary partner, the state launched the Ohio High School Transformation Initiative (OHSTI), which focused on school turnaround, and the Ohio Early College High School Network (ECHS), which immerses would-be first generation college students in the college experience while still in high school. Ohio's goal was to change forever the way in which our high schools are designed and operated, moving them from assembly-line, factory model institutions to agile learning organizations for the 21st century.

KnowledgeWorks began the research and design phase of its turnaround work with 17 urban districts, 42 large high schools and 55,000 students. Overall, during the course of seven years and nearly $100 million in leveraged federal, state, local and (primarily) philanthropic investment, the Ohio-KWF partnership launched 73 redesigned high schools across 11 urban districts and nine early colleges in eight districts in Ohio.

This turnaround plan was augmented with one of the nation's largest networks of Early College High Schools, with the first school opening in 2003 and the final in the fall of 2008. These schools allow students who otherwise might not be considered college material to attend high school and college at the same time – providing the support and opportunity that allows them to earn as much as an associate degree by the time they leave high school.

The high school turnaround and ECHS efforts have effectively erased the achievement gap in some of Ohio's poorest and most academically challenged high schools. With a portfolio of (now proven) high school innovation models — turnaround and Early College (whose network includes two STEM schools) — these schools have shown measurable results despite being located in some of Ohio's most challenged urban school districts.

On the turnaround front, OHSTI's conversion of low-performing, traditional comprehensive high schools into multiple small schools or small learning communities within a single school showed the following results:

- Overall high school graduation rates in OHSTI schools increased ***by 32%*** from 2002 to 2008. During that same time period, the state graduation rate increased just over 2%.
- The graduation gap between OHSTI high schools and all Ohio high schools closed dramatically between 2002 and 2008, by more than 73%, with 38% of sites now exceeding the state average graduation rate.
- Nearly 8 out of 10 African-American students in OHSTI sites are graduating — a 29% increase from 2002 to 2008, surpassing the state's graduation rate for African-American students during the same period. In fact, the graduation rate for African-American students at current OHSTI sites was, on average, six percentage points below the state when they entered the initiative, and today the graduation rate for African-American students in OHSTI schools is an average of nearly ***13 percentage points above the state, effectively closing the achievement gap here.***
- This increase in OHSTI sites happened at a time when the communities in which these schools sit moved from an average of 17% to 72% of students eligible for free and reduced price meals.
- One hundred percent of schools were in Academic Emergency or Academic Watch (the lowest categories in the state's accountability system) when OHSTI began. A full 80% of sites have improved their state ratings over the course of the initiative, with 60% of sites moving into "Continuous Improvement" or "Effective" categories.

Like the OHSTI's turnaround effort, results for the Early College High School Network are also impressive:

- All Ohio ECHS students earn a range of college credits, with greater than ***one in three ECHS students*** graduating high school with both a high school diploma *and* two years of college credit (60 hours) or an associate degree.
- One hundred percent of the Ohio Early College High Schools achieved Adequate Yearly Progress.
- Eighty percent of Ohio's ECHS attained "Excellent" ratings in the state's accountability system.
- An average of 91% of Ohio's ECHS students are graduating from high school—***more than six percentage points above the state average.***

APPENDIX F.2.1

SCHOOL OPTIONS GRAPHIC

RATIONALE: CHART DESCRIBING ALL OF OHIO'S PUBLIC AND PRIVATE SCHOOL OPTIONS.

REFERENCED IN:
(F)(2)

School Options in Ohio

The school options which meet Ohio's compulsory education requirements are described in the table below.

School Option	Role of the State Board and ODE	Structure	Receipt of State & Federal Funds	Teacher Licensing Requirements	Instructional Design	Assessment
Traditional Public School Districts 614 City, Exempted Village, and Local School Districts and 49 Joint Vocational School (JVS) Districts 1.8 million students	Oversight; Monitoring; Funding; Approve changes to or creation of districts	Publicly-elected local school board governs district operations.	Yes. State funding includes foundation payments, pupil transportation funding, etc. Eligible for federal funding. Students eligible for Post Secondary Enrollment Option (PSEO).	All Ohio certification and licensing requirements apply, and teachers must be Highly Qualified.	Required to comply with Operating Standards for Ohio Schools and minimum standards for curriculum and pedagogy; minimum instructional time; IDIEA applies; NCLB applies. Ohio Core graduation requirements become effective for freshman in 2010-2011.	All state-required assessments apply. Districts and buildings are identified for improvement based upon academic performance and required to participate in the Ohio Improvement Process.
Community Schools 324 schools in operation serving 87,824 students	ODE oversees all sponsors and approves sponsors of new start-up community schools. State Board holds appeal hearings when requested (rejected sponsor applications, revoked sponsors, or terminated community schools). Ohio Administrative Code 3301-102-01 through 07 and 3301-104-01 through 03.	Contract between a sponsor and individuals representing the school. Governing Authority is responsible for the operation of the community school. Minimum of 25 students must be enrolled. Community schools serving general education students primarily are subject to closure criteria based upon LRC ratings of performance.	Yes. State funding includes foundation payments (per-pupil funding, not EBM). Transportation is provided by local district, although community schools can opt to provide transportation and receive direct funding. Eligible for federal funds and federal charter school start-up grants. Students eligible for PSEO.	All Ohio certification and licensing requirements apply, with the exception that teachers may teach outside their areas of certification. Teachers must be Highly Qualified.	Curriculum and instructional delivery set forth in the community school contract; Operating Standards for Ohio Schools and minimum standards for curriculum and pedagogy do not apply; IDIEA applies; NCLB applies. Ohio Core graduation requirements become effective for freshman 2010-2011.	All state-required assessments apply. Community schools are identified for improvement based upon academic performance and required to participate in the Ohio Improvement Process.

School Option	Role of the State Board and ODE	Structure	Receipt of State & Federal Funds	Teacher Licensing Requirements	Instructional Design	Assessment
Chartered, Nonpublic Schools 792 schools 195,000+ students	Grant charters to nonpublic schools. ODE monitors to ensure compliance with Operating Standards. Ohio Administrative Code 3301-35-12	Governing board operates pursuant to the Operating Standards. Minimum of 15 students or 3 grade levels needed to obtain/maintain a charter.	No foundation payments. Administrative cost reimbursement & auxiliary services reimbursement available. Local district provides transportation. Supplemental services for special needs students may be provided through the local school district. Students eligible for PSEO.	Teachers must be licensed in Ohio. A Non-tax Certificate is an option for licensure (issuance requires a baccalaureate degree and background check).	Required to comply with Operating Standards for Ohio's Schools (OAC 3301-35). Ohio Core graduation requirements become effective for freshman in 2010-2011.	Students are required to pass OGT for graduation. Annual standardized tests are required and Ohio Achievement Tests may be used to meet this requirement.
Scholarship Programs						
Cleveland Scholarship Program 39 participating chartered nonpublic schools 5,388 students	Administer and oversee program.	Currently available to students in the Cleveland Metropolitan School District.	Students are awarded scholarships; funds used to pay tuition at chartered, nonpublic schools.	See Chartered Nonpublic School Information Above.	See Chartered Nonpublic School Information Above.	Students are required to pass OGT for graduation. Ohio Achievement Tests (grades 3-8) are required.

School Option	Role of the State Board and ODE	Structure	Receipt of State & Federal Funds	Teacher Licensing Requirements	Instructional Design	Assessment
Education Choice Scholarship 201 public school buildings in 27 districts are designated 307 participating chartered nonpublic schools 11,722 students	Administer and oversee program.	Available to any public school student who attends a public school rated Academic Watch or Academic Emergency for 2 out of 3 years, and incoming kindergartners and community school students who would be assigned to those schools.	Students are awarded scholarships; funds used to pay tuition at chartered, nonpublic schools.	See Chartered Nonpublic School Information Above.	See Chartered Nonpublic School Information Above.	Students are required to pass OGT for graduation. Ohio Achievement Tests (grades 3-8) are required.
Autism Scholarship Program 1,200 students are currently participating 200 providers	Administer program, which involves approving recipients and participating providers.	Available to any student age 3-21 years old with Autism identified by the resident public district.	State funds are used to reimburse private providers; the student is counted initially in the resident district's ADM and the scholarship amount is deducted from the district's state foundation funding and sent to the provider as reimbursement for services (both parent and provider names are on payment).	The reimbursable services are limited to those required by the student's IEP and must be provided by appropriately licensed staff.	N.A.	Students are not required to participate in state assessments.

School Option	Role of the State Board and ODE	Structure	Receipt of State & Federal Funds	Teacher Licensing Requirements	Instructional Design	Assessment
Non-chartered, Non-tax supported ("08") Schools 323 schools registered; unknown number of students	Maintain listing of non-chartered schools that submit notifications per OAC 3301-35-08.	Recognized by notification to parents and report to ODE that the school is in compliance with the requirements of OAC 3301-35-08.	No state funds; no transportation; no administrative cost reimbursement or auxiliary services. Students are eligible for PSEO.	Baccalaureate degree or Bible college or Bible institute diploma required. Licensure through ODE not required.	Locally determined, but must cover curriculum areas per OAC 3301-35-08. Minimum school year and school day defined.	None.
Home Education Estimated 24,770 students	Ohio Administrative Code 3301-34.	Parent is required to provide Home Education notification to the public school district superintendent.	No state or federal funds.	Assurance that the home teacher has a high school diploma or equivalent, or works under the direction of a person holding a baccalaureate degree.		Determined by the parent, but must cover curriculum areas in OAC 3301-34 and include at least 900 hours of instruction. Annual assessment required, using a standardized test, a review by a certified teacher, or another assessment per agreement between the parent and the public school district superintendent.

APPENDIX P.2.1

METRO EARLY COLLEGE SCHOOL OVERVIEW

RATIONALE: DOCUMENT DESCRIBING METRO EARLY COLLEGE HIGH SCHOOL AND ITS ROLE AS A MEMBER OF THE OHIO STEM LEARNING NETWORK.

REFERENCED IN: PRIORITY 2

Metro Leading High School Reform in Ohio

- To compete the Columbus region must advance an educational strategy that encourages STEM careers, focuses on problem solving and data-driven thinking.
- The mindset that college is only for the brightest students must change.
- Metro Early College High School is doing this using an innovative curriculum that encourages student-directed learning and ensures college readiness.
- Metro's students are expected to complete all of their high school requirements and up to two years of college credits in four years.
- Students are completing high school classes, moving onto college courses and excelling with an average college of 3.84.
- Metro is implementing its early college studies through a STEM curriculum. Students focus on science, technology, engineering and mathematics.
- They also meet all of their other state-mandated requirements.
- Metro has been able to expand its impact into the country's 47 high schools with curriculum, training and resources. Through the Ohio STEM Learning Network, Metro is impacting high schools in the state as it relates to STEM.

including those created under HB 119:

STEM Schools

17 Akron: National Inventors Hall of Fame School
33 Cincinnati: Greater Cincinnati STEM High School
28 Cleveland: MC² STEM High School
29 Columbus: Linden-McKinley STEM High School
34 Dayton: Dayton Regional STEM School
30 New Miami Local School District
31 Perkins Public Schools
32 Reynoldsburg City Schools

K-8 STEM Programs of Excellence

1 Akron Public School District
2 Anna Local School District
3 Avon Lake City School District
4 Bexley City School District
5 Canton Local School District
6 Cincinnati Public School District
7 Columbus City School District
8 Dayton Public School District
9 Fairborn City School District
10 Fort Recovery Local School District
11 Girard City School District
12 Liberty Local School District
13 Miller City-New Cleveland School District
14 Morgan Local School District
15 Napoleon Area School District
16 New Boston Local School District
17 New Lebanon Local School District
18 New Miami Local School District
19 Newcomerstown Exempted Village
20 Northwestern Local School District (Wayne Co.)
21 Oberlin City School District
22 Pomeroy City School District
23 Reynoldsburg City School District
24 Westlake City School District
25 Worthington City School District
26 Youngstown City School District

Its impact is also being felt across the nation as education travel across the country to tour the school and learn from its successes. Particularly the start up of Marshall University's STEM high school in West Virginia and Washington State's STEM high school in Richland, WA.

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Your Potential. Our Mission. metro

Metro Early College High School R&D Hub for Education Reform

Metro Early College High School is programmatically targeted to advance changes in teaching and learning for the 21st century.

As a research and development site, Metro is charged to build a solid research base about ways learning can be enriched through STEM experiences, instruction can be improved, and leadership enhanced for 21st century teaching and learning. In doing this, Metro works with teachers (existing and pre-service), leaders (existing and pre-service) and diverse student populations to develop new learning environments and professional development models that promote 21st century teaching and learning.

Metro Early High School's work has yielded significant classroom-based findings about effective learning and new professional development models for sustained achievement in its academic areas to promote success in STEM environments. The results indicate that diverse students can excel in classrooms supporting inquiry and exploration. Examination of research-based best practices then provides an ideal way that teachers and schools can be better supported in their efforts to advance student learning and achievement in STEM environments in high schools, college and beyond.

Metro's methodology as a research and development site is collaborative and partnership driven. Working through public and private partnerships with Battelle, the 16 districts of the Educational Council and the Ohio State University brings a wealth of opportunity that is unrealized in this country. Structurally, the methodology follows the following outline:

- Building on earlier research
- Connecting research with practice, assessment and standards regionally throughout the state, and across the country
- Producing results
- Offering 21st century leadership and professional development

Educational Investment Opportunities

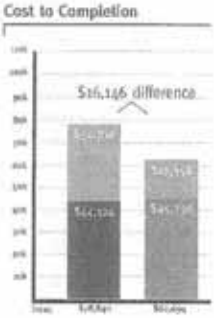
Moving forward Metro needs to identify public and private sector investors willing to catalyze how districts educate students, especially in the STEM fields. The return on these investments increases as students graduate, go onto college, earn degrees and enter the workforce ready to be global citizens in a 21st century economy.

Because Metro's model of participation by districts, the private sector and higher education can be replicated, investors have the opportunity to impact education reform locally, statewide and nationally.

To have the opportunity to (take) classes at The Ohio State University is an outstanding academic boost.

— Sarah Baird,
Third Year Student

Cost to Completion



Average Cost at Franklin County HS
Metro Early College HS
OSU College Degree

Students at Metro will complete up to 60 hours of college coursework, while still in high school. This reduces the cost of college for families. Metro Early College High School graduates will earn their college degrees more quickly, resulting in lower tuition expenses.

Metro is a Research and Development School

Metro is able to help students attain a higher level of achievement using innovative teaching techniques, non-traditional evaluation methods and a participatory democratic process that allows students to make decisions about their own learning and the school's governance.

As Ohio's only R&D school, Metro teaches subjects differently using a project based, hands-on approach. It has integrated classes like Chemistry taught in Chinese – a first in the nation. Metro also encourages the use of technology in all subjects as a tool to gather and evaluate data.

Using the R&D model allows the school to experiment in a low-risk, cost-efficient manner. Other schools can adopt those elements and programs that work; those that don't can easily be changed. This makes students, teachers and the school as a whole, flexible.

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At the Florida Marine Sciences Summer Camp I swam with fish saw nurse sharks and observed a coral reef. It was AMAZING. I never thought I would get such an opportunity to be a part of a summer program as extraordinary as this one.

— Kamara Willoughby,
Third Year Student

Metro Early College Supports Governor's Education Reform Efforts

Governor Strickland's goal is to increase Ohio's college graduation rate by 20% by 2017. Ohio cannot succeed when only 25% of its workforce has a 4-year college degree. The fastest growing job sectors are in areas where STEM knowledge is required. Ohio based growth industries as varied as health care, logistics, energy and automotive technology are looking for new solutions and technological leadership to remain globally competitive.

Clearly Ohio's students need a college degree in order to succeed in a 21st century economy. Early College High Schools like Metro are one of the ways leaders in Ohio and around the country are changing the current system of secondary and postsecondary education.

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Metro Students Earn More Credits, More Quickly; Exceed OGT Expectations; & Excel at College Work

- Last year, freshmen at Metro earned 8.5 high school credits. Typically first year students earn an average of 6 credits.
- Also for the 2007-08 school year, 27 second year Metro students – 35% – completed 18 hours of high school credit. At other schools students earn 12 credits a year.
- 100% of Metro's third year class has passed all sections of the OGT.
- Metro ranks 20th in math passing rates among 610 school districts statewide.
- Metro has a high percentage of students achieving advanced and accelerated scores on the OGT. Statewide, it was ranked 13th in reading, 14th in science, 15th in math and 75th in writing.
- More than 33% of all Metro students are taking college coursework.
- 58% of Metro's third year students have completed all of their high school requirements, are participating in internships, and taking college coursework at The Ohio State University.
- Metro students are taking between 5-18 credits per quarter at OSU and have an average GPA of 3.86.

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I feel like Metro has allowed me to get more out of my education. Attending Metro has been an amazing experience for me.

— Abigail Ward,
Second Year Student

Early College High School Investments Make Good Sense

A study by the KnowledgeWorks Foundation has confirmed that costs to the state and families are lower for early college high school graduates because of the shorter amount of time it takes to earn a degree.

This study also looked at the return on investment of Ohio's early college program. Every $1 invested by the state results in a return of $1.30 in 15 years after a student graduates and a return of $2.50 — 250% — 25 years after graduation.

A Board of Regents study found that 37% of recent high school graduates took at least one remedial course in English or Math during their first year in college, costing the state $32 million a year. Metro students are college ready and will save the state by not having to take this remedial coursework.

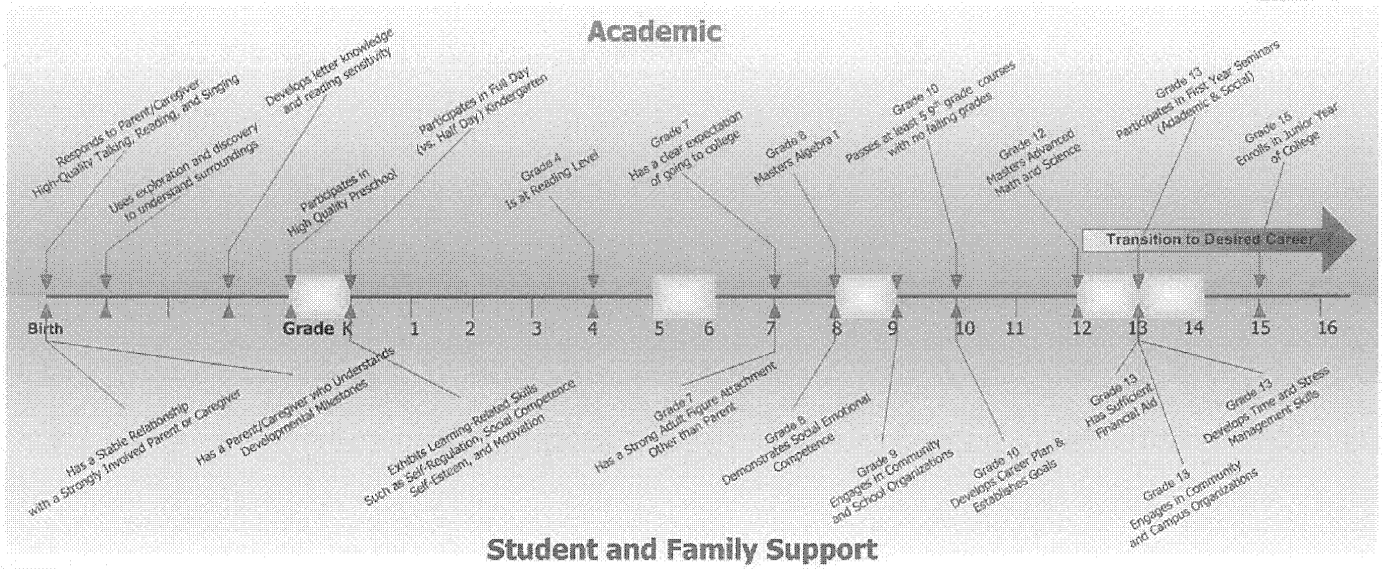
APPENDIX P.5.1

ROADMAP TO SUCCESS: CRITICAL BENCHMARKS AND TRANSITION YEARS

RATIONALE: DOCUMENT ILLUSTRATING CRITICAL ACADEMIC AND NON-ACADEMIC BENCHMARKS FROM BIRTH THROUGH PREPAREDNESS FOR COLLEGE AND CAREER. INCLUDES SUPPORTING BIBLIOGRAPHY.

REFERENCED IN: PRIORITY 5

Student's Roadmap to Success: Critical Benchmarks and Transition Years



Key Transition Years

Researched by the University of Cincinnati, Center for Urban Education 2006

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The horizontal span of the Roadmap is a timeline that begins with the birth of a child (far left side) and progresses through childhood, adolescence, and early adulthood to conclude at the point of transition to a desired career (far right side). Gold boxes appear on the gridline to highlight the points of key transition years: starting kindergarten, starting middle school, entering high school, graduating from high school, and both the freshman and sophomore years of college. Also, along the way are important the milestones or checkpoints of a youngster's developmental stages with the indicators that will provide positive evidence of progress. The rationale for the goals at each of the benchmarks is well documented in the bibliographies that accompany the Roadmap. Above the gridline are expected academic outcomes for each benchmark, and below the gridline are the anticipated results of student and family support.

Academic Benchmarks

Responds to Parent/Caregiver High-Quality Talking, Reading, and Singing

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**Harrist, A. W., & Waugh, R. M. (2002). Dyadic synchrony: Its structure and function in children's development. *Developmental Review, 22*(4), 555.

Hart, B. and T. R. Risley (1992). American Parenting of Language-Learning Children:Persisting Differences in Family-Child Interactions Observed in Natural Home Environments. *Developmental Psychology 28*(6): 1096-1105.

Huttenlocher, J., Haight, W., Bryk, A. Seltzer, M., & Lyons, T. (1991). Early vocabulary growth: Relation to language input and gender. *Developmental Psychology, 27*(2), 236-248.

Nakata, T., & Trehub, S. E. (2004). Infants' responsiveness to maternal speech and singing. *Infant Behavior and Development, 27*(4), 455.

Shenfield. (2003). Maternal Singing Modulates Infant Arousal. *Psychology of Music, 31*(4), 365.

Uses Exploration and Discovery to Understand Surroundings

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Poole, C. (2006). Self-Exploration. *Scholastic Parent & Child, 13*(6), 52.

Develops Letter Knowledge and Phonological Sensitivity

Isbell, R. L., Sobol, J. L., & Lindauer, A. L. (2004). The Effects of Storytelling and Story Reading on the Oral Language Complexity and Story Comprehension of Young Children. *Early Childhood Education Journal, 32*(3), 157.

Roberts, J., Jurgens, J., & Burchinal, M. (2005). The Role of Home Literacy Practices in Preschool Children's Language and Emergent Literacy Skills. *Journal of Speech Language and Hearing Research, 48*(2), 345.

Lonigan, C., S. Burgess, & Anthony, J.L. (2000). Development of Emergent Literacy and Early Reading Skills in Preschool Children: Evidence From a Latent-Variable Longitudinal Study. *Developmental Psychology Vol. 36*(5): 596-613.

Wagner, R. K., J.K., T., Rashotte, C. A., Barker, t. A., Brugess, S. R., Donahue, J., et al. (1997). Changing relations between phonological processing abilities and word-level reading as children develop from beginning to skilled readers: A 5-year longitudinal study. *Developmental Psychology, 33*, 468-479.

APPENDIX P.6.1

CREDIT FLEXIBILITY PLAN DOCUMENT

RATIONALE: DOCUMENT SUMMARIZING OHIO'S CREDIT FLEXIBILITY PLAN WHICH PROVIDES GUIDANCE TO LEAS AS THEY MEET OHIO'S MANDATE TO CREATE LOCAL POLICIES GOVERNING ALTERNATIVES TO GRANTING CREDIT BASED UPON "SEAT TIME."

REFERENCED IN:
PRIORITY 6

New Emphasis on Learning

Ohio's credit flexibility plan shifts the focus from "seat time " to performance

In 2006, the Ohio General Assembly established the Ohio Core Curriculum (Senate Bill 311), which raised expectations for what all Ohio students must know and be able to do to earn a high school diploma. At the same time, SB 311 directed the State Board of Education to develop a statewide plan for implementing methods for students to earn units of high school credit based on the demonstration of subject area competency. In addition to raising the expectations for graduation, lawmakers provided ***flexibility*** to students and educators to successfully meet these higher expectations.

Developed by the Ohio Credit Flexibility Design Team, Ohio's "Credit Flex" plan shifts focus from evaluating student learning based on "seat time" to assessing students' demonstrated academic and skill level or performance. The plan does not eliminate Carnegie units or "seat time" requirements altogether. Rather, it retains seat time as one option and expands the number of options for earning credit by adding demonstration of subject area competency and structures that support it irrespective of any time requirements.

Credit Flex ...

- Offers learning opportunities not found in the one-size-fits-all factory process model.
- Focuses on performance, not counting seats and hours.
- Acknowledges and addresses students' differing learning styles, paces and interests.
- Offers students opportunities to demonstrate creativity, explore academic and career interests, and practice critical thinking.

(b)(6)

"Under ORC §3313.603, 120 contact hours equals one high school credit. While useful for management purposes such as scheduling students and staff, the value of seat time as an accurate measure of student learning is limited. It's a proxy at best. Students can earn an A or a D and still get credit. Have we really prepared a student who gets a D? There's no question that students master content standards at different rates. To learn Algebra, I've seen them need as little as six weeks and as much as 20 weeks. The time doesn't matter to me, but the mastery does."

Design Team Member

- Recognizes that measures of engagement and ownership are as important for achievement as measures of attendance and access.

The State Board of Education adopted Ohio's Credit Flex plan in March 2009, allowing for phase in during the 2009-10 school year. Local school boards, community schools, chartered non-public schools and providers of career-technical education are required to comply with provisions of the plan by the beginning of the 2010-11 school year.

Accelerating and Empowering Student Learning

With "Credit Flex," students will be able to show what they know and move on to higher-order content they are ready to learn and have not yet mastered. They will be able to learn subject matter and earn course credit in ways not limited solely to "seat time" or the walls of a school building. They will be able to customize aspects of their learning around their interests and needs, which might include flexible schedules and a choice of modalities (e.g., online learning and community-based projects), as well as options to pursue niche interest areas, combine subjects and graduate early.

Why credit flex? Research and experience tell us that it encourages student self-direction and motivates learners to develop new skills and fulfill their potential. It lets students ask questions, solve problems and manage the continuous change that underscores life. And it recognizes that while learning experiences must be high quality, not all learning happens inside the classroom or in formal education settings.

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Key Facts about Ohio's Credit Flex Plan

The plan adopted by the State Board of Education includes the following provisions:

- The Carnegie Unit will be retained, while students will have options for demonstrating subject area competency and earning credit.
- All students will have opportunities to earn credits through flexible methods, although credit flexibility will pertain only to high school credit.

The Case for Credit Flexibility

In the course of their work, members of the Ohio Credit Flexibility Design Team examined the flexible time and credit earning practices of schools and districts both in Ohio and across the nation. They looked at a variety of Ohio policies and practices, including those in the areas of educational options, dual enrollment and accelerated learning. Team members concluded the following:

1. **Carnegie structures as currently designed do not guarantee learning for each and every student.** Ohio's statewide aggregate graduation rate is 87 percent. Among our graduates who become first-year college students, remediation rates in mathematics and/or English run about 45 percent. Other students never make it to graduation day—about 20,000 students drop out of Ohio schools every year.

2. **At least five provisions in the Ohio Revised Code already allow some flexibility, but they operate as exemptions to standard procedures and practices.** Not accounting for dual credit, less than five percent of all high school credit is earned through these provisions.

3. **Most states have provisions permitting flexibility, but they are not widely used.** System structures such as testing, scheduling, funding and accountability act as barriers to flexibility.

4. **Although there is evidence that schools, certain models and some states use flexibility to meet the needs of individual students and groups of students, on the whole, Ohio does not record, measure or disseminate these efforts.** Alternative education, credit recovery, dropout prevention/intervention, enrichment/acceleration, independent study, early college and dual credit have all produced positive results in Ohio, yet they are largely seen as outside the ***regular*** system.

- There is no limit to the kinds of course work, nor to the number of credits that can be earned.
- Credit will be reported on student transcripts in the same way that seat time credit is recorded.
- Teachers will determine when credit should be awarded, but other mechanisms (e.g., the use of a multi-disciplinary teaching team, a professional panel from the community or a state performance-based assessment) may be used to "inform" a credit determination.
- Local boards of education will establish implementation policies, and boards will be prohibited from setting policies that negate or otherwise prohibit access to the plan.

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How Will School Boards Be Affected?

Before the start of the 2010-11 school year, local boards of education must adopt a Credit Flex plan that includes the following provisions:

- Any student is eligible to be considered for alternative ways for earning credit, but students must be capable of meeting the conditions necessary to earn the credits.
- Local board must review policy (with a suggested two-year time frame) and collect performance data including the number of participating students, total credits earned and extent to which student participation reflects diversity of the student body.
- An appeals process must be available should a student's proposed alternative learning credit be denied by the school or district.
- Local boards of education must communicate this provision annually to parents and students.

and must submit data to the state about the methods and frequency of communication.

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What Role Will the State Play?

The Ohio Department of Education, State Board of Education or a representative authority will build the capacity of the state's Credit Flex system.

- Identify assessments for immediate use, and for test out or demonstration purposes.
- Identify and implement a strategy (e.g., rubrics, models, standardized review process, and/or an open source platform) for developing capacity around high quality, locally developed assessments in a variety of content areas.
- Establish an appeals process, which may be conducted by a third party, for individuals who have local level complaints about having access to or implementation of the policy.
- Amend the Ohio Revised Code (ORC) for Operating Standards pertaining to Educational Options.
- Use a web-based mechanism to communicate and share research, and to serve as a clearing-house for models and promising practices.
- Offer districts an early adopter strategy to pioneer these alternative options so that the findings can be applied to the state's plan.
- Work with professional associations to build capacity and accelerate access to policy and provisions with consistency and quality.
- Communicate and encourage other entities (e.g., P-16 councils, business advisory councils, Educational Service Centers, eTech and charitable foundations) to identify regional learning opportunities, and assist with multi-district efforts.

(b)(6)

Ohio's plan for credit flexibility is designed to ***broaden the scope*** of curricular options available to students, ***increase the depth*** of study available for a particular subject and ***tailor the learning time or conditions needed*** (to shorten or lengthen the time necessary to complete a high school diploma and/or postsecondary degree). In these ways, students can customize aspects of their learning around more of their interests and needs.

With Credit Flex, high school students can earn credit in three ways, or in a combination of these ways:

1. By completing traditional coursework
2. By testing out or otherwise demonstrating mastery of the course content; or
3. By pursuing one or more "educational options" (e.g., distance learning, educational travel, independent study, an internship, music, arts, afterschool program, community service or engagement project and sports).

Credit Flex has numerous benefits for students and families, teachers and counselors, school administrators, employers, community leaders and Ohio taxpayers.

For students and families . . . Credit Flex means more choice and autonomy in deciding how, when and where students learn; more options for individually suited pathways to postsecondary and career goals; and acceleration and convenience including more options for courses in school schedule (especially for fitting in electives).

For teachers and counselors . . . Credit Flex offers increased flexibility and autonomy to choose the best paths to support individual learning; increased opportunity for collaboration and interdisciplinary work; and shared accountability for student learning and performance.

For schools and districts . . . Credit Flex broadens and deepens access to electives that engage students; and it allows administrators to make maximum use of community resources to meet student needs.

For business and the community . . . Credit Flex creates options for educating and building relationships with students and educators about industry opportunities, competencies and trends; generates opportunities to attract and retain Ohio students as future employees and community partners; and directly adds value to the education system by engaging them in meaningful partnership in support of education, workforce development and community outcomes.

For the State of Ohio . . . Credit Flex produces a strong return on taxpayers' investment in education (e.g., accelerated learning and fewer dropouts) and helps students prepare themselves for postsecondary education and the workplace.

Credit Flex awards credit based on competence. Research confirms that varying time and instructional methodology, while maintaining quality, can cultivate the kind of self-directed learning that is essential for success in postsecondary education and careers — and throughout life.

To read ***New Emphasis on Learning: Ohio's Credit Flexibility Plan Shifts the Focus from "Seat Time" to Performance,"*** and other materials generated by the Ohio Credit Flexibility Design Team, visit www.education.ohio.gov/Credit Flexibility, or contact the Ohio Department of Education at 614.466.3904.

APPENDIX P.6.2

COMPREHENSIVE SYSTEM OF LEARNING SUPPORTS GUIDELINES

RATIONALE: DOCUMENT SUMMARIZING OHIO'S COMPREHENSIVE SYSTEM OF LEARNING SUPPORTS GUIDELINES, WHICH PROVIDE GUIDANCE TO LEAS IN MEETING OHIO'S STATUTE REQUIRING IDENTIFICATION OF, AND THE PROVISION OF INTERVENTIONS TO, STUDENTS AT RISK OF ACADEMIC FAILURE.

REFERENCED IN: PRIORITY 6

Select and Tailor Strategies

As educators design their learning supports systems, they can organize both academic and behavioral programs, services and strategies into three categories:

- Promotion and prevention - universal programs and services for everyone;
- Early intervention - selective programs and services for specific populations with identifiable needs and risk factors;
- Intensive intervention - cross-system programs and services for selected children with multiple, co-occurring issues (e.g., school problems, health or mental health needs, juvenile delinquency).

(b)(6)

Align a CSLS with School Improvement Plans

When school leaders conduct school improvement planning using the Comprehensive Continuous Improvement Plan as well as the CSLS, they can mark their developmental progression by highlighting key milestones in every phase of the planning process. These key steps – such as establishing a school-community learning supports planning team or conducting professional development about the learning supports system – are tailored to local needs and capacities. Consistent with CCIP formats, the five continuous phases of planning are:

1. Getting ready;
2. Identifying needs;
3. Developing a focused plan;
4. Implementing the focused plan;
5. Monitoring the focused plan.

Monitoring progress throughout these phases helps leaders know that they are headed in the right direction.

For more information

Find the complete **Comprehensive System of Learning Supports Guidelines** at:
http://www.ode.state.oh.us,
keyword search: learning supports guidelines.

For more assistance in establishing milestones and developing a CSLS, please contact:

Ohio Department of Education
Center for Students, Families and Communities
Office for Safety, Health and Nutrition
25 South Front Street, Mail Stop 909
Columbus, OH 43215
Phone: (614) 466-2945 or (800) 589-6525

Ohio Department of Education

(b)(6)

Student Success

A Comprehensive System of Learning Supports

Each day, educators strive to fulfill the goal that every student will graduate and have the knowledge and skills to succeed in life. To achieve this, school leaders need a learning supports system within their ongoing school improvement planning to address the distinctive needs of their students.

A learning supports system acknowledges that all students, even the most resilient, need help at times to perform well in school. Whether the needs are academic or nonacademic, such a system builds upon community and school resources to provide students and families with essential supports and services.

Ohio Department of Education

Center for Students Families and Communities

A CSLS Benefits Schools and Students

In Ohio, state law requires schools to identify students who may not pass the Ohio Achievement or Graduation Tests and to help them acquire grade-level skills by providing necessary interventions. To help schools implement this requirement, the Ohio Department of Education (ODE) developed the Comprehensive System of Learning Supports (CSLS) Guidelines. Adopted by the State Board of Education in 2007, the CSLS guidelines help schools and districts:

- Increase academic performance for all students by designing systems that identify early on any issue that interferes with a child's ability to learn;
- Help all children, from nonproficient to accelerated students, meet their potential;
- Fulfill public funding requirements for planning, student diagnostic assessments, data collection and evaluation.

With the learning supports guidelines as a centerpiece in Comprehensive, Continuous Improvement Plans (CCIPs), schools and districts are better equipped to get the conditions right for learning. As a result, students, educators, families and communities will reap multiple benefits for years to come.

What Is a Learning Supports System?

A CSLS refers to the collection of resources, strategies and practices – as well as environmental and cultural factors extending beyond the classroom – that together provide the physical, cognitive, social and emotional support that every student needs to succeed in school and in life (State of California, SB 288; Adelman and Taylor, 2006; Ohio Department of Education [ODE] CSLS Guidelines, 2007).

This system, presented in Figure 1, is comprehensive because it encompasses school, community and family resources, programs, services and strategies. Tailored to fit the characteristics of local schools and districts, a CSLS system focuses on five improvement priorities:

- Assessing children's individual characteristics as well as the risk and protective factors at school and in students' family, school and community settings;
- Selecting appropriate intervention strategies (ranging from prevention to early or intensive intervention);
- Providing experiences that encourage young people to make positives choices and become responsible, caring adults;
- Looking beyond the school to establish a system of care that offers resources, programs and services for children and their families; and
- Incorporating fiscal, human resources, accountability and instructional considerations into the process of providing resources and strategies best tailored for children's needs.

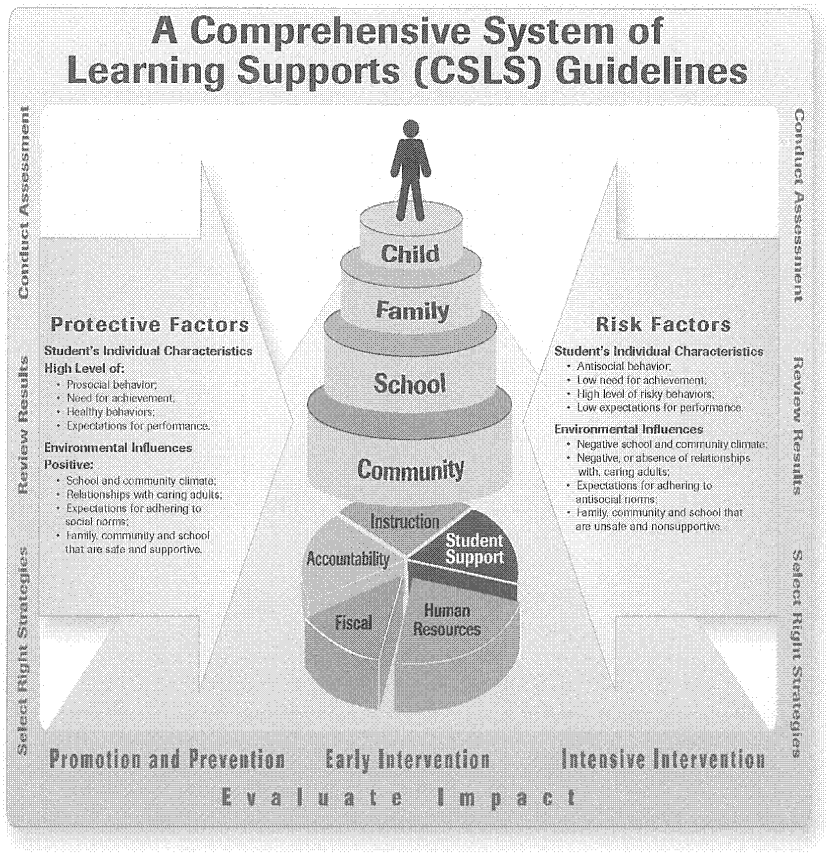

Figure 1