Colorado Race to the Top Phase 2 Appendix

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Exhibit A-1: Summary of the Colorado Achievement Plan for Kids (CAP4K)

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CAP4K, COLORADO ACHIEVEMENT PLAN FOR KIDS
Senate Bill 08-212

Bill Summary, prepared by Jett Conner, Ph.D., Lead Consultant on CAP4K, DHE

Official Title: Preschool to Postsecondary Education Alignment Act

Goal: Move Colorado to the next generation of standards-based education to prepare students for the knowledge and skills required for the 21st century.

Charge: Directs the State Board of Education and the Colorado Commission on Higher Education – and their respective departments, the CDE(CDE) and the Department of Higher Education (DHE) – to collaborate in creating a new seamless system of public education standards, expectations and assessments – from preschool through postsecondary education – designed and aligned to prepare high school students to enter postsecondary education, or technical or trade schools, or the workforce without the need for further remediation. Specifically requires the State board and CCHE to "negotiate a consensus and adopt a description of postsecondary and workforce readiness" on or before December 15, 2009. This is developed as a single description.

Effect: Eliminates the current Colorado Student Assessment Program (CSAP) and replaces it with new State content standards applicable to a broad array of subjects and skills; the bill specifies that the standards for grades nine through twelve are aligned with postsecondary and workforce planning, preparation and readiness assessments adopted by the State board and CCHE. Standards and testing are designed to meet federal law.

Details & Deadlines: Below are key provisions and deadlines for SB 08-212 arranged by section numbers. You may use this link to access the entire bill:
http://www.leg.State.co.us/CLICS/CLICS2008A/csl.nsf/fsbillcont3/E59947996C92A16F872573D3005F88ED?Open&file=212_enr.pdf

22-7-1004 On or before 12/15/08 the State board must adopt a description of school readiness for kindergarten or first grade; by 12/15/10, the State board adopts assessments, aligned with the description of school readiness, for purposes of measuring school readiness, for determining instruction and improvement needs, and for establishing population-level results for baseline data reporting purposes.

22-7-1005 On or before 12/15/09, the State board adopts standards related to the knowledge and skills students should have as they progress from preschool through elementary and secondary education, aligned where possible with career and technical education standards adopted by the State board for community colleges and occupational education. The State board of education also collaborates with the CCHE to ensure that the standards are aligned with the description of postsecondary and workforce readiness outlined in section **22-7-1008**, below. In addition to students' subject-matter knowledge in reading; writing; mathematics; science; history; geography; visual and performing arts; physical education; world languages; English competency; economics and civics (**22-7-**

1005), the standards also are designed to ensure students develop and demonstrate such skills as creativity and innovation; critical thinking; communication and collaboration; social and cultural awareness; initiative and self-direction; character and leadership; productivity and accountability; and information technology application skills.

22-7-1006 On or before 12/15/2010, the State board adopts assessments designed to measure the preschool through elementary and secondary education standards and ensure, among other things, longitudinal measurement of students' academic growth, a high level of accountability across the State for students, schools, and school districts and compliance with federal law testing requirements. NOTE: Assessments adopted may include portfolios, projects and performances in addition to standardized measures. Assessments retain a system of ratings for public schools and may include writing assessments developed with local education providers, and timely evaluations of same.

22-7-1007 Beginning with the 2008-09 academic year, requires the CDE to implement a pilot program in several districts to evaluate different kinds of high school testing plans.

22-7-1008 Postsecondary and workforce readiness: On or before 12/15/09 the State board and CCHE establish a description of postsecondary and workforce readiness which, at a minimum must include, among other requirements, describing knowledge and skills designed to demonstrate students' postsecondary and workforce proficiencies in English language competency; successful completion without need for remediation of core academic courses (**23-1-125(3)**; and the skills referred to above in **22-7-1005**, all of which must be aligned with the description of postsecondary and workforce readiness. On or before 12/15/2010, the State board and CCHE shall adopt postsecondary and workforce planning, preparation and readiness assessments to be administered by local education providers (public schools, school districts, BOCES, charter schools, etc.).
Additional provisions in the bill provide for the State board and CCHE to make revisions, on or before 7/1/2015, to the description of postsecondary and workforce readiness, and, on or before 7/1/2016 and every six years thereafter, to the planning, preparation and readiness assessments adopted by the State board and CCHE.

The State board and CCHE are required to collaborate to set standards for special kinds of diplomas (**22-7-1009)**. Though the bill does not mandate Statewide graduation requirements, schools are required to align their content standards with the newly adopted State standards and revise their curricula accordingly, by 12/15/2011 (**22-7-1015)**, and begin administering assessments by 12/15/2012 (**22-7-1016)**; a high school student's final transcript shall describe the student's level of postsecondary/workforce readiness, including any endorsements of special achievement (**22-7-1017**). Students who graduate with a high school diploma that includes a postsecondary and workforce readiness endorsement are guaranteed to meet minimum academic qualifications for admission (subject to additional institutional qualifications) to all open, modified-open, or moderately selective public institutions of higher education in Colorado.

The bill requires a review of public IHE admission standards (**23-1-113**) and teacher preparation programs (**23-1-121**) to ensure alignment with the new State standards. The bill mandates public and interest group involvement throughout the process. Definitions in the bill may be found in section **22-7-1003**.

Exhibit A-2: Detailed LEA Participation Table

Detailed Table for (A)(1)
This table provides detailed information on the participation of each participating LEA (as defined in this notice). States should use this table to complete the Summary Tables above. (Note: If the State has a large number of participating LEAs (as defined in this notice), it may move this table to an appendix. States should provide in their narrative a clear reference to the appendix that contains the table.)

	LEA Demographics			Signatures on MOUs			MOU Terms	Preliminary Scope of Work – Participation in each applicable Plan Criterion														
Participating LEAs	# of Schools	# of K-12 Students	# of K-12 Students in Poverty	LEA Supt. (or equivalent)	President of local school board (if applicable)	Teachers Union (if applicable)	Uses Standard Terms & Conditions?	(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)
Name of LEA here				Y/N/NA	Y/N/NA	Y/N/NA	Yes/No	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA
Academy School District 20	30	22,255	2,311	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Adams 12 Five Star Schools (Northglenn-Thornton)	51	41,170	13,380	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Adams County School District 14	13	6,914	5,756	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Adams County School District 50 (Westminster)	20	9,371	7,093	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Adams-Arapahoe School District 28J	52	35,589	22,432	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Akron School District R-1	2	370	180	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Archuleta County School District 50 JT	5	1,517	768	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Aspen School District 1	4	1,649	99	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bayfield School District 10 JT-R	3	1,384	343	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Big Sandy School District 100J	3	292	144	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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Participating LEAs	# of Schools	# of K-12 Students	# of K-12 Students in Poverty	LEA Supt. (or equivalent)	President of local school board (if applicable)	Teachers Union (if applicable)	Uses Standard Terms & Conditions?	(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)
Name of LEA here				Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Yes/ No	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y / N / N A	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA
Boulder Valley School District RE-2	54	28,434	4,851	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Brighton School District 27J	20	13,912	4,713	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Brush School District RE-2J	4	1,409	762	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Buena Vista School District R-31	4	903	336	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Calhan School District RJ-1	4	615	243	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Canon City School District RE-1	10	3,699	1,693	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Centennial School District R-1	3	209	178	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Center School District 26 JT	4	575	518	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cherry Creek School District 5	57	50,135	12,416	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Clear Creek School District RE-1	5	892	214	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Colorado Charter School Institute	19	6,503	2,549	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Colorado School for the Deaf and Blind	2	280	179	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Colorado Springs School District 11	64	28,942	14,794	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cotopaxi School District RE-3	2	206	112	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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Participating LEAs	# of Schools	# of K-12 Students	# of K-12 Students in Poverty	LEA Supt. (or equivalent)	President of local school board (if applicable)	Teachers Union (if applicable)	Uses Standard Terms & Conditions?	(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)
Name of LEA here				Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Yes/ No	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA
Creede Consolidated School District	2	95	28	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cripple Creek-Victor School District RE-1	2	426	227	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
De Beque School District 49 JT	2	132	71	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Del Norte School District C-7	4	597	409	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Delta County School District 50J	19	5,113	2,360	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Denver County School District 1	142	72,718	52,039	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dolores School District RE-4A	3	658	264	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Douglas County School District RE-1	78	58,407	4,886	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Durango School District 9-R	10	4,579	1,262	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Eagle County School District RE 50	18	6,031	2,183	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
East Grand School District 2	6	1,381	347	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Eaton School District RE-2	5	1,705	528	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ellicott School District 22	3	824	519	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Englewood School District 1	9	2,907	1,571	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fort Morgan School	8	3,084	2,145	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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Name of LEA here				Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Yes/ No	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y / N / N A	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA
District RE-3																							
Fountain School District 8	11	7,088	3,177	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fremont RE-2 School District	4	1,623	835	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Frenchman School District RE-3	2	175	73	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Garfield School District RE-2	10	4,776	2,048	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Greeley School District 6 (Weld County 6)	31	18,520	10,747	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hanover School District 28	3	253	131	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Harrison School District 2	25	10,776	7,639	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Haxtun School District RE-2J	2	286	76	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hoehne School District RE-1	3	329	100	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Holly School District RE-3	3	265	174	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Holyoke School District RE-1J	3	589	258	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ignacio School District 11JT	5	797	441	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Jefferson County School District R-1	160	83,394	24,375	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Johnstown-Milliken Weld School District RE-5J	6	3,007	1,032	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Julesburg School District	3	1,199	159	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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	LEA Demographics			Signatures on MOUs			MOU Terms	Preliminary Scope of Work – Participation in each applicable Plan Criterion															
Participating LEAs	# of Schools	# of K-12 Students	# of K-12 Students in Poverty	LEA Supt. (or equivalent)	President of local school board (if applicable)	Teachers Union (if applicable)	Uses Standard Terms & Conditions?	(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)
Name of LEA here				Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Yes/ No	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y / N / N A	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA
RE-1																							
Keenesburg School District RE-3J	6	2,063	1,000	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lake County School District R-1	4	1,079	762	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lamar School District RE-2	6	1,601	1,090	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Las Animas School District RE-1	4	540	413	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
LaVeta School District RE-2	2	243	121	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lewis-Palmer School District 38	10	5,751	496	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Littleton School District 6	24	15,294	2,806	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lone Star School District 101	3	118	49	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mancos School District RE-6	3	373	204	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Manitou Springs School District 14	4	1,366	375	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mapleton School District 1	16	5,401	3,769	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mc Clave School District RE-2	2	239	124	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Meeker School District RE1	3	654	171	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mesa County Valley School District 51	42	21,372	9,612	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Moffat County School	4	209	106	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Colorado Race to the Top Phase 2 Appendix

	LEA Demographics			Signatures on MOUs			MOU Terms	Preliminary Scope of Work – Participation in each applicable Plan Criterion															
Participating LEAs	# of Schools	# of K-12 Students	# of K-12 Students in Poverty	LEA Supt. (or equivalent)	President of local school board (if applicable)	Teachers Union (if applicable)	Uses Standard Terms & Conditions?	(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)
Name of LEA here				Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Yes/ No	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y / N / N A	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA
District RE: No 1																							
Moffat School District 2	7	2,362	806	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Monte Vista School District C-8	6	1,136	733	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Montezuma-Cortez School District RE-1	10	2,865	1,660	Y	Y	Y	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Montrose County School District RE-1J	14	6,233	3,213	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mountain Valley School District RE-1	3	111	66	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
North Conejos School District RE-1J	5	1,051	736	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
North Park School District R-1	2	199	106	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Norwood School District R-2J	2	245	109	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Otis School District R-3	2	185	71	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ouray School District R-1	3	216	63	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Park (Estes Park) School District R-3	3	1,182	370	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Peyton School District 23 JT	3	671	189	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Plateau School District RE-5	2	150	61	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Plateau Valley School District 50	4	464	103	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Platte Canyon School District 1	3	1146	290	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Colorado Race to the Top Phase 2 Appendix

	LEA Demographics			Signatures on MOUs			MOU Terms	Preliminary Scope of Work – Participation in each applicable Plan Criterion														
Participating LEAs	# of Schools	# of K-12 Students	# of K-12 Students in Poverty	LEA Supt. (or equivalent)	President of local school board (if applicable)	Teachers Union (if applicable)	President of Local Uses Standard Terms & Conditions?	(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)
Name of LEA here				Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Yes/ No	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y / N / N A	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA
Platte Valley School District RE-3	2	115	79	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Poudre School District R-1	51	25,677	6,852	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pueblo City School District 60	38	17,213	12,051	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ridgway School District R-2	3	345	77	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Roaring Fork School District RE-1	12	5,231	2,138	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sanford School District 6J	2	315	212	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Sangre de Cristo School District RE-22J	2	304	180	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Sargent School District RE-33J	3	484	204	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Sheridan School District 2	4	1,429	1,192	Y	Y	N	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Sierra Grande School District R-30	3	252	195	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Silverton School District 1	3	66	45	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
South Conejos School District RE-10	3	272	195	Y	Y	N	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
South Routt School District RE-3	3	390	106	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Steamboat Springs School District RE-2	5	2152	212	Y	Y	NA	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Strasburg School District 31J	4	966	208	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Summit School District RE-1	9	2,943	863	Y	Y	N	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**

Colorado Race to the Top Phase 2 Appendix

	LEA Demographics			Signatures on MOUs			MOU Terms	Preliminary Scope of Work – Participation in each applicable Plan Criterion															
Participating LEAs	# of Schools	# of K-12 Students	# of K-12 Students in Poverty	LEA Supt. (or equivalent)	President of local school board (if applicable)	Teachers Union (if applicable)	Uses Standard Terms & Conditions?	(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)
Name of LEA here				Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Yes/ No	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y / N / N A	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA
Swink School District 33	2	378	155	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Telluride School District R-1	3	681	122	Y	Y	N	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Thompson School District R-2J	30	14,779	3,914	Y	Y	N	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Trinidad School District 1	4	1,401	903	Y	Y	N	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Valley School District RE-1	7	2,340	1,100	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Walsh School District RE-1	2	149	76	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Weld County School District RE-1	6	1,784	1,007	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Weld County School District RE-8	4	2,221	1,414	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
West End School District RE-2	3	311	182	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
West Grand School District 1-JT	3	451	159	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Widefield School District 3	16	8,475	3,572	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Windsor School District RE-4	7	3,963	729	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Wray School District RJ-2	3	652	332	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Yuma School District 1	3	774	364	Y	Y	NA	**Yes**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**

Exhibit A-3: Colorado Memorandum of Understanding

Revised Version: May 4, 2010

The following MOU has been modified for the Race to the Top Phase II application process. The following changes have been made to this MOU.

Additions: An updated Exhibit 1: Preliminary Statement of Work has been included for this application.

Deletions: The following section of the original MOU has been removed.

7. **Conflicts; Collective Bargaining**. Nothing in this Memorandum of Understanding shall be construed to alter or otherwise affect the rights, remedies, and procedures afforded school or school district employees under Federal and State law (including applicable regulations or court orders) or under the terms of collective bargaining agreements, memoranda of understanding, or other agreements between such employers and their employees, unless contrary to state or federal law. Nor shall this Memorandum of Understanding prohibit the parties from entering into written agreements to alter or modify the terms of existing collective bargaining agreements or memoranda of understanding.

1

This Memorandum of Understanding is entered into by and between the State of Colorado ("State") and _____, ("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.

1. **Scope of Work**. Exhibit 1, the preliminary Scope of Work, indicates which portions of the State's proposed reform plans ("State Plan") the LEA is agreeing to implement.
2. **Project Administration**.
    a. **LEA Responsibilities**. In assisting the State in implementing the tasks and activities described in the State's Race to the Top application, the LEA will:
        i. Implement the plan identified in Exhibits I and II of this agreement ("the LEA Plan");
        ii. Actively participate in all relevant convening's, communities of practice, or other practice-sharing events that are organized or sponsored by the State or the U.S. Department of Education ("ED");

iii. Post to any website specified by the State or ED, in a timely manner, all non-proprietary products and lessons learned or developed using funds associated with the Race to the Top grant;

iv. Participate, as requested, in any evaluations of this grant conducted by the State or ED;

v. Be responsive to State or ED requests for information including the status of the project, project implementation, outcomes, and any problems anticipated or encountered;

vi. 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 will:

i. Work collaboratively with and support the LEA in carrying out the LEA Plan as identified in Exhibits 1 and 2 to this agreement;

ii. 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 Exhibit II;

iii. Provide feedback on the LEA's status updates, annual reports, any interim reports, and project plans and products; and

iv. Identify sources of technical assistance for the project.

c. **Joint Responsibilities**.

i. The State and the LEA will each appoint a key contact person for the Race to the Top grant.

ii. These key contacts from the State and the LEA will maintain frequent communication to facilitate cooperation under this MOU.

iii. State and LEA grant personnel will work together to determine appropriate timelines for project updates and status reports throughout the whole grant period.

iv. State and 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 may affect the LEA, or when the LEA Plan requires modifications.

3. **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 will take appropriate enforcement action, which could include but is not limited to a collaborative process between the State and the LEA, temporarily withholding funds, or disallowing costs.
4. **Assurances.** The LEA hereby certifies and represents that it:
   a. Has all requisite power and authority to execute this MOU;
   b. Is familiar with the State's Race to the Top grant application and is supportive of and committed to working on all or significant portions of the State Plan;
   c. 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;
   d. Will provide a Final Scope of Work to be attached to this agreement 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; 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
   e. Will comply with all of the terms of the grant, the State's sub-grant, and all applicable Federal and State laws and regulations.
5. **Modifications**. This Memorandum of Understanding may be amended only by written agreement signed by each of the parties involved, and in consultation with ED.
6. **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; provided, however, that in the event the LEA and State are unable to finalize the Final Scope of Work on or before the date specified in Section 4 (a) above, this MOU shall be deemed null and void.

7. **Conflicts; Collective Bargaining**. Nothing in this Memorandum of Understanding shall be construed to alter or otherwise affect the rights, remedies, and procedures afforded school or school district employees under Federal and State law (including applicable regulations or court orders) or under the terms of collective bargaining agreements, memoranda of understanding, or other agreements between such employers and their employees, unless contrary to State or federal law. Nor shall this Memorandum of Understanding prohibit the parties from entering into written agreements to alter or modify the terms of existing collective bargaining agreements or memoranda of understanding.

8. **Signatures.**

LEA Superintendent (or equivalent authorized signatory)

_____ _____

Signature Date

_____

Printed Name/Title

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

_____ _____

Signature Date

_____

Printed Name/Title

Local Teachers' Union Leader (if applicable)

_____ _____

Signature Date

_____

Printed Name/Title

Authorized State Official: By the signature below, the State hereby accepts the LEA as a participating LEA:

_____ _____

Signature Date

_____

Printed Name/Title

Exhibit 1 – Preliminary Scope of Work

Preliminary Scope of Work

The preliminary scope of work describes the expected activities to be completed by the state of Colorado (the state) and by participating LEAs/charters for the Race to the Top Phase II program. If the state is awarded a grant (announcement expected by September 2010), each participating LEA/charter school then will have 90 days to submit its final scope of work specific to Phase II activities. CDE will provide support to LEAs in completing the final scope of work. Each participating LEA/charter's final scope of work must include:

Detailed project plans that are consistent with the preliminary scope of work and with Colorado's grant application.

Specific goals, activities, timelines, budgets, key personnel and annual targets for key performance measures.

Assurance Area B: Standards and Assessments

Primary Strategic Objective: Increase student learning through teacher mastery and delivery of common standards and assessments.

For All LEAs/Charters, the State Will….	For Participating LEAs, Charters, the State Will…	Participating LEAs/Charter's Will…
• Review and adopt, by August 2010, Common Core Standards and align grade-level expectations to guide curriculum. • Develop and disseminate high-quality curricula and instructional materials, formative and interim assessment, and professional development resources. • Create regional support teams. • Deliver professional development to district trainers to support district professional development. • Develop and conduct an implementation peer review process. • Administer statewide assessment of college-readiness (continue statewide administration of ACT and transition to state-specific assessment of mastery of Post-secondary and Workforce readiness). • Provide intensive professional development during the transition to new standards. • Transition from CSAP to shared multi-state assessment when available and as appropriate. • Identify and support promising opportunities to engage parents and communities in supporting the academic success of students.	• No additional activities	• Ensure curriculum aligns with standards, is implemented with fidelity, is having expected impact on student achievement, and is modified if ineffective. • Ensure teachers and leaders participate in State's standards-related professional development. • Ensure all students participate in statewide summative assessments and assessments of college readiness • Build a culture of college- and career-readiness in schools by removing obstacles to, and actively supporting, student engagement and achievement, by: o Providing rigorous advanced coursework (e.g., AP courses, STEM courses that incorporate project inquiry-, or design-based contextual learning opportunities, flexible grouping) o Targeting high-need or low-achieving students for enrollment in advanced coursework o Proactively supporting these students in advanced coursework (e.g., Individual Career Action Plans). o Offer enrollment in ASCENT / dual enroll-ment/career and technical education opportunities. • Develop and use high-quality curricula and instructional materials and formative assessments aligned to standards. • Participate in content collaborative or regional support team learning communities aligned to LEA needs. • Provide high-quality professional development to teachers and principals to transition to standards-based, data-driven instruction. • Participate in review of new standards and preparation of grade-level expectations.

Assurance Area C: Data Systems (Accessing and Using State Data)

Primary Strategic Objective: Use, learn and leverage high quality information to drive increased student performance.

For All LEAs/Charters, the State Will….	Participating LEAs/Charters, the State Will…	Participating LEAs/Charter's Will…
• Provide a user identity management system to provide customized user access based on role. • Enhance the SchoolView Educational Dashboard Portal to: o Make State longitudinal data easily accessible to stakeholders. o Provide differentiated "dashboards" based on stakeholder role, with data of interest to the stakeholder (as determined by research), full longitudinal and trend information, and correlations between key statistics. o Allow for custom data reports with an easy-to-use, customizable reporting tool that enables users to select, compare, and filter statistics/indicators. o Ensure consistency and compliance with FERPA . • Continue working with the governance council to oversee continued improvements. • Publicize and refine the portal o Actively direct different stakeholders to the portal and solicit feedback for refinement. • Increase P-20 coordination o Develop MOUs with early education and higher education institutions; develop Enterprise Data Management. • Increase inter-agency coordination o Develop MOUs with other Colorado agencies (e.g., Department of Human Services, Department of Corrections).	• No additional activities	• Continue to use the statewide data system in schools. • Provide real-time data that meets quality standards. • Provide input into the development of dashboards (e.g., feedback on which indicators are most relevant to different stakeholders).

Assurance Area C: Data Systems (Using Data to Inform Instruction)

Primary Strategic Objective: Use, learn and leverage high quality information to drive increased student performance.

For All LEAs/Charters, the State Will….	Participating LEAs/Charters, the State Will…	Participating LEAs/Charter's Will…
• Create the technological base for instructional improvement systems (e.g., reports based on interim assessments) and integrate into the SchoolView Educational Dashboard Portal. • Define criteria and quality standards for instructional improvement systems: ○ Instructional improvement systems include collaborative planning time in which teachers analyze student data, develop plans to differentiate instruction in response to data, and review the effectiveness of prior actions. • Pre-approve methods and/or providers of instructional improvement systems meeting these quality standards.	• Recruit, train, deploy, and subsidize data coaches to participate in instructional improvement systems: ○ Data coaches will facilitate collaborative planning time to help teachers and leaders develop the technical skills to analyze data and the pedagogical skills to adjust instruction based on data. ○ Data coaches will provide teachers with feedback on instructional approaches on using data effectively.	• Ensure implementation of instructional improvement systems: ○ Ensure weekly collaborative time for teachers and leaders to participate in instructional improvement systems in small, relevant groups (e.g., 6 3rd and 4th grade teachers). ○ Use the statewide system of support which includes a facilitated collaborative planning time (may choose a preapproved provider/method or may request approval for other options). ○ Integrate instructional improvement systems as a core job-embedded professional development offering). • Integrate State data coaches into instructional improvement systems: ○ Use State data coaches to facilitate collaborative time, observe instruction, and provide feedback. ○ Provide access to classrooms for data coaches to complete observations of instruction and offer feedback.

Instructional improvement systems are defined as 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 (e.g., through formative assessments, interim assessments, summative assessments, and looking at student work and other student data); analyzing information with the support of rapid-time reporting; using this information to inform decisions on appropriate next instructional steps; and evaluating the effectiveness of the actions taken. Such systems promote collaborative problem-solving and action planning; they may also integrate 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.

Assurance Area D: Great Teachers and Leaders D (2) - Improving teacher and principal effectiveness based on performance)

Primary Strategic Objective: Ensure all teachers and principals are evaluated at least annually using rigorous, transparent, and fair systems; that evaluations are based at least 50% upon student growth; and that evaluation results directly inform individualized professional development, compensation, promotion, retention, and dismissal decisions..

For All LEAs/Charters, the State Will….	Participating LEAs/Charters, the State Will…	Participating LEAs/Charter's Will…
• Provide support in selecting and implementing licensed personnel evaluation systems that satisfy the recommendations of the Governor's Council for Educator Effectiveness criteria. • Develop diagnostic tools to assess the quality of induction programs and identify areas for improvement. • Develop individualized Educator Impact Reports that include effective resources that address identified areas for improvement on individual educator evaluations: • Provide a statewide system of support to provide technical assistance to develop comprehensive PD plans that are aligned to student needs and identified areas of development for educators in the district. • Provide technical assistance to LEAs to revise compensation, promotion and retention systems so that they are informed by evaluations. • Provide technical support to districts to implement HR systems that ensure evaluations are transparent, fair and rigorous; feedback is timely and offers a meaningful opportunity for improvement; dismissal procedures are handled efficiently.	• Offer incentive grant opportunities to acquire or develop support and development practices and resources, including common planning time, cross-district learning communities and technology based peer networks.	• Adopt and implement evaluation systems for teachers and principals that satisfy the recommendations of the Governor's Council. • Provide local teachers and principals meaningful involvement in the design and development of local evaluation systems. • Use diagnostic tools to assess whether evaluation system provides timely feedback and access options to improve as appropriate. • Revise compensation, promotion and retention systems so that they are informed by evaluations. • Negotiate changes, as needed, to local collective bargaining and other agreements to support revised compensation, promotion and retention systems. • Annually report the number of teachers and principals in each rating category who were renewed, non-renewed, or dismissed. • Develop professional development plans that are comprehensive and aligned to identified needs of educators and students in your LEA • Use educator evaluations as a significant factor in teacher and principal development plans, placement, promotion, advancement, retention and dismissal.

Assurance Area D: D (3) Great Teachers and Leaders (Ensuring equitable distribution of effective teachers and principals)

Primary Strategic Objective: Ensure students in high-poverty and/or high-minority schools have equitable access to highly effective teachers and principals, with a particular focus upon teachers serving English language learners, students with disabilities, college-ready STEM courses and rural schools.

For All LEAs/Charters, the State Will….	Participating LEAs/Charters, the State Will…	Participating LEAs/Charter's Will…

• Develop an Educator Effectiveness Index to reflect the concentration of effective educators by school, district and region, including data for comparable regions, subjects or other categories.
• Provide technical assistance for the development of local plans which address inequitable distribution of teachers and principals.
• Evaluate and publish the success of interventions deployed at high-poverty/high-minority schools.
• Provide access to resources proven to increase student academic growth rates in high-poverty/high-minority schools.
• Expand TeachInColorado.org to effectively recruit teachers and principals to apply for open positions in high need schools and subjects,
• Identify and disseminate effective district recruitment strategies.
• Conduct annual survey of district hiring needs and provide customized reports to preparation programs and through TeachInColorado.org.
• Expand access to distance, online learning instruction and tutoring for college-ready math and science.
• Administer the biennial statewide survey of teaching and working conditions and publish analysis of results and recommendations for improving the preparation, support, recruitment and retention of effective teachers and principals.
	• Offer financial incentives to increase the number of educators prepared through proven pathways to serve critical areas.	• Develop a local plan to ensure that students in high-poverty and/or high-minority schools have equitable access to highly effective teachers and principals and are not served by ineffective teachers and principals at higher rates than other students, including:
		  ○ Implement recruitment and retention strategies informed by analysis of available data.
		  ○ Provide professional development proven to increase performance of teachers in high-poverty and/or high-minority schools.
		  ○ Career paths that provide multiple pathways for highly effective educators to take on increasing responsibility in exchange for additional compensation and/or benefits.
		• Cooperate with efforts to collect and disseminate information on current and anticipated hiring needs.
		• Use TeachInColorado.org as part of recruitment strategy.
		• Identify effective teachers interested in receiving additional endorsements in critical shortage areas.
		• Implement school staffing strategies designed to recruit and retain highly effective educators to serve English language learners, students with disabilities and to deliver college-preparation courses in STEM subjects.

Assurance Area D: Great Teachers and Leaders (D4)

***Primary Strategic Objective**: Improve the performance of teacher and principal preparation programs by assessing and publishing the effectiveness of their graduates, incorporate pre-service performance assessments into preparation programs, and expand successful programs.*

For All LEAs/Charters, the State Will….	Participating LEAs/Charters, the State Will…	Participating LEAs/Charter's Will…

• Publish annually an assessment of each preparation program that includes information about the effectiveness of the program participants.
• Participate in the Teacher Performance Assessment pilot to develop pre-service performance assessments.
• Expand LEA residency programs.
• Develop diagnostic tools for LEAs to identify those preparation programs that are proven to develop teachers and principals with a high likelihood of being effective.
• Provide incentive grants to those programs that are most effective to expand the number of participants prepared, with a focus upon programs that prepare teachers and principals to be effective in:
  ○ High-poverty and/or high-minority schools
  ○ Rural schools
  ○ Special Education
  ○ English language acquisition
  ○ STEM
	• No additional activities	• Prioritize recruitment efforts towards those programs proven to be most effective.
		• Participate in CDE efforts to provide accurate information about current and future hiring needs.
		• Identify proven preparation programs and nominate them to receive expansion grants.

Assurance Area D: Great Teachers and Leaders (D5)

Primary Strategic Objective: Ensure all teachers and principals have access to aligned and comprehensive set of supports that adequately prepare them to be effective (induction) and are directed at identified areas for improvement and/or particular student needs.

For All LEAs/Charters, the State Will….	Participating LEAs/Charters, the State Will…	Participating LEAs/Charter's Will…
• CDE develops set of diagnostic tools for assessing the quality of local induction offerings, and creates a set of online resources for LEAs/charters to improve their induction program • Statewide System of Support and Educator Effectiveness unit identifies models of effective induction and provides technical assistance and resources to districts to adopt or revise programs. • Utilize technology to facilitate cross-district PD offerings. • Enable uploading of content and peer-to-peer sharing of instructional materials onto SchoolView. • Offer residency programs for teams of instructional leaders to share best practice and form collaborative learning communities with peers across the state. • Develop a training module for ensuring all teachers and principals are familiar with and have knowledge of using SchoolView to inform instructional practice.	• No additional activities	• Adopt or revise induction programs to meet or exceed state quality standards. • Utilize PD certified by CDE or submit additional offerings for certification. • Ensure all teachers and principals have completed online training module demonstrating mastery of SchoolView and how to use it to inform instruction/

Assurance Area E: School Turn-Around

Primary Strategic Objective: Use, learn and leverage high quality information to drive increased student performance.

For All LEAs/Charters, the State Will….	Participating LEAs/Charters, the State Will…	Participating LEAs/Charter's Will…
• Identify persistently low-achieving schools for turn-around intervention. Intervene when necessary to induce LEAs to re-try in failed efforts or increase state role & direction. • Expand capacity of CDE Turnaround Office by hiring top-notch staff to oversee implementation progress. • Through the School Leadership Academy, create a distinct curriculum and approach for the turnaround component of the Leadership Residency Program. • Develop selection tools and partner contract recommendations for LEAs and approve plans ensuring rigorous reforms. • Require agreement between LEA and the State guaranteeing persistently low-achieving schools have conditions for success. • Enable partnership zones by using state policy tools, such as "innovation zones". • Tie results from the Colorado Growth Model and other outcomes to school practices to identify, share, and replicate essential elements of successful turnarounds. • Analyze learning and working conditions data from the TELL survey to identify opportunities to improve school culture, community and student engagement and instructional practices.	• Hire high-potential turnaround leaders for participating schools. • Give persistently low-achieving schools flexibility to reorganize highly effective teachers' time and roles so that they reach more students. • Ensure school operators and leaders have sufficient authority over time, budget and staffing to effect dramatic improvement. • Provide residency-based training for principals to lead turnaround schools • Subsidize the costs of extending learning time and offering wraparound services to turnaround schools	• Nominate current and future turnaround leadership team members for participation. • Arrange release time and substitutes as needed for participants. • Create a local turnaround office or other structure to provide leadership for the effort to address persistent low-achievement. • Conduct needs assessments and select appropriate interventions for persistently low-achieving schools. • Repurpose existing LEA funds to align with activities funded through this grant. • Establish the conditions partnership zones require in order to thrive, including authority for schools and lead partners over funds, staffing, and time. • Enter into agreements with lead partners to engage in school turnarounds.

Exhibit A-4: Achievement Goals Overall and by Subgroup with and without RttT Funding

Colorado is committed to a plan for improving educational outcomes, as measured by increased achievement overall, closing gaps in achievement between students, and ensuring all high school graduates are ready for success in post-secondary education and the workforce. Race to the Top investments will enable Colorado to significantly accelerate the implementation and impact of this plan. As a result, our goals for student achievement without Race to the Top mirror but are more modest than if the state is successful in the Race to the Top competition. Colorado's Race to the Top strategies and budget directly respond to an analysis of the root causes for our current and historical student achievement results. The State will pursue these strategies to achieve improved results with or without Race to the Top funding, results will take longer to meet in the absence of these additional funds. Specifically, our instructional improvement systems and cannot be built as quickly, and statewide training on new standards, and analysis of new evaluation systems will take longer to complete. Finally, investments to quickly turn around our lowest performing schools will be slowed. Colorado is poised to make vast improvements in results without Race to the Top funding, but additional funding will dramatically accelerate our plans and have impact more quickly on more students statewide.

Goal Description	Group	Current %Proficient	% Proficient With RttT Funding	%Proficient Without RttT Funding
CSAP Math	Overall	54.5%	85%	62.1%
	Students with Disabilities	19.5%	25.6%	21.5%
	English Learners	34.0%	72.7%	46.9%
	Eligible FRL	37.7%	71.1%	48.8%
	Asian/Pacific Islanders	71.0%	100%	86.9%
	Black	34.5%	68.8%	45.9%
	Hispanic	35.9%	71.1%	47.7%
	White	64.3%	86.6%	71.7%
CSAP Reading	Overall	68.3%	85.0%	72.6%
	Students with Disabilities	23.8%	26.7%	24.7%
	English Learners	39.3%	73.9%	50.8%
	Eligible FRL	49.3%	81.7%	60.1%
	Asian/Pacific Islanders	76.1%	100%	91.2%
	Black	52.1%	81.5%	61.9%
	Hispanic	47.5%	85.6%	60.2%
	White	79.2%	92.6%	83.6%
4th Grade NAEP Math	Overall	45%	65%	56%
	Students with Disabilities	15%	22%	21%
	English Learners	9%	13%	13%
	Eligible FRL	24%	34%	33%
	Asian/Pacific Islanders	53%	76%	61%

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Goal Description	Group	Current %Proficient	% Proficient With RttT Funding	%Proficient Without RttT Funding
	Black	23%	35%	34%
	Hispanic	24%	36%	35%
	White	57%	82%	70%
4th Grade NAEP Reading	Overall	40%	60%	46%
	Students with Disabilities	15%	22%	20%
	English Learners	9%	15%	14%
	Eligible FRL	20%	30%	22%
	Asian/Pacific Islanders	53%	79%	72%
	Black	27%	40%	36%
	Hispanic	18%	27%	21%
	White	51%	77%	58%
8th Grade NAEP Math	Overall	40%	60%	55%
	Students with Disabilities	11%	17%	16%
	English Learners	5%	7%	6%
	Eligible FRL	19%	28%	24%
	Asian/Pacific Islanders	55%	83%	72%
	Black	21%	32%	28%
	Hispanic	18%	26%	25%
	White	51%	77%	60%
8th Grade NAEP Reading	Overall	32%	52%	40%
	Students with Disabilities	8%	12%	10%
	English Learners	5%	8%	7%
	Eligible FRL	18%	26%	19%
	Asian/Pacific Islanders	43%	75%	55%
	Black	18%	27%	19%
	Hispanic	17%	27%	19%
	White	41%	67%	45%

Student Achievement Goal Confirmation

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Goal Description	Current Rates	Goals with RttT	Goals without RttT Funding
4th Grade Reading NAEP	40%	60%	46%
8th Grade Reading NAEP	32%	52%	40%
4th Grade Math NAEP	45%	65%	56%
8th Grade Math NAEP	40%	60%	55%
CSAP Reading	68.3%	85%	72.6%
CSAP Math	54.5%	85%	62.1%
High School Graduation	74.6%	90%	85%
College Enrollment	62.9%	70%	66.4%
College Retention	66.3%	75%	70.6%
Closing the Achievement Gap	30%	10%	15%

Exhibit A-5: Comprehensive Race to the Top Evaluation Plan

Colorado's Reform Strategy	Key Activities	Did activities occur as planned?	Did target audience participate?	Did target audience change behaviors?	Is there a relationship between changed behaviors and desired school performance?
Increase Student Learning Through Teacher Mastery and Delivery of Common Standards and Assessments. By August 2010, adopt Common Core Standards. By August 2011, all teachers in participating LEAs trained on new standards. By August 2012, all teachers in participating LEA's trained on standards-based, data-driven instruction and assessment. By Sept 2012, ensure all teachers implement new standards and interim assessments. By June 2013,	Adopt Common Core Standards as part of Colorado P-12 Academic Standards. Form expert content collaboratives to develop new curricula, instructional materials and assessments, and training materials. Disseminate newly developed, high-quality instructional materials and assessments. Provide incentives for educators to develop and share proven materials, assessments and resources via SchoolView. Revise teacher and principal preparation standards to align with and include Colorado's new P-12 Academic Standards. Expand existing regional structures to deliver professional	Did the state offer training on the new standards and assessments for LEA leaders and trainers? Did the State work with LEAs to define best practices for standards implementation? Were content collaboratives formed with the planned membership? Did the state regional collaboratives develop as planned? Regional support teams? Regional technical assistance? Did the State create/certify materials (e.g. sample standards aligned curriculum, instructional materials and assessment tools)? Were new instructional materials, assessment tools, aligned with the new standards developed as proposed? If so, by whom? If not, why not? How were materials	**Did all teachers in participating LEAs participate in training on the new standards? What proportion did not participate? Why?** Did the CDE training provide enough breadth and depth to sufficiently prepare the participants to train others? Did LEA representatives work with the State to identify best practices for standards implementation? Did all LEAs participate? What proportions of schools/teachers were aware of professional development opportunities and supports (offered via district, regional learning collaborative, on school view etc.)? What could the state have done to make more aware of the opportunities? What proportion was not aware? What explanations were given to explain the lack of awareness? Were the provided materials perceived as appropriate and in adequate variety? **What is the percentage of**	Did LEAs participants support the new content standards and aligned materials, and offer trainings and supports to their schools/teachers? **What percentages of teachers from participating LEAs are implementing new standards based on interviews and observations in random sample?** Did educators make use of the instructional materials and assessments developed by the state and/or its collaborators? If they did, were they helpful? If they didn't use the materials, why not? To what extent did participating educators develop an understanding of the changes to the standards? Are teachers teaching to the new standards as they were trained? Are they using best practices? To what extent did participating educators alter their instructional practice as a result of the new standards? If not,	Did districts/schools with higher implementation rates show higher rates of increased achievement on interim assessments? Did districts/schools with higher implementation rates show higher rates of student growth on summative assessments?

Colorado's Reform Strategy	Key Activities	Did activities occur as planned?	Did target audience participate?	Did target audience change behaviors?	Is there a relationship between changed behaviors and desired school performance?
increase achievement scores and narrow achievement gaps, as demonstrated through interim assessments	development. Vet and subsidize acquisition of high-quality interim assessments aligned with standards. Conduct a peer review to evaluate quality of implementation. Use interim and summative assessment results to gauge student mastery of standards.	disseminated? **What percentage of P-12 academic standards with aligned instructional and formative assessment content is available on SchoolView?** Was the State's new assessment system rolled out as planned?	**participating LEAs that have adopted interim assessments in reading, writing, math and science?** Were LEAs adequately prepared to implement the new assessment system? If not, why not?	why not? **What percentage of teachers from participating LEAs are implementing interim assessments based on interviews and observations in a random sample?**	
Standards & Assessment Data Sources		Administrative tracking; interviews with participants.	Participation logs, tests of knowledge, surveys of district trainers/district/school administrators, and interviews at implementation peer review sites.	Administrative data; State and local assessment data; surveys of district trainers & administrators/school administrators	Administrative data; State and local assessment & growth data

Reform Strategy	Key Activities	Did activities occur as planned?	Did target audience participate?	Did target audience change behaviors?	Is there a relationship between changed behaviors and desired school performance?
Use, learn and leverage high quality information to drive increased student performance By 2014, increase visits to Colorado's statewide SchoolView information portal by 25% per year within each user group. By 2014, provide 100% of parents and students in each LEA with individual student data By 2014, train all users on access to the SchoolView dashboard By 2014, all Colorado LEAs will have fully implemented an instructional improvement system By 2011-12, all Colorado educators will have received an initial training on	Increase data immediacy across user groups to improve performance. Implement educator collaboration and social networking capability. Deploy enhanced data visualizations focusing on student growth and performance. Roll-out engaging dashboards to promote access and use of P-20 data for all user groups. Coordinate and deliver effective SchoolView training program through regional support teams. Improve research capabilities to provide better and more reliable access to performance data. Design and build instructional improvement system utilizing content collaborative expertise.	**Were the State's data systems improvements carried out as proposed? Were the timelines for these improvements adhered to?** What State professional development opportunities were provided? Were the data and tools accessible by all users? Did the State enhance SchoolView to include timely data, enhanced, useful data visualization, user friendly dashboards? What is the total count of unique instructional improvement objects in the knowledge base? How many were educator-created? Were the data easy to use and understand? Were they valid and reliable? Were the formative/interim assessments made available on SchoolView valid and reliable? Were enhanced data tools available to the research community through SchoolView to allow	**Did authorized student-level users in participating LEAs participate in training on the effective use of data?** What proportion of LEAs chose to participate? If not, why not? **What percentages of educators in participating LEAs were trained on the State's instructional improvement system or their local instructional improvement system?** **What is the percentage of relevant stakeholders that actively utilized the State's instructional improvement system or their local instructional improvement system?** **What is the overall percentage of learning communities actively using SchoolView to collaborate?** Did LEA's make use of the formative assessments provided by the state? If so, were they useful? If not, why not? What role do data play in evaluating the effectiveness of districts, schools, teachers, and instructional programs? How frequently and extensively do educators use SchoolView and	**Did the public use School View to access school-level data?** **Did educators in LEAs use SchoolView to access student-level data?** **Do authorized researchers have greater access to data?** To what extent did educators alter their instructional practice as a result of greater opportunities to collaborate with others? Has a culture of data-driven decision making been instilled in schools? Are school improvement plans based on data-based evidence? To what extent do teachers modify and differentiate instruction based on data-driven indicators? To what extent did educators make use of SchoolView and use it to alter their instructional practices? To what extent did educators alter their instructional practice as a result of improved training in the use of data or as a result of greater availability of data?	Did districts/schools which reported greater use of collaboration and data systems in instructional practice show higher rates of student growth?

Reform Strategy	Key Activities	Did activities occur as planned?	Did target audience participate?	Did target audience change behaviors?	Is there a relationship between changed behaviors and desired school performance?
use of the instructional improvement system. By 2011-12 , provide 2-3 data coaches in each of the 12 Colorado regions to foster data-driven instructional improvement Increase by 25% each year, the number of teachers, principals and administrators that report using SchoolView to inform instruction and drive decision-making in their district and classroom. By 2013, provide researchers dedicated access to the linked P-20 instructional improvement system for evaluation of Colorado's educational programs.	Pilot the state-provided instructional improvement system and integrate the locally adopted systems in existence. Train all educators via regional support teams. Identify and equip state data coaches to foster data-driven instructional improvement through the regional support teams. Integrate local instructional improvement data with statewide longitudinal measurements. Annually evaluate and improve IIS functionality via stakeholder feedback. Provide ongoing technical support to LEAs	more sophisticated data analysis and reporting? Were materials disseminated via SchoolView as planned? Did regional support teams provide technical assistance? What further improvements to SchoolView are required or desirable?	other relevant technology to develop, share and review instructional materials, strategies and assessments? How does usage vary across types of educators, across geographic regions, and across district and school types? What are the causes of this variation? Have educator professional learning communities been formed to take advantage of the capabilities of SchoolView and other relevant data systems? How many researchers made use of the enhanced data tools on SchoolView?	How many educators are utilizing the new technology?	
High Quality Information Data Sources		Administrative data; interviews with state and local administrators and	Administrative data; Interviews with state administrators; Surveys of district administrators/ school	Administrative data; State and local assessment data	Administrative data, state and local assessment data

Reform Strategy	Key Activities	Did activities occur as planned?	Did target audience participate?	Did target audience change behaviors?	Is there a relationship between changed behaviors and desired school performance?
		participants	administrators/ teachers; Interviews at case study sites		

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Reform Strategy		Did activities occur as planned?	Did target audience participate?	Did target audience change behaviors?	Is there a relationship between changed behaviors and desired school performance?
Ensure All Students Have Access to Effective Teachers and Principals. By September 2011, the State Board of Education adopts rigorous measures of student academic growth that are comparable across class rooms, aligned with content standards and educator performance standard to be used for educator evaluations. By September 2011, adopt statewide definition of principal and teacher "effectiveness:. By July 2013, all Colorado LEAs have implemented a performance evaluation system where annual evaluations of all teacher and principals are based at least 50% upon student growth measures. Beginning in July 2013, three consecutive years of demonstrated "effectiveness" shall be required in order to earn non-probationary status (Colorado's equivalent of "tenure").	Design and build instructional improvement system utilizing content collaborative expertise. Pilot the state-provided instructional improvement system and integrate the locally adopted systems in existence. Train all educators via regional support teams. Identify and equip state data coaches to foster data-drive instructional improvement through regional support teams. Integrate local instructional improvement data with statewide longitudinal measurements. Annually evaluate and improve instructional improvement system functionality via stakeholder feedback. Provide ongoing technical support to LEAs.State eliminates forced placement of teachers. Quality Teachers	**Have the plan's strategies for increasing the number of qualified educators and improving their distribution across schools been implemented according to adopted timelines?** **Have appropriate supports for accessing and effectively using these strategies been developed and implemented? By whom?** **Have data systems and portals linking student growth to teacher and principal preparation programs been implemented? Are these data available to the public through SchoolView?** Were incentives offered by the state adequate to expand the subjects and programs in which effective teachers are qualified to teach? Was technology used to increase the number of students served by effective teachers in math and science? **Was the Educator**	Did LEAs increase the numbers of teachers in their systems via Teach for America or other alternate licensing paths? If not, why not? Did all LEAs encourage participation in the TELL survey? Did LEAs make use of the information from the TELL survey results? **What is the percentage of participating LEAs with qualifying evaluation systems for teachers and principals?** **What is the percentage of participating LEAs that measure and use student academic growth?** How many teachers in high-need schools participated in training in math, science and English AP classes? How many teacher and principal candidates each year participated in residency-based preparation programs?	**Did participating LEAs use evaluation systems to inform: development, compensation, promotion, retention, renewal/tenure, and dismissal of teachers and principals?** **Did LEAs increase the numbers of teachers and principals who were evaluated as effective or better?** **Did LEAs improve the equitable distribution of effective educators by increasing the percentage of highly effective teachers and principals in high-poverty, high-minority schools?** Do traditional and alternative preparation programs use data for program improvement? Are potential participants using system information in choosing preparation programs or alternative pathways? Did increased numbers of educators obtain national board certification and work in high –need schools and subjects? Do districts and schools use program and educator rankings in hiring and evaluation processes?	Did districts/schools with more access to effective teachers and leaders show higher rates of performance? Did teacher preparation programs providing more effective teachers and leaders show higher performance?

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Reform Strategy		Did activities occur as planned?	Did target audience participate?	Did target audience change behaviors?	Is there a relationship between changed behaviors and desired school performance?
Beginning in July 2014, an "ineffectiveness" rating shall be considered and result in loss of non-probationary status by any teacher who is ineffective for two consecutive years. By July 2014, all participating LEAs use performance ratings to inform induction, support and development, compensation, promotion and retention decisions. By August 2014, all Colorado LEAs have an incentive system, developed with their local teachers association, to encourage effective teachers to serve in low-performing schools In March 2011, State Council for Educator Effectiveness recommends statewide definition of "principal effectiveness" and "teacher effectiveness" to be adopted by the State Board of Education. Starting in July 2011, publish an annual report on equitable distribution	Commission issues final report for closing the teacher gap to inform creation of 2011 plan. Develop annually state-level goals for increasing the equitable distribution of teachers and principals among LEAs, schools and regions. Monitor progress towards goals utilizing indicators of effectiveness. Revise indicators of effectiveness to reflect statewide definition adopted by the SBE. Expand or cease strategies based upon annual monitoring of results: LEA implementation of data-driven plans to improve teaching conditions in high-need schools based on TELL survey results. Reallocate Title IA and Title II funds to recruitment and retention grants for targeted LEA's to increase number of number of effective teachers and principals in high-need schools.	**Effectiveness system developed and rolled out as planned?** Was the Educator Effectiveness Index calculated and validated appropriately? Was the Educator Effectiveness Index used as planned to identify highly effective educators? Were Educator Impact Reports made available on SchoolView as planned? **What percentages of participating LEAs have implemented qualifying evaluation systems that are used to inform: compensating teachers and principals, promoting teachers and principals, and retaining effective teachers and principals, removing ineffective tenured and untenured teachers and principals?** Were communities of practitioners available statewide to improve the effectiveness of teachers of language instruction, special education, and STEM subjects in hard to staff		What is the effect of the plan on the distribution of effective teachers in the state? **Are there increasing numbers of effective teachers of mathematics, science, special education and English language acquisition?** Are performance evaluations of teachers resulting in a higher percentage of effective teachers in the system? Do teachers and leaders that participate in residency programs demonstrate increased effectiveness?	

Reform Strategy		Did activities occur as planned?	Did target audience participate?	Did target audience change behaviors?	Is there a relationship between changed behaviors and desired school performance?
of teachers and principals by school, LEA and region. By September 2011, adopt statewide definition of principal and teacher "effectiveness." By December 2011, complete statewide goals and plan to ensure high-poverty; high-minority schools have equitable access to highly effective teachers and principals. Beginning in 2012 – 2013, increase effective teachers teaching language instruction or special education by at least 20% each year. Beginning in 2012 – 2013, reduce ineffective teachers at high-poverty and or high-minority schools by 50% each year. By 2013 – 2014, increase by 800 and at least 35% the number of effective teachers teaching college-ready mathematics and science courses. D4 Beginning July 2011, publish an annual public	Provide stipends for up to 200 educators each year to obtain national board certification and work in high –need schools and subjects. Subsidize cost to obtain endorsement in ELL, SPED and STEM for effective teachers serving in high-need schools. Use teachincolorado.org to attract candidates for high-need schools and subjects. Train 400 teachers in 64 high-poverty, high-minority schools to teach math, science and English AP classes. Subsidize cost of up to 50 teacher and principal candidates each year to participate in residency-based preparation programs and serve in high-need schools. Deploy up to 1100 new TFA Corps members. Produce an annual report showing effectiveness of educator preparation programs.	schools? Have supporting reports, such as the TELL survey results and preparation program ratings been compiled and published in a timely manner? Have the multiple strategies for improving the distribution of effective teachers been put in place on time, including increased participation in Teach for America, providing expansion grants for teacher residency programs, and subsidizing national board certification? Are these strategies adequate for reaching state reform goals? If not, what are the reasons? What changes are necessary?			

Reform Strategy		Did activities occur as planned?	Did target audience participate?	Did target audience change behaviors?	Is there a relationship between changed behaviors and desired school performance?
report that links student growth and achievement directly to preparation programs where those teachers and principals were prepared. By September 2011, State Board revises standards and criteria for accrediting principal and teacher preparation programs based upon recommendations of State Council. By 2014, increase the number of teachers and principals who complete the most effective preparation programs in Colorado by 50%.	Develop return on investment metrics for preparation programs. Identify and evaluate effective educator preparation programs. Award grants to effective and high-potential programs to expand the number of teachers and principals they prepare. Make targeted investments to expand teachers and principals prepared through residency-based programs, Teach for America and Turnaround Leaders Academy. Revise standards and criteria for preparation program accreditation. Integrate training on use of data-driven instruction via SchoolView into in-state preparation programs. Provide customized SchoolView dashboard for each in-state preparation programs. Provide each LEA a customized report on	**Percentage of teacher preparation programs in the State for which the public can access data on the achievement and growth (as defined in this notice) of the graduates' students.** **Percentage of principal preparation programs in the State for which the public can access data on the achievement and growth (as defined in this notice) of the graduates' students.**			

Reform Strategy		Did activities occur as planned?	Did target audience participate?	Did target audience change behaviors?	Is there a relationship between changed behaviors and desired school performance?
100% of teachers are provided professional development opportunities proven effective. 100% of participating LEAs offer high-quality induction programs to all new teachers and principals. 100% of principals and 80% of teachers have mastery of using data to inform instruction. By 2013-14, the number of teachers and principals reporting effective teaching and learning conditions improve by 25% statewide and by 50% in high-poverty and/or high-minority schools.	their teacher and principal pipeline. Cease to accredit programs that are persistently ineffective. (BEG 2013) Pilot outcomes-based and pre-service performance assessments with multiple preparation programs, evaluate and publish results; and use them to inform future program accreditation. Create CDE Educator Effectiveness Unit. Identify and certify proven professional development models. Deliver educator impact reports to each teacher and principal that identifies individualized professional development resources and track impact and usage. Expand leadership development programs for teachers and principals through the School Leadership Academy in two areas: 1) prepare principals for turnaround schools and 2) improving principal preparation and support statewide.				

Reform Strategy		Did activities occur as planned?	Did target audience participate?	Did target audience change behaviors?	Is there a relationship between changed behaviors and desired school performance?
	Leverage expert content collaboratives to inform development of the use of curricula, instructional materials and assessments that are aligned to new content standards and other data available through SchoolView. Implement job-embedded training on use of School View and technology via online collaboration tools and data coaches in partnership with regional support teams. Provide financial incentives for effective teachers and principals to share practices and materials with peers statewide through SchoolView. Set annual goals for teaching and learning conditions, and use of data-driven instruction statewide and monitor improvements via TELL surveys. Award incentive grants to LEA's or schools to implement proven models of induction, develop and implement data-driven plans for improving				

Reform Strategy		Did activities occur as planned?	Did target audience participate?	Did target audience change behaviors?	Is there a relationship between changed behaviors and desired school performance?
	learning conditions or develop innovative models for teacher career advancement. Disseminate through SchoolView effective induction models. Conduct an annual survey of the quality of induction programs.				
Effective Educator Data Collection Strategies		Administrative data; interviews with state and local administrators and other stakeholders	Administrative data; Surveys of participants.	Administrative data; surveys of state and local administrators, teachers, preparation program enrollees; Interviews with state administrators and in case study sites.	Administrative data, state and local assessment data; Colorado Growth model data, state teacher quality data; Surveys of local administrators; Interviews with state administrators and in case study sites

Colorado Race to the Top Phase 2 Appendix

Colorado's Reform Strategy	Key Activities	Did activities occur as planned?	Did target audience participate?	Did target audience change behaviors?	Is there a relationship between changed behaviors and desired school performance?
Turnaround Colorado's Persistently Lowest-Performing Schools. By September 2010, identify 100% of schools in the state that have consistently failed to meet performance standards, and rank those that fall among the lowest of all Colorado schools in terms of performance and improvement. By 2014, 100% of persistently low-achieving schools have a school leader and leadership team with high potential for success based on competency assessment and/or participation in Turnaround Leaders Academy. By 2014, increase by 4x times the percentage of students in persistently low-achieving schools who receive instruction from a highly effective teacher. By 2014, increase by 50% the number of effective teachers in persistently low-achieving schools in the fields of English language learning and special education. By 2013, 100% of persistently low-achieving schools are implementing one of the four intervention models.	Identify and prioritize schools for intervention based on growth data and needs. Expand CDE's Turnaround Unit and services to support LEA turnaround strategy implementation. Establish and implement Turnaround Leaders Academy & offer financial incentives. Use financial incentives to increase the pipeline of highly effective teachers in low-performing schools. Provide funds to enable the start-up of high-quality new schools. Assist schools in choosing model and partners and negotiate binding agreements. Provide incentives for essential elements of successful turnarounds. Pilots intensive turnaround models with Mass Insight. Establish performance monitoring process and metrics for turnaround	Was a turnaround leaders' academy created? Were financial incentives created to recruit highly qualified leaders and teachers to the lowest performing schools? Were an adequate number of turnaround leaders recruited and trained? What percentage of turnaround leaders who started the program finished the program? Did the state certify turnaround providers? How many? Were they of high quality? Did the state negotiate agreements with LEAs regarding low performing schools? Did the state provide financial support for new school creation in targeted areas? How much financial support was provided to low performing schools and for what purposes? Were performance standards established?	Did effective leaders and teachers participate and successfully complete the turnaround leaders' academy program? Did LEAs and low performing schools take advantage of technical assistance and other supports offered by CDE and their partners? **What proportion of the low performing schools implemented one of the 4 turnaround strategies?** Did LEAs agree to changes in rules/procedures needed to create conditions for turnaround success? **Are new schools being launched to serve students previously attending low-achieving schools?**	Did the turnaround academy graduates assume roles in the low performing schools? Did LEAs support turnaround strategies for its low performing schools? Did they redirect human, financial and other resources to support their turnaround? What turnaround strategies were selected by low performing schools? What were the key elements of their plans? To what extent did schools follow through with the elements of their plans? Did they make use of the greater autonomy offered, for what purposes?	To what extent did the targeted schools show improvements in performance? Were some turnaround strategies more effective in improving school performance than others? Did adoption of autonomy conditions result in higher levels of performance? Did schools that included staff trained at the turnaround academy do better than their counterparts? Did schools that received higher levels of state support perform better than other similar schools?

Colorado's Reform Strategy	Key Activities	Did activities occur as planned?	Did target audience participate?	Did target audience change behaviors?	Is there a relationship between changed behaviors and desired school performance?
By 2013, 100% of persistently low-achieving schools have either met interim benchmarks for improvement or have re-tried with a new dramatic intervention.	strategies. Generate content and share knowledge on school turnaround through SchoolView. knowledge on school turnaround through SchoolView.	Did CDE monitor progress of the turnaround schools and intervene if goals were not met? Was information collected and shared regarding turnaround performance? Did the state provide incentives to recruit and retain effective teachers in language instruction, special education and math in our persistently lowest-performing schools?			
Turnaround Data Collection Strategies		Administrative tracking and record review. Key informant interviews	Administrative tracking and record review	Administrative tracking and record review; survey supplemented by in depth interviews in selected sites.	Administrative data, state and local assessment data; Colorado Growth Model data

Exhibit A-6: Colorado Education Research Consortium

The mission of the Colorado Education Research Consortium (CERC) is to improve Colorado student outcomes through research, formative and summative evaluation, and policy analysis. CERC will provide key infrastructure for the development of a coordinated research community in Colorado that supports continuous improvement, openness and transparency within the Colorado P-20 education system. Partnering with the research units of Colorado Department of Education, the Department of Higher Education, the Department of Human Services, the Department of Labor and Employment, and district research and evaluation units, the CERC will serve both as a contributor of essential information to policymakers and practitioners and as a customer for high-quality data. Its first priority will be the systemic evaluation of the key initiatives in the State's RttT proposal.

As with other components of the Colorado RttT plan, Colorado is ready to develop this learning community to support improved outcomes. The design of the CERC is informed by a 2008 research consortium proposal jointly developed by CDE and partners within the Colorado university and foundation community. The CERC structure is modeled after the Consortium on Chicago School Research and the North Carolina Education Research Data Center.

Planned activities for the CERC include developing a research and evaluation agenda; providing researchers with access to needed data while maintaining appropriate user controls; and building infrastructure to sustain this community. Race to the Top will provide seed funding for this project and a business plan will be developed to support this work after the completion of the project. The CERC will be housed in a local university or research organization. Local universities and other partners will collaborate on development of this project and will be ready to launch operations in June 2010. CERC will require one FTE for an executive director, two FTE of administrative support, and seven to ten FTE of researcher/evaluator support. University partners will be selected based on their research and evaluation track record and capacity, as well as their ability to provide support including faculty, research assistants, office space, and technology support.

In particular, the CERC will:

1. Develop and make public a research and evaluation agenda to be supported through the evaluation funds contained in the CO RttT proposal and other funders interested in Colorado education
   a. Work with RttT Project Team Leads to identify short-term evaluation priorities by July 2010 and long-term priorities by September 2010
   b. Work with Project Team Leads to secure evaluators to meet short-term priority evaluation projects by August 2010 and long-term projects by October 2010
   c. Develop an understanding of additional research priorities for educators, administrators, researchers, evaluators, and funders
   d. Publish the research agenda by December 2010
   e. Develop a process by January 2011 by which research and evaluation results will be used to inform the direction of funds from the Innovation Acceleration Grant Fund
2. Provide researchers with access to non-public (i.e. unit record data) and public data in a clear and transparent manner that complies with FERPA and other applicable requirements
   a. Work with the State's Office of Information Technology (OIT) to maintain accurate data dictionaries to be placed on SchoolView by June 2011
   b. Certify compliance with FERPA and ability to maintain data by June 2011
      i. Develop a process for reviewing and certifying researchers' capacity to maintain data in secure manner
      ii. Develop a process for reviewing research requests to ensure compliance with FERPA
   c. In collaboration with SchoolView, develop a researcher interface to give approved researchers and research projects access to data by August 2011.
   d. Facilitate the ability of researchers to conduct field research in participating RttT districts and schools to be implemented by participating districts by December 2011
      i. Build and maintain a learning community of research and evaluation professionals who work in or with Colorado school districts

        ii. Work with the learning community to develop a set of standard protocols for use by all participating districts in providing access to do field work within schools and districts

3. Develop a learning community of researchers working on Colorado education related issues
    a. Work with SchoolView developers to maintain a social networking site to virtually support researchers through functionality that include:
        i. Electronically maintain a one-stop shop to existing research about education in Colorado including discussion and comment on that research
        ii. Maintain a social collaboration capacity to support increased understanding of the capacity, limits, and potential of data available on SchoolView and elsewhere in Colorado
        iii. Facilitate the development review and refinement of the research agenda discussed in activity 2
        iv. Facilitate the collaboration on research projects
    b. Work with researchers locally and nationally to comment upon, review, and support the work of the CERC including its agenda, research and evaluation plans, interim and final reports, as well as social networking support of the community
        i. Develop an advisory council by October 2010
    c. Work with researchers, funders and district leaders to broker access to between district innovations and questions with researchers and funding
4. Develop a business plan for sustainability after the end of the research project by the end of 2013.
    a. Work with consumers of services and research developed by the CERC to identify potential funding streams to support its work including user fees, membership, public or private support

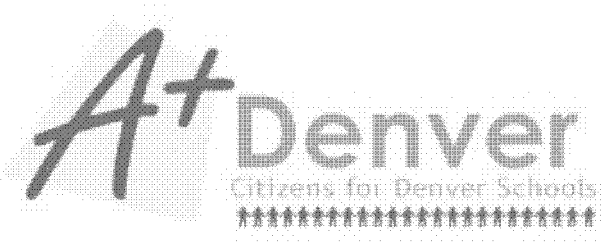
Exhibit A-7: Statements of Support from Key Stakeholders

List of Statements of Support

The following lists the wide audience that supports Colorado's Race to the Top plan. The actual letters follow.

ACT
A+ Denver & Federico Pena
AFT Colorado
bizCARES
Chambers Family Foundation
Charter School Growth Fund
Charter School Institute
Clayton Early Learning
College Board
Colorado Association of School Boards
Colorado Association of School Executives
Colorado Children's Campaign
Colorado Commission on Indian Affairs
Colorado Department of Health and Human Services
Colorado Department of Higher Education
Colorado Early Childhood Commission
Colorado General Assembly Joint Ed. Committee
Colorado General Assembly Leadership
Colorado Graduates Initiative
Colorado League of Charter Schools
Colorado Legacy Foundation
Colorado Legacy Schools
Colorado Software and Internet Association
Colorado Space Coalition
Colorado Stem Network
Data Systems Public Committee
Denver Art Museum
Denver Botanic Gardens
Denver Museum of Nature and Science
Denver Preschool Project
Denver School of Science and Technology
Denver Zoo
Donnell-Kay Foundation
Foundation Consortium
Get Smart Schools
Governor Richard Lamm
Gubernatorial Candidate John Hickenlooper
KIPP Colorado
Metropolitan State College of Denver
Mile High Montessori
Morgridge Family Foundation
Office of Information Technology
PeaceJAM
Project VOYCE
Public Education Business Coalition
Representative Betsy Markey
Representative Ed Perlmutter
Representative Jared Polis
Representative John Salazar
Rocky Mountain PBS
Senator Mark Udall
Senator Michael Bennet
Stand for Children
Struggling Schools Public Committee
Sustainable Business Group
Teach For America
The Denver Foundation
United Launch Alliance
United States Air Force Academy

Exhibit A(2)ii-2
Letters of Support



1/11/10

The Honorable Arne Duncan, Secretary of Education

U.S. Department of Education 400
Maryland Ave. Washington, D.C.
20202

Dear Secretary Duncan,

I am writing to express the support of A+ Denver for Colorado's application to the U.S. Department of Education for a Race to the Top grant. A+ Denver is an independent nonprofit organization whose mission is to harness the power of Denver's civic community to build public will and advocate for the reforms necessary to dramatically increase student achievement in public education in Denver. As the Chairman of the Board of A+ Denver, I am confident that the plans outlined in Colorado's proposal are substantive, bold, and focused on outcomes that will serve all the children of Colorado well, particularly those in the lowest performing schools.

A+ Denver is taking an activist role in promoting the benefits of the Race to the Top competition for Denver's public schools. We are hosting a breakfast for the Denver delegation to Colorado's General Assembly, to provide the Superintendent an opportunity to brief legislators on Denver's interest in the RTTT process. Significantly, we have asked him to focus both on the funding possibilities and the opportunities they would provide for Colorado's students, but also on the content of the policy framework and how it works with the reform agenda Denver is already pursuing. Later this month, we will host a luncheon in which the approximately 100 community leader members of A+ Denver will hear from the Lieutenant Governor and the Superintendent of Denver Public Schools about the process that produced the state's RTTT grant, the policy implications for Denver, and the framework by which the federal Department of Education will make these decisions.

A+ Denver applauds Colorado, Lt. Governor Barbara O'Brien and the over 600 Colorado citizens who helped develop our state's application for producing a powerful proposal which promises much for addressing the challenges of lower performing schools, providing new options for Colorado's children. We are excited about the possibilities.

(b)(6)

Sincerely,

Federico Peña Chairman of the Board A+ Denver

CC: Lt. Governor Barbara O'Brien

FIFTY YEARS 1959|2009

Jon L. Erickson Senior
Vice President
Educational Services

May 24, 2010

Barbara O'Brien, Lt. Governor 130 State Capitol Denver, CO 80203-1792

Dear Lt. Governor O'Brien:

I am writing to express support for the Race to the Top Application for Phase II Funding ("RTTT") which you are submitting to the U.S. Department of Education. On behalf of ACT, we are excited about the opportunity the federal RTTT grant provides to move the State of Colorado forward on ground-breaking, transformative education reforms. The available funds will allow Colorado to continue to develop an educational system that will prepare each and every child in Colorado for postsecondary education and the workforce. In addition, RTTT funds will assist Colorado in addressing the problems that continue to plague persistently low-achieving schools and districts.

The RTTT proposal supports the Colorado education reform agenda by ensuring that we adopt world class standards and assessments for students, teachers and school leaders by providing teachers and school leaders with access to the necessary data and tools to improve student outcomes and to turnaround our most challenged schools.

ACT's research agenda over the last decade has been focused on the issues of college and career readiness and success. Our findings reinforce the need to raise expectations and achievement for all students. Colorado's RTTT proposal supports our belief that every student, if provided with the knowledge, skills, abilities and attitudes to succeed in postsecondary education and careers will become a productive citizen in our ever-changing world.

In particular, ACT intends to support the implementation of the following components of the State's RTTT plan:

- Developing and Adopting Common Standards
- Establishing new capacities to assist LEAs with the adoption and implementation of Assessments for Learning
- Partnering with the State to promote alignment of middle and high school instruction with college-and work-ready expectation
- Promoting the statewide career readiness certificate program validating individual readiness for the workplace
- Supporting and providing data for the statewide longitudinal data system
- Supporting assessment programs focusing on growth measures
- Conducting workshops and providing resources to support professional development initiatives for teachers, principals and superintendents

ACT applauds Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado.

(b)(6)

ACT, Inc.

500 ACT Drive P.O. Box 168 Iowa City, Iowa 52243-0168319/337-1055 jon.erickson@act.org www.act.org

A Union of Professionals

AFT Colorado

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

AFT Teachers
AFT PSRP
AFT Higher Education
AFT Public Employees
AFT Healthcare

801 S. Perry St.
Suite 100
Castle Rock, CO 80104
www.aftcolorado.org

May 26, 2010

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

On behalf of the members of AFT Colorado, I am writing to support Colorado's Round 2 application for Race to the Top (RTTT) funding. AFT Colorado is fully committed to the four focus areas of the U.S. Department of Education's RTTT program: high standards and quality assessments, data systems that inform instruction and improve achievement, effective teachers and school leaders, and improving low performing schools. As President of AFT Colorado, I strongly believe the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

AFT Colorado focuses on ensuring all Colorado's children receive a high quality education and graduate prepared for success in postsecondary education and to enter the workforce. The infusions of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students.

We are pleased the U.S. Department of Education crafted the RTTT application so that only states that demonstrate statewide capacity to implement, scale up, and sustain proposed plans would be funded. While we were disappointed that Colorado did not receive funding in Round 1, AFT Colorado has collaborated closely with state education policymakers on SB 191. This bill signed into law goes to the heart of some of RTTT's goals, including ensuring teacher evaluation systems are good for children and fair to teachers, struggling teachers receive appropriate and quality assistance to improve instruction, and the results of teacher evaluations inform staffing decisions.
AFT Colorado stands ready and willing to collaborate with the state on implementation of the RTTT proposals, and on future efforts that will benefit the children of Colorado. I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps. Thank you in advance for your consideration.

Sincerely,

(b)(6)

Brenda Smith
President
AFT Colorado

bizCARES
Business Coalition to Advance Reform of the Education System

May 25, 2010

Arne Duncan, Secretary of Education

U.S. Department of Education 400
Maryland Ave. Washington, D.C. 20202

Dear Secretary Duncan,

BizCARES (Business Coalition to Advance Reform of the Education System) is proud to provide its strong support for Colorado's Race to the Top proposal. BizCARES is a statewide coalition of Colorado's leading chambers of commerce, economic development councils, industry organizations, and business roundtable groups committed to an aggressive, comprehensive reform agenda to dramatically improve the state's education system and prepare our students for postsecondary and workforce success. The coalition includes 31 organizations representing businesses in every county of the state and more than one million employees.

We applaud the proposal for its alignment with BizCARES five core principles—relentless focus on student achievement, great teachers and leaders, high performing schools, effective systems, and continuous improvement— its clear and innovative strategies, and its bold reforms in the great teachers and leaders category. We are confident that successful implementation of these strategies will result in the next wave of our state's education reform efforts, for which Colorado has been a national leader.

BizCARES is committed to playing an ongoing state-wide leadership role to support the implementation of Race to the Top strategies to help ensure that, regardless of changes in political leadership, Colorado remains focused on achieving our vision of excellence for all students.

BizCARES greatly appreciates the opportunity to provide input into the development of this Race to the Top proposal and looks forward to playing role to see it through to successful implementation. We believe that achieving the state's vision—that all our children receive the high quality education they deserve—is not only imperative for our children, but also the key to the economic prosperity of our state in the global economy.

Sincerely,

Laurie Zeller, Executive Director
A+ Denver

Cathy Garcia, President and CEO
Action 22

Norton Rainey, Executive Director
Alliance for Choice in Education

Sandy Steiner, Executive Director
Adams County Education Consortium

Reeves Brown, Executive Director
Club 20

John Whiteside, Executive Director
Colorado Association of Black Professional Engineers and Scientists

Darrell Green, Executive Director
Colorado Association of Career and Technical Education

Chuck Beery, President Colorado
Association of Commerce and Industry

Eric Lee, CEO Colorado Black Chamber of Commerce

Janice Sinden, Executive Director
Colorado Concern

Gail Klapper, Executive Director
Colorado Forum

Brenda Morrison, Executive Director
Colorado's Future

Tim Taylor, President
Colorado Succeeds

Nancy Walsh, CEO Colorado Women's Chamber of Commerce

Michael J. Kazmierski, President and CEO
Colorado Springs Regional Economic Development Council Kelly Brough, President and CEO Denver Metro Chamber of Commerce

Maureen McDonald, Executive Director
Denver Metro Leadership Foundation

Kristin Colon, President and CEO
Denver Public Schools Foundation

Tamara Door, President and CEO
Downtown Denver Business Partnership

Danny Tomlinson, Executive Director
Economic Development Council of Colorado

Dave Csintyan, President and CEO
Greater Colorado Springs Chamber of Commerce

Tom Clark, Executive Vice President
Metro Denver Economic Development Corporation

Cathy Shull, Executive Director
Progressive 15

Priscilla Fraser, Executive Director
South Central Council of Governments

John Lay, President and CEO
Southeast Business Partnership

John Brackney, President South Metro
Chamber of Commerce

Dave Van Ness, Executive Director
Tri-Lakes Chamber of Commerce

Landri Taylor, President and CEO
Urban League

Richard Scharf, President and CEO
Visit Denver

Amy Sherman, President West Chamber
Serving Jefferson County

Susie Davis, Executive Director
The Youth Foundation

Core Principles

bizCARES
Business Coalition to Advance Reform of the Education System

Colorado Race to the Top Phase 2 Appendix

PREAMBLE

Colorado's business community is united in pursuit of immediate and continuous improvements to the state's education system. We support an ambitious, aggressive and comprehensive reform agenda to dramatically increase the college and workforce readiness of all students, and we believe now is the time for bold and decisive action.

GOALS

1. All students exit public secondary education in Colorado prepared for successful post-secondary education and workplace experiences and for full participation in their communities and the world.
2. The current and future workforce needs of Colorado's economy are anticipated and served by the public education system.
3. Colorado's education system and processes are efficient, effective, responsive, innovative, and high-performing.

CORE PRINCIPLES

1. Relentless Focus on Student Achievement
Colorado will make all decisions about the education system by placing the highest priority on the best outcomes for students.

2. Great Teachers and Leaders
Colorado will employ data driven human capital management policies and practices that ensure the recruitment, retention, development and differentiated compensation for highly effective teachers and leaders in every school.

3. High Performing Schools
Colorado will continually build and improve its portfolio of high performing public schools with a system of effective incentives and interventions that will ensure that all students have access to a high quality education. Every Colorado student should have access to at least one high quality school of choice that meets international standards.

4. Effective Systems
Colorado will implement evidence-based data management systems, linked to internationally benchmarked standards and assessments, to drive the allocation of resources and ensure accountability for results.

5. Continuous Improvement
Colorado's public education system will be thoroughly integrated from early childhood through post secondary and will incorporate meaningful assessments and feedback to improve student achievement in a system that provides oversight and autonomy based on performance.

Colorado Association of School Boards
1200 Grant Street
Denver, Colorado 80203-2306
Phone: (303) 832-1000 • (800) 530-8430
Fax: (303) 832-1086

January 12, 2010

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan:

As Executive Director of the Colorado Association of School Boards, I write to extend our organization's support of Colorado's Race to the Top application to the U.S. Department of Education. We believe the application lays out a path for reform that will help to improve student outcomes and to close the achievement gap in Colorado.

The Colorado Association of School Board shares the state's priority to provide high quality educational opportunities for all children. Our association includes membership from all of Colorado's school districts, representing about 1160 school board members and superintendents statewide. We take pride in providing the structure through which school board members unite to promote the interests and welfare of Colorado school districts. Colorado's Race to the Top application builds on a rich combination of autonomy, accountability, collaboration and innovation; and we look forward to partnering with the state to implement the plans.

An infusion of Race to the Top funds would make a positive and powerful impact on improving Colorado's ability to serve our children effectively. Thank you in advance for your consideration.

Sincerely, (b)(6)

(b)(6)

Kenneth A. DeLay
Executive Director

COLORADO
CHILDREN'S
CAMPAIGN

January 6, 2010

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

I write to express the Colorado Children's Campaign's strong support for the State of Colorado's application to the U.S. Department of Education for a Race to the Top grant. I am confident that, if awarded, these grant dollars will be used to dramatically improve student achievement in this state, particularly those students at risk of school failure.

The Children's Campaign is a statewide non-partisan, non-profit organization that has a 25-year history of successfully advocating for public education policies from preschool through postsecondary that contribute to positive outcomes for all children - closing achievement gaps for low-income students, increasing high school graduation rates, improving student assessment scores, and advancing postsecondary access and success. The components of the state's Race to the Top proposal – meaningful educator support and accountability, high-quality standards and assessments, expanded data capacities, and targeted resources for struggling schools – are research-based strategies that will help achieve these outcomes. Federal approval of Colorado's Race to the Top grant would fuel these needed reforms and strengthen the state's capacity to partner with local school districts to effectively educate all students.

I believe Colorado is particularly well positioned to capitalize on this historic federal funding opportunity thanks to recent state policy changes that also support these goals. State and local policymakers, advocates and educators have demonstrated their shared commitment to these strategies and outcomes and, if awarded, I am confident that your investment in Colorado's children would pay significant dividends for America's future.

On behalf of the Colorado Children's Campaign, I commend Colorado for a proposal that engages a wide range of stakeholders to set the groundwork for improved performance for all students and thank you, Secretary Duncan, for your support of transformative education reform.

Thank you for your consideration.

Sincerely,

(b)(6)

Chris Watney
President
Colorado Children's Campaign

Colorado Race to the Top Phase 2 Appendix

STATE OF COLORADO

Colorado Commission of Indian Affairs
130 State Capitol Denver, CO 80203 Phone (303) 866-3027 Fax (303) 866-5469
www.colorado.gov/ltgovernor/

Barbara O'Brien
Lieutenant Governor
Chairman

January 11, 2010

Arne Duncan, Secretary of Education

U.S. Department of Education
400 Maryland Ave. Washington,
D.C. 20202

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As Executive Secretary of the Colorado Commission of Indian Affairs, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

The Colorado Commission of Indian Affairs focuses on ensuring all Colorado's children receive a high quality education and graduate prepared for success in postsecondary education and the workforce. The infusions of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students.

On behalf of the Colorado Commission of Indian Affairs, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely,

Ernest House, Jr. Executive Secretary Colorado Commission of Indian Affairs

STATE OF COLORADO

DEPARTMENT OF HIGHER EDUCATION

Bill Ritter, Jr.
Governor

D. Rico Munn
Executive Director

January 11, 2010

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Re: In support of Colorado's Race to the Top grant proposal

Dear Secretary Duncan:

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As Executive Director of the Colorado Department of Higher Education, I strongly believe that the plans outlined in Colorado's proposal will help raise the effectiveness of educators, the performance of children in Colorado and close the achievement gap.

The mission of the Colorado Department of Higher Education is to ensure the affordability of, and promote access to, post-secondary education for the people of Colorado. In pursuing its mission, the Department of Higher Education will act as an advocate for the students and institutions of post-secondary education, will coordinate with other stakeholders and, as needed, regulate the activities of the state's post-secondary education institutions to fully implement Colorado's Race to the Top plan.

On behalf of the Colorado Department of Higher Education, I applaud Colorado for submitting a bold proposal that paves the way for improving teacher and leader effectiveness, student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely yours,

D. Rico Munn

DRM:ikm

1560 Broadway, Suite 1600, Denver, Colorado 80202 • (303) 866-2723 • fax (303) 866-4266
http://highered.colorado.gov

STATE OF COLORADO

Office of the Executive Director
1575 Sherman Street · Denver, Colorado 80203
303.866.5700 · Fax 303.866.4047
www.cdhs.state.co.us

Bill Ritter, Jr.
Governor

Karen L. Beye
Executive Director

December 23, 2009

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As Executive Director for the Colorado Department of Human Services, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

The Department of Human Services (DHS) fully supports this initiative, as it compliments the efforts currently implemented by the Department. The Department's Early Childhood School Readiness Program targets those child care facilities that feed into low performing schools. As we address and improve the quality of child care centers in these targeted areas, children arrive in these low performing schools, ready to learn. Reform efforts in child welfare include increased commitment to local collaborations. County departments of human/social services along with local school districts, who are partners in Collaborative Management Interagency Oversight Groups, work towards helping at-risk children and youth improve academic performance, attendance and behavior. The Race to the Top effort will improve Colorado's ability to provide quality educational and intervention services for these cross-system children.

On behalf of the DHS, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely,

Karen L. Beye

Karen L. Beye
Executive Director

cc: Lieutenant Governor O'Brien

Colorado Youth for a Change

NCSE | National Center for School Engagement

COLORADO CHILDREN'S CAMPAIGN

May 21, 2010

Arne Duncan, Secretary of Education

U.S. Department of Education
400 Maryland Ave. Washington,
D.C. 20202

Dear Secretary Duncan,

We are writing to express our support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As the three primary partners of the Colorado Graduates Initiative, we firmly believe that the strategies outlined in Colorado's proposal will help improve students' successful completion of school, including increased high school graduation rates and fewer dropouts.

The Colorado Graduates Initiative, which is comprised of the Colorado Children's Campaign, the National Center for School Engagement and Colorado Youth for a Change, in coordination with the Colorado Department of Education and Governor Ritter's Office, works with school districts and public schools to develop and implement dropout prevention and recovery strategies. Colorado's Race to the Top proposal aligns well with these goals. In particular, we are enthused about the proposal's inclusion of funding for dropout prevention grants in targeted school districts, customized data reporting systems for early warning dropout indicators, and resources for critical prevention approaches such as the school counselor corps and concurrent enrollment programs. These additional funds would be critical to a collaborative state-local process that would ensure that all students have a high-quality education and graduate prepared for success in postsecondary education and the workforce.

On behalf of the Colorado Graduates Initiative, we commend Colorado for submitting a progressive proposal that will lead to better student academic performance and closing achievement gaps throughout the state. Thank you for your consideration.

Sincerely,

(b)(6)

Chris Watney

President

(b)(6)

Ken Seeley

President

Steve Dobo Founder and Executive Director Colorado Youth for a Change

Steve Dobo

Chambers Family Fund

44 Cook Street, Suite 240
Denver, Colorado 80206
303.839.4620 main line
www.chambersfund.org

January 4, 2010

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

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As Executive Director of Chambers Family Fund, I strongly believe that the plans outlined in our proposal will close the achievement gap for children in Colorado.

One of our foundation's priorities is early care and education because we believe early high-quality education will ensure future student success. Chambers Family Fund has partnered with Denver Public Schools and the Buffett Foundation to create an Educare Center in northeast Denver. This new center demonstrates that early education and family involvement is directly linked to student outcomes in public schools. Funding through the Race to the Top grant would secure Colorado's ability to put into action new proven collaborative strategies that include early care and education as a foundation for future success.

On behalf of Chambers Family Fund, I am proud that Colorado has, with input from all stakeholders, developed a forward looking plan and a sound proposal for funding to implement the plan. Through cooperative public/private partnerships and funding from Race to the Top, we can greatly improve student performance in Colorado.

Thank you for your consideration.

Sincerely,

(b)(6)

Letty Bass
Executive Director

Clayton
EARLY LEARNING

January 12, 2010

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

Please accept this letter in support of the Colorado application to the U.S. Department of Education for a Race to the Top grant. As President and CEO of the Clayton Foundation, dba Clayton Early Learning, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of our children statewide and close the achievement gap.

Clayton Early Learning strives to close opportunity gaps for Colorado's youngest children through comprehensive early childhood education and family support programs, and through research, program evaluations and early childhood teacher preparation. We work with several partners across the state to help lay the foundation for a bright future, giving our children a strong start that will lead to high school graduation and later success in postsecondary education and the workforce. The infusion of funds through the Race to the Top grant will secure Colorado's ability to collaborate with districts, community early childhood education providers, teacher preparation programs, parents and other stakeholders to fully implement the state's proposal and provide educators at every grade level with the necessary conditions to effectively serve all students.

We are making great progress in Colorado in reforming our education system working from school readiness toward post-secondary and workforce readiness. Working collaboratively among stakeholders we have developed and adopted new p-12 learning standards, established a growth model to track student progress, have begun the process to develop a new p-12 assessment system to further inform program improvement efforts, and are making strides in improving teacher preparation. We at Clayton Early Learning are pleased to be full partners in these efforts along with our k-12 and higher education colleagues. On behalf of my organization, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely,

(b)(6)

Charlotte M. Brantley
President and CEO

Investing in innovation in public schools

May 24, 2010

Arne Duncan, Secretary of Education

U.S. Department of Education
400 Maryland Ave. Washington,
D.C. 20202

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As Executive Director of the Colorado Legacy Foundation, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

The Colorado Legacy Foundation focuses on ensuring all Colorado's children receive a high quality education and graduate prepared for success in postsecondary education and the workforce. The infusions of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students. Working in partnership with the Colorado Department of Education, we have demonstrated the benefits to student achievement that result from investing in innovative ideas, evaluating results and remaining committed to sustainability and continuous improvement.

On behalf of the Colorado Legacy Foundation, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

(b)(6)

Sincerely,

Helayne Jones Executive Director Colorado Legacy Foundation

1662 Lincoln, Suite 1680, Denver, CO 80264 (p) 303.736.6477 (f) 866.611.2509 www.coleg.org

Colorado Early Childhood Summit

A Coalition of Statewide Leaders in Early Childhood Care and Education

Colorado Alliance for Quality School Age Programs

Colorado Association for the Education of Young Children

Colorado Association of Family Child Care

Colorado Children's Campaign

Colorado Division for Early Childhood

Colorado Head Start Association

Colorado PTA

Early Childhood Education Association of Colorado

Early Childhood Council Leadership Alliance

Qualistar Early Learning

Co-Chairs:
Paula Neth
Qualistar Early Learning
303.339.6817
pneth@qualistar.org

Elizabeth Groginsky
Head Start-State Collaboration Director
303.866.3390

January 11, 2010

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

The Colorado Early Childhood Summit is writing to express support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As a coalition of statewide leaders in Early Childhood Care and Education, we strongly believe that the plans outlined in Colorado's application will improve school readiness, improve the transition between preschool and Kindergarten and close the achievement gap for students.

The Summit represents public and private child care teachers, center owners, administrators, special educators, child care home providers, educational institutions, Head Start programs, Resource and Referral Agencies, school-age programs, children and parents, as well as others who care about Colorado's children and families, The Summit believes that building partnerships that result in information sharing and collaboration will lead to the enrichment of child care and early education in Colorado. The Race to the Top funds will accelerate Colorado's efforts to recruit and retain highly effective early childhood educators, develop quality instructional materials and curricula to support implementation of Colorado's new PreK-12th grade standards in diverse settings and enhance the use of data to inform instruction and improve program services.

The Summit applauds Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely,

(b)(6)

Paula Neth
Summit Co-Chair

(b)(6)

Elizabeth Groginsky
Summit Co-Chair

COLORADO LEAGUE of CHARTER SCHOOLS
focus on achievement

725 South Broadway, Suite 7
Denver, Colorado 80209
p: 303-989-5356 f: 303-984-9345
www.coloradoleague.org

January 13, 2010

Arne Duncan, Secretary of Education

U.S. Department
of Education
400 Maryland
Ave.
Washington,
D.C. 20202

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As President of the Colorado League of Charter Schools, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

Colorado's plan includes strong support for charter schools in our state, which provide parents with additional quality public school options so that they may choose the educational path that best meets the needs of their children.

There are currently more than 160 charter schools across Colorado, serving approximately 66,000 children (8% of the total K-12 public school enrollment in the state). The Colorado League of Charter Schools is a nonprofit, membership organization committed to helping these schools continue to reach high levels of student performance and overall success by providing information and resources including performance management, advocacy, public relations assistance, and more.

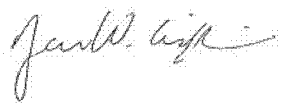
The infusion of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students—certainly including charter school students.

On behalf of the Colorado League of Charter Schools, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout our state. Thank you in advance for your consideration.

Sincerely,

Colorado Race to the Top Phase 2 Appendix

Jim Griffin President Colorado League of Charter Schools May 24, 2010



Investing in innovation in public schools

Arne Duncan, Secretary of Education

U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As Director of Colorado Legacy Schools, a statewide Advanced Placement Initiative, I strongly believe the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

The Colorado Legacy Schools program focuses on ensuring all Colorado's children receive a high quality education and graduate prepared for success in postsecondary education and the workforce. The infusions of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students. Awarding this grant to Colorado will allow us to graduate more students who are ready for college and careers, especially in the key areas of advanced math and science. These graduates will, in turn, boost our state workforce and economy.

On behalf of Colorado Legacy Schools, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. We appreciate your full consideration of Colorado's application.

Sincerely,

(b)(6)

Samantha Long Director, Colorado Legacy Schools Colorado Legacy Foundation

1662 Lincoln, Suite 1680, Denver, CO 80264 (p) 303.736.6477 (f) 866.611.2509 www.colegacy.org

Colorado STEM NETWORK

January 11, 2010

Arne Duncan, Secretary of Education

U.S. Department of Education 400 Maryland Ave. Washington, D.C. 20202

Dear Secretary Duncan,

This letter is to convey my full support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As Executive Director of the Colorado STEM Network, I am certain that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

The Colorado STEM Network brings together key stakeholders of businesses, government, education, and community groups to improve STEM (science, technology, engineering and mathematics) education for all students. We offer a network-based infrastructure that informs and connects STEM initiatives through: advocacy, promotion and support, and communication. The infusions of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students.

On behalf of the Colorado STEM Network, I commend Colorado for submitting a forthright and audacious proposal that has brought together people throughout the state and leads the way for not only improving student performance but also inciting innovation and enthusiasm in students for learning throughout Colorado. Thank you in advance for your consideration.

(b)(6)

Sincerely,

Nicole McGee Executive Director Colorado STEM Network

Washington Office
1233 20th Street NW, Suite 600
Washington, DC 20036-2375

T 202 741-4700 F 202 741-4743 www.collegeboard.com

May 25, 2010

Dear Lieutenant Governor O'Brien,

The College Board is committed to the mission of insuring that every Colorado student is prepared for College and career success. Colorado's Race to the Top plan calls for challenging reforms in the areas of standards and assessment, longitudinal data systems that can help drive school improvements, teacher and principal quality , and interventions in low performing schools. College Board is committed to working with Colorado on all four target areas.

The College Board strongly supports Colorado's plan for Race to the Top. The implementation of this plan will enhance our own efforts to achieve our goals of preparation, excellence and access in the P-20 system.

The provisions in the state's high quality application ensure Colorado is strongly positioned to receive the maximum amount of available funding. Subsequent to the anticipated award of funds, we intend to pursue a formal role in the implementation of the state's Race to the Top efforts by responding to partnership opportunities through the state's RFP process. College Board will also support the state's application and implementation process by leveraging our expertise on standards and assessments, building upon our extensive network of partnerships with schools in the implementation of College Board's college success system, and helping to insure that teachers and administrators receive the highest quality professional development available.

We look forward to this collaboration and the continuation of the special partnership College Board has with Colorado and its schools and institutions of higher education.

Sincerely,

(b)(6)

Terry Whitney

Director, Government Relations
West Region
The College Board

CollegeBoard
inspiring minds™

COLORADO SPACE COALITION
A MILE CLOSER TO SPACE

January 12, 2010

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan:

On behalf of the Colorado Space Coalition (CSC), this letter is in support of Colorado's application to the U. S. Department of Education for a Race to the Top grant.

The CSC's membership represents more than 40 aerospace industry stakeholders in Colorado, including the region's major aerospace and defense companies: Ball Aerospace, Boeing Company, ITT Corporation, Lockheed Martin Space Systems, Northrop Grumman, Raytheon Company, Sierra Nevada Corporation and United Launch Alliance. Together with the CSC's small and mid-size company members, these partners represent the full supply chain in the military, civil, and commercial space markets. Other CSC partners include the Colorado Space Business Roundtable, higher education institutions, and several regional chambers of commerce and economic development agencies. The CSC's goal is to enhance and build on Colorado's diverse company base to keep our state a center of excellence for space, as well as increase recognition of Colorado as the best place for aerospace companies to locate and thrive.

A key factor in the continued success of both Colorado – and the nation's – aerospace and other technology industries is the support of educational efforts that address workforce shortages and replenish engineers, scientists and other skilled workers. Colorado's Race to the Top grant proposal outlines plans that will significantly help raise student performance and opportunity for post-secondary education success by providing educators with the necessary conditions to effectively serve all students. The CSC views Colorado's proposal as a most important and timely initiative for increasing Colorado students' access to careers in technology fields, and therefore addressing one of the aerospace industry's most pressing workforce issues: the need for a diverse and robust pipeline of future employees to maintain competitiveness in the global marketplace.

The Colorado Space Coalition congratulates Colorado for submitting a bold and innovative proposal, and we thank you in advance for your consideration.

Sincerely,

(b)(6)

Andy Love
Major General, USAF (Ret.)
Colorado Space Coalition Co-Chair

(b)(6)

Ralph W. Christie, Jr.
President and CEO, Merrick & Co.
Colorado Space Coalition Co-Chair

1445 Market Street Denver, Colorado 80202 303.620.8025
info@spacecolorado.org www.spacecolorado.org

Charter School Growth Fund

Helping public education thrive.

January 12, 2010

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan

The Charter School Growth Fund (CSGF) is pleased to express its support for Colorado's participation in the Race to the Top application and the reform plan that Colorado has developed to dramatically change education in the state so it works for every child. We are impressed by the bold vision and track record of the initial reforms that Colorado has taken in the past few years, and believe that the state is an excellent candidate for the Race to the Top.

Since its founding in 2005, CSGF has invested over $75 million in the development and expansion of outstanding charter school networks in underserved communities across the nation, including within Colorado. We have been deeply impressed with Colorado's commitment to serious reform even in the face of great obstacles, and our work with Colorado's leaders convinces us that Colorado is well-positioned to continue charting a bold course in the future.

Indeed, Colorado has already set itself apart as a visionary leader in education reform in a number of ways, including through the use of powerful value-added data to measure school effectiveness and the creation of a supportive environment for charter schools. With its Race to the Top plan, we believe Colorado can fundamentally transform the expectations of what is possible for the state and its most underserved students, as well as build a base of capacity for wider, permanent changes across the state.

We are supportive of the boldness and vision outlined in Colorado's plan.

Sincerely,

(b)(6)

Kevin Hall
CEO

430 Interlocken Boulevard - Suite 390 - Broomfield - Colorado - 80021 - phone 303.217.8090 - fax 303.541.7344 - www.chartergrowthfund.org

January 1, 2010

Arne Duncan, Secretary of Education

U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

As a Colorado Charter School Institute board member and a former Denver Public Schools assistant superintendent, I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. I strongly believe, based on many years of experience working in schools and supervising instruction, that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

The Charter School Institute focuses on ensuring that the more than 6000 Colorado children who attend schools overseen by the Institute receive an effective education that promotes high student achievement and graduate prepared for success in postsecondary education and the workforce. The infusions of funds through the Race to the Top grant would secure Colorado's ability to collaborate with the Charter School Institute, districts, and other stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students.

Colorado's proposal addresses critical needs of all public schools: implementation of rigorous content standards, formative assessments and follow-up to adjust instruction, high-quality data analysis tools, and teacher evaluation focused on results. I am also pleased that Colorado's proposal includes incentives for collaboration and results. Collaboration is especially important for charter schools, which often operate in isolation from each other because of geographic distance. I am excited about Turnaround Centers that address the needs of students in struggling schools. Easier replication of highly effective schools and providing incentives to open new schools in areas with the greatest student needs are consistent with the Charter School Institute's mission, which includes increasing the number of innovative educational models available to serve at-risk students.

I am pleased that Colorado is submitting an innovative, research-based proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely,

(b)(6)

Wayne Eckerling Board Member, Charter School Institute Colorado Charter School Institute

CSIA
Colorado's Technology Association

January 11, 2010

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

I, Su Hawk, President of CSIA, on behalf of Colorado's Technology Association, lend our support and endorsement to Colorado's application to the U.S. Department of Education for a Race to the Top grant. As President of CSIA, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

The technology leaders in our community fully embrace the leadership role of growing and encouraging the next generation of technology experts and as leaders in Colorado's technology community, we fully understand the opposite effects that an under educated generation can have on the future growth of our state and the nation. The technology industry needs qualified workers and our education system is central in producing a globally competitive work force, but they need help and we believe the Race to the Top would provide necessary resources. CSIA partners with several non-profit agencies to ensure all Colorado children receive a high quality education and graduate prepared for success in postsecondary education and the workforce. This includes developing local technology talent by increasing: enrollment in technology majors, STEM education in K-12 curriculum, and high school graduation rates. As an initiative-based organization, CSIA focuses on outreach to teachers, parents and high school/college students about IT career trends; connecting IT industry leaders, key educators and student influencers across the state; and developing programs for Colorado to develop a highly-skilled workforce.

CSIA is an organization that has long been dedicated to the intellectual growth of Colorado's students, and we know infusions of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions, programs and resources to effectively serve all students. Those funds would thereby position the growth of our nation as a leader in education. Specifically, we are keenly aware of STEM education content and how it impacts the technology industry. The Road to the Top strategy relating to STEM education is very positive and strategically aligns education to our industry. Additionally, Colorado's support of Charter Schools is a positive step towards improving the education system. The Road to the Top funding can extend the initiative to build more high quality schools like the nationally recognized charter school, Denver School of Science and Technology.

CSIA has long been dedicated to high quality instruction and growing the talent base in Colorado to serve the ever-increasing need for talent in the Information Technology industry. On behalf of CSIA, we applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado to provide students with highly successful futures. With more than 175,000 technology professionals in our state earning an average of $88,000 (twice the median salary in Colorado) this is also a critical industry to keep thriving. Secretary Duncan, thank you in advance for your consideration.

Sincerely,

(b)(6)

Su Hawk
President
CSIA, Colorado's Technology Association

216 16th Street, Suite 850
Denver, CO 80202

Main 303.592.4070
Fax 303.592.4061

C-Level Insight

Connections

Advocacy

ISTONISH

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January 11, 2010

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As CEO of Istonish, Inc. (a regional technology services company) and Industry Co-Chair for the Data Systems work group of the Race to the Top team, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

As an employer of educated and skilled technical workers, I understand the important role that our schools play in developing a globally competitive work force. As a Hispanic woman I am personally convinced that public education must work for ALL students, regardless of ethnicity. In my role as Co-Chair of the Data Systems public committee I am proud of the vision created for how technology will be used to support the transformation and improvement of education in our state. Colorado is already a leader in the collection and visualization of education performance information; and the Race to the Top future vision for data systems builds upon this strong foundation.

In industry, high performance organizations set clear and measurable goals and then create effective ways to measure performance at all levels of the operation. In my opinion, the data systems vision outlined in Colorado's proposal sets forth a clear and strategically designed architecture. This vision is shored up with thoughtful and coherent approaches to ensure systems that are usable and relevant to educators, administrators, students and parents. While great teachers and effective principles will deliver the improved education, over time, the data systems will function as 'real time dash boards' that provide timely status on student performance. The infusions of funds through the Race to the Top grant would enable effective systems to be built that will support the process of improving educational outcomes and will secure Colorado's ability to provide educators with the necessary tools and information to effectively serve all students.

As Co-Chair of the Data Systems work group, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely,

(b)(6)

Annette Quintana
CEO
Istonish, Inc.

DENVER BOTANIC
GARDENS

January 12, 2010

Mr. Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Avenue
Washington, DC 20202

Dear Secretary Duncan:

This letter extends my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As Chief Executive Officer of Denver Botanic Gardens, I believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

One of our programmatic focuses is to help ensure that Colorado's children receive a high quality education and graduate prepared for success in postsecondary education and the workforce. The infusions of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students.

On behalf of Denver Botanic Gardens, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely,

(b)(6)

Brian Vogt
Chief Executive Officer

909 York Street
Denver, Colorado 80206
720-865-3500
www.botanicgardens.org

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Mr. Michael Vaughn
Mr. Charles Woolley

CEO
Mr. Brian Vogt

THE DENVER FOUNDATION

December 30, 2009

Mr. Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As President and CEO of the The Denver Foundation, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

The Denver Foundation is a community foundation dedicated to improving the quality of life for residents of the metro Denver area (nearly 3 million people). In a recent "listening campaign" of the community, we learned that the number one local concern is public education. A Race to the Top grant would ensure Colorado's ability to collaborate with districts and stakeholders to implement the state's proposal fully and to provide educators with the necessary tools and conditions to serve all students effectively.

On behalf of The Denver Foundation, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you very much for your consideration.

Sincerely,

(b)(6)

David Miller
President and CEO

55 Madison Street • 8th Floor • Denver, Colorado 80206-5423
www.denverfoundation.org
(303)300-1790 • Fax: (303)300-6547

DENVER ZOOLOGICAL FOUNDATION, INC.
9300 STEELE STREET - DENVER, CO 80205 - 303.376.4800 - FAX: 303.376.4801 - WWW.DENVERZOO.ORG

January 15, 2010

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

Dear Mr. Secretary:

I am pleased to share my support for Colorado's application to the U. S. Department of Education for a Race to the Top grant. As President/CEO of Denver Zoo and the Denver Zoological Foundation, I strongly believe that the plans outlined in Colorado's proposal will strengthen teaching, foster effective and innovative collaboration, and improve systems to measure progress in order to help all Colorado's young people succeed in school and the workplace.

Denver Zoo is one of Colorado's largest cultural institutions serving more than 1.8 million people annually. Nearly 400,000 school children and teachers participate each year in our education programs, many of which are focused on supporting teachers to improve their teaching skills and to provide critical programming for students in struggling schools. We recognize that children love animals and leverage that passion by partnering with formal educators to not only teach biology and zoology, but to develop diverse curriculum including math, language arts, social studies, music, visual and performing arts, and physical education.

The infusion of funds through the Race to the Top grant would secure Colorado's ability to increase collaborations and sharpen efforts with districts and others committed to education, including nonformal education institutions like ours, to fully implement the state's proposal to transform our education system to better support educators and effectively serve students.

On behalf of Denver Zoo and the Denver Zoological Foundation, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. We pledge to partner with the Colorado Department of Education, universities, school districts, teachers, students, and other stakeholders to provide unsurpassed positive transformations in our education system.

Thank you for your consideration.

Sincerely yours,

(b)(6)

Craig D. Piper
President/CEO

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George R. Pearl
Vice President for Planning and Capital Projects
Dennis Smith
Vice President for Zoo Operations
Jacque M. Taylor
Vice President for Education and Volunteer Services

DONNELL-KAY DK FOUNDATION

May 21, 2010

Arne Duncan, Secretary of Education

U.S. Department of
Education 400 Maryland
Ave. Washington, D.C.
20202

Dear Secretary Duncan,

The Donnell-Kay Foundation is writing to express its support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As Executive Director of The Donnell-Kay Foundation, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

Specifically, our foundation is encouraged by the integration of online and blended learning opportunities into this Race to the Top proposal. We have been working closely with the Commissioner of Education, The Legacy Foundation, and national leaders, including Susan Patrick, CEO of the International Council on Online Learning (iNACOL), to strategize ways that Colorado can expand access to high quality school options for students via online and blended learning. Collectively, our organizations held a Summit on Online and Blended Learning this past March, attended by over 130 stakeholders from round the state, to officially kick-off this work. We believe that in order to adequately and appropriately prepare all students for life in the 21st Century, we must better integrate leading technologies and online instruction and content with brick and mortar schools. This is most immediately needed in hard to staff subjects and underserved areas of our state.

The infusions of funds through the Race to the Top grant would provide Colorado the opportunity to build needed infrastructure, expand access to high quality teachers, leaders, and content, and collaborate with districts and other stakeholders to implement key strategies, such as blended learning, to effectively serve all students.

On behalf of The Donnell-Kay Foundation, I applaud Colorado for submitting a bold proposal and encourage you to fund the work proposed, as it will further our state's ability to demonstrate its capacity and leadership to implement leading education reforms. Thank you in advance for your consideration.

(b)(6)

Tony Lewis Executive Director Donnell-Kay Foundation

730 17TH ST. SUITE 950 DENVER CO 80202 720.932.1544 FAX: 303.534.5785

The Equitable Building, 17th & Stout

DENVER MUSEUM OF
NATURE & SCIENCE

George Sparks
President and CEO

January 11, 2010

To: Secretary Arne Duncan
Department of Education

From: Denver Museum of Nature and Science

Subject: Colorado's Race to the Top Proposal

Dear Secretary Duncan,

We enthusiastically support Colorado's Race to the Top proposal. Our state's business and scientific communities view this as a generational opportunity to reform both the structure and culture of Colorado's public schools. This is particularly important in the area of STEM education. Science and mathematics are the foundation of our global competitiveness, especially when combined with a sound basic K-12 education.

As co-chair for Colorado's Great Teachers and Leaders committee. I personally observed the willingness of everyone involved to change the educational system for the benefit of Colorado's children. I found amazingly little provincialism or defensiveness once we all sat down and began talking about our mutual goals and ideas for reform. I saw this open minded attitude up and down the line. Partisan legislators, education school deans, district school boards and administrators, parents, taxpayers and teachers (both individually and collectively as the Colorado Education Association) were eager to support the reforms embodied in Colorado's Race to the Top proposal.

The Museum of Nature and Science serves 300,000 schoolchildren every year through school visits to the museum, outreach classes at schools and distributed Science in Action remote webcasts from practicing scientists around the world. We play a fundamental role in inspiring children to learn about science, as well as a trusted source for science teacher professional development.

This year the Museum is embarking on the construction of a $53M Education and Collections Facility funded by Denver bond and donor funds. This facility will house our efforts to create new 21st Century learning techniques for preK-8th grade students, families and teachers. This science education wing will be the largest single investment in the 109 year history of the Museum, and demonstrates the commitment of our staff and Board to STEM education.

2001 Colorado Blvd.
Denver, CO 80205-5798
P 303.370.6345
F 303.370.6027

www.dmns.org

Colorado's educational system and the Denver Museum of Nature and Science both view this as a seminal time in our history. We are ready and eager to reform the system and invest in the education of our children. Race to the Top can be the catalyst for the change that we envision.

Best regards,

(b)(6)

George Sparks
President/CEO

(b)(6)

Peter Dea
Board Chair

DENVER
PRESCHOOL PROGRAM

January 4, 2010

Arne Duncan, Secretary of Education

U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

I am writing in support of Colorado's application for a Race to the Top grant. While many states will be vying for a small amount of available resources, I believe that Colorado has taken a bold stance in education reform that should be encouraged and rewarded with Race to the Top resources.

At the Denver Preschool Program, our goal is to prepare preschool children for a lifetime of learning as they enter kindergarten. As one of the few municipalities in the country that has taxed itself to promote this level of education, our program is representative of the many innovative efforts jurisdictions throughout our state have made to help improve child outcomes.

As CEO of the Denver Preschool Program, I wholeheartedly believe that Colorado's proposal will help raise the performance of children in Colorado and help to close the achievement gap. Race to the Top resources can help to further network and allow increased collaboration amongst our state's innovative educators.

On behalf of the Denver Preschool Program and our many partners who serve preschool aged children in our county and state, we stand firmly with the State of Colorado for submitting a forward-thinking and reform-minded proposal that will benefit our state's youngest of learners. Thank you for your consideration.

Sincerely,

(b)(6)

James E. Mejia CEO Denver Preschool Program

P.O. Box 40037, Denver, Colorado 80204-0037 • www.dpp.org • (ph) 303.825.6246 • (fax) 303.628.3839 • www.dpp.org

January, 5 2010

Arne Duncan, Secretary of Education

U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As CEO of DSST Public Schools, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

DSST Public Schools focuses on ensuring all Colorado's children receive a high quality education. DSST Public Schools is founded on the belief that all students regardless of race, income or background can and should graduate from a four year college prepared to compete in the global marketplace, lead productive lives, and be the civic leaders of the future.

The infusions of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students.

On behalf of DSST Public Schools, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely,

Bill Kurtz CEO DSST Public Schools

State Representative
JUDY SOLANO
Colorado State Capitol
200 E. Colfax Ave., Room 271
Denver, CO 80203
Capitol: 303-866-2918
Home: 303-252-4670
E-mail: judy.solano.house@state.co.us

Vice Chair
Education Committee
Member:
Agriculture, Livestock, and
Natural Resources Committee

COLORADO

HOUSE OF REPRESENTATIVES

STATE CAPITOL

DENVER

80203

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

January 13, 2010

Dear Secretary Duncan,

We are writing to express our support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As the Chairs of the Early Childhood and School Readiness Commission, we strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

The Early Childhood and School Readiness Commission is committed to ensuring that children enter school ready to thrive and succeed. To that end, we worked closely with our Department of Education, Office of the Governor, and the Colorado State Legislature to promote policy in early childhood that will support young children as they enter school. We applaud the state for including vital elements in early childhood in the final application. The emphasis on high quality full day kindergarten, parental engagement, supports for our Colorado Preschool Program, and support for teacher professional development all strengthen the state of education in Colorado by ensuring that our youngest, and most vulnerable citizens begin their academic careers prepared.

On behalf of the Early Childhood Commission and School Readiness Commission, we applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely,

Rep. Judy Solano

The Honorable Judy Solano
Colorado State Representative
Chair of the Early Childhood and School Readiness Commission
Vice-Chair of the Colorado House Education Committee

Mary Hodge

The Honorable Mary Hodge
Colorado State Senator
Vice-Chair of the Early Childhood and School Readiness Commission

January 13, 2010

Arne Duncan, Secretary of Education

U.S.
Department
of Education
400 Maryland
Ave.
Washington,
D.C. 20202

Dear Secretary Duncan:

It is our pleasure and honor to provide a strong endorsement of Colorado's application to the U.S. Department of Education for Race to the Top grant funding. We are confident that the key stakeholders in our state's educational system have been deeply involved in creating smart and ambitious strategies to move education forward in Colorado.

As funders of education policy and reform, we are encouraged by the strategies identified in Colorado's application to create exemplary and sustainable learning communities that will drive dramatic improvements in student outcomes. Receipt of Race to the Top funds will build educator capacity and support structures, provide incentives for collaboration, develop cutting-edge data and accountability systems, turn around low performing schools, and offer opportunities for innovation.

Our foundations have invested millions of dollars in programs and policies statewide for decades. We've been at the forefront of such initiatives as ProComp (Denver's teacher performance compensation plan) and the new compensation system in Jefferson County (Colorado's largest school district), Healthy Schools (expanding the supply of affordable, healthy food options for public schools), Get Smart Schools (training new school leaders to open high performing autonomous schools across the Front Range) , Innovation Schools (supporting implementation of the legislation in Colorado), and the Unique Teacher Identifier System. Programs like these provide opportunities for partnerships between private philanthropy, school districts, individual schools, and the state.

We applaud the leadership of Governor Bill Ritter and Lt. Governor Barbara O'Brien who put their hearts and souls into this work. We look forward with anticipation to further partnering with the state to improve educational opportunities and outcomes for Colorado students via the Race to the Top initiatives. Thank you in advance for your thoughtful consideration of our state's proposal.

Sincerely,

Colorado Race to the Top Phase 2 Appendix

Tony Lewis Sheila Bugdanowitz Linda Childears Mary Gittings Cronin Donnell- Kay Foundation Rose Community Foundation Daniels Fund Piton Foundation

(b)(6)

(b)(6)

(b)(6)

(b)(6)

STATE OF COLORADO

GOVERNOR'S OFFICE OF INFORMATION TECHNOLOGY

GOVERNMENT DATA ADVISORY BOARD

601 East 18th Avenue, Suite 250
Denver, Colorado 80203
Phone (303) 764-7700
Fax (303) 764-7725
www.colorado.gov/oit

Bill Ritter, Jr.
Governor

Michael Locatis
State Chief Information Officer

January 4, 2010

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As Chair of Colorado's Government Data Advisory Board, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

The legislatively-created Government Data Advisory Board (GDAB) is a multi-agency central governance authority established to advise the State Chief Information Officer and Chief Data Officer on the State's data strategy, policies, standards, architecture, and issues management. The Board is comprised of representatives of twelve State agencies, local governments, non-governmental organizations and research institutes, and a wide variety of education stakeholders.

The commitment is to build a state-of-the-art data system using industry exemplars within and outside of education that is both student-centric and equips users with the necessary information and tools to positively impact student learning and teacher effectiveness. The GDAB will work with the Governor's Office and Colorado Department of Education to develop the governance framework required, ensuring the long-term success of this initiative. This system will link early childhood education to workforce, and track programs, educators and students. It is the primary infrastructure that will allow educators, parents, policymakers and other education stakeholders to ensure that all Colorado's children receive a high quality education and graduate prepared for success in postsecondary education and the workforce. The infusions of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students.

On behalf of the Government Data Advisory Board, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely,

Micheline Casey
Chair, Government Data Advisory Board
Chief Data Officer
Governor's Office of Information Technology

Colorado Race to the Top Phase 2 Appendix

Colorado Race to the Top Phase 2 Appendix

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

We, the Board of Directors of Get Smart Schools, strongly endorse Colorado's application to the U.S. Department of Education for a Race to the Top grant. We are each involved with Get Smart Schools because we believe that the time has come to put an end to educational disparities in America. We are confident that the strategies outlined in Colorado's application will have a significant impact on student achievement and we look forward to being part of the implementation of these ambitious plans.

The mission of Get Smart Schools is to stimulate and support the creation of new, high performing, autonomous schools serving low-income children. Our work includes leadership development, board development, facilities support and health and wellness planning for new schools. We are certain that an infusion of Federal funds in Colorado would go a long way toward creating more innovative high quality schools and we are prepared to partner with the state in the creation of new schools if given the opportunity to do so.

On behalf of Get Smart Schools, we applaud the comprehensive and considerate work that our state's leaders have done in preparing the application for Race to the Top. We are committed to being an active partner with the state in the continued improvement of educational opportunities for all students in Colorado. We thank you in advance for your serious consideration of the proposal.

Sincerely,

Joy Johnson, Chair Community
Volunteer

Senator Mike Johnston Colorado
State Senator

Linda Bowman President, Community College of Aurora Luella D'Angelo President, Western Union Foundation

Colorado Race to the Top Phase 2 Appendix

Tony Lewis Executive Director, Donnell Kay Foundation

Kay Norton President, University of Northern Colorado

Barbara O'Brien Lt. Governor, State of Colorado

Van Schoales Program Officer, Piton Foundation

Eric Sondermann Partner, SE2

Lorenzo Trujillo Assistant Dean, University of Colorado Law School

Annie Wohlgenant Community Leader May 25, 2010

Arne Duncan, Secretary of Education

U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

I am writing to express my support for Colorado's Race to the Top application to the U.S. Department of Education. As the Mayor of Denver and the Democratic Gubernatorial Candidate for Governor, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

In today's increasingly competitive global market, it is critical all Colorado's children receive a high quality education and graduate prepared for success in postsecondary education and the workforce. The infusions of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students.

If elected governor, I will continue to support these efforts moving forward. I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps. Thank you in advance for your consideration.

Sincerely,

John Hickenlooper
Gubernatorial Candidate

JOHN T. SALAZAR
3RD DISTRICT OF COLORADO

326 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
202-225-4761
202-226-0669 (FAX)

COMMITTEE ON APPROPRIATIONS

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

January 7, 2010

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As the Representative of the Third Congressional District of Colorado, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of Colorado's children and close the achievement gap.

Since coming to Congress, education has been one of my top priorities. I believe that we must continue to work in a bipartisan manner to develop existing programs, continue to develop new strategies and ensure that the programs we implement are adequately funded.

The infusion of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students.

On behalf of the residents of Colorado's Third District, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely,

John T. Salazar
Member of Congress

134 WEST B STREET
PUEBLO, CO 81003
719-543-8200
719-543-8204 (FAX)

225 NORTH 5TH STREET, STE 302
GRAND JUNCTION, CO 81501
970-245-7107
970-245-2194 (FAX)

609 MAIN STREET, #6
ALAMOSA, CO 81101
719-587-5105
719-587-5137 (FAX)

813 MAIN AVEN.E, STE 300
DURANGO, CO 81301
970-259-1012
970-259-9467 (FAX)

General Assembly
State of Colorado
Denver

January 10, 2010

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

Dear Secretary Duncan:

As the Chairs of the Senate and House Education Committees for the State of Colorado, we write to express our strong support for Colorado's application to the U.S. Department of Education for a Race to the Top grant.

We have a track record of collaboration and education reform in Colorado and have passed numerous laws related to improving our public education system, including legislation to revamp our standards and assessments; ensure high-quality data systems; track our educators' impact on student learning; and intervene in our lowest performing schools. We are confident that Colorado's Race to the Top plan will support the implementation of these policies in ways that will help improve student outcomes and close the achievement gap.

We are confident that the infusion of funds from a Race to the Top grant would increase our capacity to provide all Colorado children with a high quality education, ensuring they are prepared for success in post-secondary education and the workforce. As legislators, we look forward to continuing to introduce and pass legislation that will support these efforts.

Thank you in advance for your consideration.

Sincerely,

Senator Bob Bacon
Colorado Senate
Education Committee Chair

Representative Michael Merrifield
Colorado House of Representatives
Education Committee Chair

KIPP: Color

January 10, 2010

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

I am writing to express my support for Colora
Education for a Race to the Top grant. As Ex
(the Knowledge is Power Program), I strongl
Colorado's proposal will help raise the perfor
achievement gap. Unlike my KIPP cousins w
places like New York, New Orleans, and Los
Colorado created by the fact that it is easy to
same inequities as their more urban peers. As
income students in Denver have a 1 in 11 cha

KIPP Colorado is focused on ensuring all Co
education and graduate prepared for success i
workforce. KIPP has long been proving wha
strongly that Colorado is uniquely positioned
community. The infusions of funds through t
Colorado's ability to collaborate with district
state's proposal and provide educators with t
all students.

On behalf of all the KIPPsters in our state, I a
proposal that paves the way for improving st
gaps throughout Colorado. Thank you in adv

Sincerely,

(b)(6)

Rebecca F. Holmes
Executive Director
KIPP Colorado Schools

375 South Tejon Street |
303-934-3245 | ww

General Assembly
State of Colorado
Denver

January 13, 2010

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

Dear Secretary Duncan:

As the leaders of Colorado's legislature, we enthusiastically support Colorado's Race to the Top application to the U.S. Department of Education. We are confident that the plans outlined in the application will help improve student outcomes and close the achievement gap in Colorado.

Colorado has already demonstrated the desire for and commitment to education reform. Our legislative accomplishments to date include passing comprehensive standards and assessment legislation, enabling the creation of data systems that track students from early childhood into the workforce and link their growth to educators, and providing the Colorado Department of Education with significant leverage in turning around Colorado's lowest performing schools. In addition, we have consistently sought to approach education dilemmas through a "P-20" lens, acknowledging the value of developing a comprehensive system that supports all children from early childhood, through school and into the workforce. Colorado's Race to the Top application builds on these accomplishments, laying out a plan for the future that is clear about outcomes while allowing for flexibility at the local level. It is exactly the type of approach that will drive long-lasting reform throughout our state.

We will continue to work in the Capitol, and with important stakeholders, on legislation that will further strengthen and support our education reforms. A Race to the Top grant would bring resources to deepen our ability to implement these necessary changes to our public education system. We strongly believe the plans laid out in Colorado's application will support our children and provide a national model.

Thank you in advance for your consideration.

Sincerely,

Senator Brandon Shaffer
President
Colorado Senate

Representative Terrance D. Carroll
Speaker of the House
Colorado House of Representatives

Senator Betty Boyd
President Pro Tempore
Colorado Senate

Representative Liane McFadyen
Speaker Pro Tempore
Colorado House of Representatives

January 12, 2010

Arne Duncan, Secretary of Education

U.S. Department of
Education 400 Maryland
Ave. Washington, D.C.
20202

Dear Secretary Duncan,

As the Executive Director of the Colorado Association of School Executives (CASE), the professional association for school administrators—including superintendents, principals, business officials, school personnel administrators, technology leaders and others—I wanted to express my support for Colorado's application to the U.S. Department of Education for *Race to the Top* funding.

I believe that the plans outlined in Colorado's proposal have the potential to raise the performance of children in Colorado, while closing gaps and getting more students seamlessly into post-secondary education environments. With CASE support and advocacy, Colorado has tackled many of the topical areas outlined in the grant application, but our full efforts are hamstrung by funding constraints. This new funding would assist state and local efforts to get ahead of the curve in terms of implementing key reforms.

The CASE mission focuses on fostering positive environments for high student achievement and modeling best leadership practices. We agree with the intense focus on creating great teachers and great leaders at the very center of the *Race to the Top* effort. We believe that the professionals who work in classrooms and schools represent the best place to make a difference in outcomes. Like you, we want all Colorado's children to have the best chance to fully participate as citizens, while finding workforce success. The *Race to the Top* grant would secure Colorado's ability to provide educators with the necessary conditions to more effectively serve all students.

On behalf of the CASE, I applaud the education professionals of Colorado and its citizens for working toward a better future for all students. I think you will find that Colorado's bold proposal paves the way for solid and lasting improvements in student performance. Secretary Duncan, I want to thank you in advance for your full consideration of Colorado's application.

Dr. John Hefty Executive Director Colorado Association of School Executives

COMMITTEE ON AGRICULTURE

SUBCOMMITTEE ON GENERAL FARM COMMODITIES AND RISK MANAGEMENT
SUBCOMMITTEE ON CONSERVATION, CREDIT, ENERGY AND RESEARCH
SUBCOMMITTEE ON LIVESTOCK, DAIRY AND POULTRY

COMMITTEE ON TRANSPORTATION & INFRASTRUCTURE

SUBCOMMITTEE ON RAILROADS, PIPELINES AND HAZARDOUS MATERIALS
SUBCOMMITTEE ON ECONOMIC DEVELOPMENT, PUBLIC BUILDINGS AND EMERGENCY MANAGEMENT

BETSY MARKEY
4TH DISTRICT, COLORADO

January 12, 2010

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

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

As both a federal representative of Colorado and a mother of Colorado public school graduates, I want to ensure that all of Colorado's children receive a high quality education and graduate prepared for success in postsecondary education and the workforce. The infusion of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students.

I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely,

Betsy Markey
Member of Congress

WASHINGTON OFFICE: 1229 LONGWORTH H.O.B. WASHINGTON, D.C. 20515 202-225-4676 FAX: 202-225-5870

NORTHERN REGIONAL OFFICE: 123 N. COLLEGE AVE., SUITE 220 FORT COLLINS, CO 80524 970-221-7110 FAX: 970-221-7240

NORTHEAST REGIONAL OFFICE: 109 1/2 SOUTH THIRD STREET STERLING, CO 80721 970-522-0203 FAX: 970-522-1783

CENTRAL REGIONAL OFFICE: 822 7TH ST #9 GREELEY, CO 80631 971-351-6007 FAX: 970-351-6068

SOUTHEAST REGIONAL OFFICE: 301 S. 5TH ST LAMAR, CO 81052 719-931-4003 FAX: 719-931-4005

METROPOLITAN STATE COLLEGE of DENVER

January 8, 2010

Arne Duncan, Secretary of Education

U.S. Department of Education
400 Maryland Ave. Washington,
D.C. 20202

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As Dean of the School of Professional Studies at Metropolitan State College of Denver, I believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

Metropolitan State College of Denver is committed to ensuring all Colorado's children receive a high quality education and graduate prepared for success in postsecondary education and the workforce. The infusions of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students.

On behalf of Metropolitan State College of Denver, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sandra O. Haynes, Ph.D.

Sandra Haynes Dean, School of Professional Studies Metropolitan State College of Denver

School of Professional Studies • Office of the Dean • Campus Box 8 • P.O. Box 173362 • Denver, CO 80217-3362 • Phone: 303-556-2978 • Fax: 303-556-2159 • www.mscd.edu

Renee Joyce Program Officer

4242 E. Amherst Avenue
Denver, Colorado 80222

(P) 303.758.95

2
1

(F)
303.
758.
084
9
rene
ejoy
ce@
com
cast.
net

January 5, 2010

Arne Duncan, Secretary of Education

U.S.
Department of
Education 400
Maryland Ave.
Washington,
D.C. 20202

Dear Secretary Duncan,

I am writing to express the support for Colorado's application to the U.S. Department of Education for a Race
to the Top grant on behalf of the Morgridge Family Foundation. As Program Officer of the Morgridge Family Foundation, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

The Morgridge Family Foundation believes in operating through venture philanthropy and focuses on funding innovative initiatives in the primary areas of literacy, P-20 education, health and 21st Century classroom technology. In 2008/2009, supported programs included Book Trust, who distributed 200,000 books to underserved children in Colorado, Reading Plus, a web-based literacy program that teaches silent reading, and the 21st Century Classrooms Collaboration to empower educators with 21st Century classrooms technology. Since forming the initiative, 1180 educators in Colorado have received interactive whiteboard technology and 21st

Century professional development. We believe that the infusions of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the

necessary conditions to effectively prepare all students to be successful in the globally competitive 21st Century workforce.

The Morgridge Family Foundation commends Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps state-wide. Thank you in advance for your thoughtful consideration of Colorado's proposal. We look forward to our continued collaboration to ensure that all students succeed.

Sincerely,

Renee Joyce

Mile High Montessori United Way
EARLY LEARNING CENTERS
A Mile High United Way Community Partner

January 11, 2010

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

We are writing to express our unqualified support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As co-chairs of the P-3 Subcommitte of the P-20 Council, we strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

The P-3 Subcommittee focuses on ensuring that all Colorado's children receive a high quality education and graduate prepared for success in postsecondary education and the workforce through its focus on very young children. As the research amply demonstrates, assuring that young children have a strong foundation in literacy, math, science, motor skills, and social and emotional development helps assure their educational success in the later years. The P-3 Subcommittee, therefore, focused much of its attention on expanding the Colorado Preschool Program which helps fund slots for Colorado's young children who are at-risk of school failure. In addition, the Subcommittee was successful in increasing funding for full-day kindergarten so that the gains in preschool would not be lost in kindergarten. The infusion of funds through the Race to the Top grant will assure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students—including the very youngest.

Colorado has had a long history of awareness and implementation of programs to insure that young children receive a developmentally appropriate education. The Colorado Preschool Program has been in existence since 1988 and has served over 172,000 children. The very fact that Colorado is including a focus on very young children in its Race to the Top efforts is an indication of the forwardness of Colorado's awareness of the educational trajectory children are on before early childhood education was receiving the attention it is now getting.

On behalf of the P-3 Subcommittee, we applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. We are especially pleased that both its effort in Professional Development for teachers and its standards alignment efforts have included early childhood since this is where formal learning begins. The P-3 Subcommittee and the early childhood constituency that Colorado has built over the years stand ready to assist the State in its Race to the Top efforts.

Thank you in advance for your consideration.

Sincerely,

(b)(6)

Anna Jo Haynes
P-3 Subcommittee Chair

(b)(6)

Adele Phelan
P-3 Subcommittee Chair

1780 Marion Street, Denver, Colorado 303-861-2602 / 303-861-2604 (Fax) www.milehighmontessori.org

STATE OF COLORADO

GOVERNOR'S OFFICE OF INFORMATION TECHNOLOGY

601 East 18th Avenue, Suite 250
Denver, Colorado 80203
Phone (303) 764-7700
Fax (303) 764-7725
www.colorado.gov/oit

Bill Ritter, Jr.
Governor

Michael Locatis
State Chief Information Officer

January 4, 2010

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As Executive Director and State Chief Information Officer in the Governor's Office of Information Technology, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

The Governor's Office of Information Technology (OIT) sits squarely in the middle of all State information technology programs, and has been designated via legislation to oversee and govern all policies, processes, standards and architecture related to enterprise technology and information sharing initiatives. Pursuant to state law, OIT implements the Enterprise Governance Committee (EGC) structure to provide senior governance for large-scale, multi-agency initiatives such as the SchoolView Performance Platform and longitudinal data system requirements of Race to the Top.

OIT provides a framework to manage the connections among state agency systems, providing enterprise architecture, governance, and data management standards that will facilitate cross-agency collaboration. This framework has been effective in providing management expertise across the state by identifying risks, ensuring collaboration across agencies, and helping resolve critical issues. It has been a key component in the success of several multi-million dollar initiatives, including the Statewide Election and Registration System, the Colorado Benefits Management System transition, and the Colorado Integrated Tax Architecture. OIT will be integrally involved in all aspects of the planning, development and successful implementation of the SchoolView Performance Platform. OIT is delighted to be the technology partner of the Governor's Office and Department of Education for this exciting and critical initiative.

On behalf of the Governor's Office of Information Technology, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely,

Michael W. Locatis
Executive Director
State Chief Information Officer
Governor's Office of Information Technology

PeaceJam
CHANGE STARTS HERE

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

January 4, 2010

Dear Secretary Duncan,

We are writing to express our support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As Executive Director of the PeaceJam Foundation, I am a champion for the plan outlined in Colorado's proposal because it contains the elements needed to raise the academic performance of children in Colorado and close the achievement gap.

The PeaceJam Foundation has worked with Colorado schools and students since our inception in 1996. The mission of PeaceJam is to create generations of young leaders committed to positive change in themselves, their communities, and the world through the inspiration of 12 Nobel Peace Laureates. We were founded in one of Colorado's toughest neighborhoods to directly address the issue of student disengagement, disenfranchisement, and lack of school engagement. Since that time we have grown into a statewide and global organization, delivering high quality curricular programs to youth ages 5 to 25. Through our curricula, students learn academic content as they study the lives and work of 12 Nobel Peace Laureates and develop leadership skills, research and problem-solving abilities, and gain positive role models – essential ingredients for increasing school engagement and academic achievement.

We are committed to the plan outlined in Colorado's Race to the Top application because over the past year, we have been working with groups across Colorado in a truly collaborative process to create the core ideas of Colorado's Race to the Top plan. These grant funds will allow districts, education agencies, and service providers, such as PeaceJam, to work together to provide educators with the necessary conditions to effectively serve all students – and to create an innovative model that could be replicated in other states.

On behalf of the PeaceJam Foundation, I want to reiterate our commitment to Colorado's bold proposal that takes the necessary steps to increase student performance and close achievement gaps throughout Colorado. Thank you for considering our proposal and do not hesitate to contact me if you have questions.

Sincerely,

(b)(6)

Dawn Engle
Executive Director
PeaceJam Foundation

PEACEJAM FOUNDATION MEMBERS
Desmond Tutu
The Dalai Lama
Rigoberta Menchú Tum
Adolfo Pérez Esquivel
Oscar Arias
Aung San Suu Kyi
Jody Williams
Shirin Ebadi
José Ramos-Horta
Mairead Corrigan Maguire
Betty Williams
Jewish Rotblat Emeritus

CHAIRMAN OF THE BOARD
Beverly Kenne

EXECUTIVE DIRECTORS
Dawn Engle
Ivan Suvanjieff

PeaceJam.org
5605 Yukon Street, Arvada CO 80002 EMAIL info@peacejam.org CALL (303) 455-2099 FAX (303) 455-3921

pebc
Public Education & Business Coalition

January 5, 2010

The Hon. Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

On behalf of the Board and staff of the Public Education & Business Coalition (PEBC), I am writing to express our support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As president of this non profit that has been serving Colorado schools and educators for the past 27 years, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

The PEBC is committed to cultivating success in Colorado's public schools so all students succeed in learning and in life. The partnerships we forge among school districts, the business community and this organization are all focused on creating paths for students to access opportunities in the post-secondary world and workplace. The infusion of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students.

We applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely,

Rosann B. Ward
President

Public Education & Business Coalition
1244 Grant Street • Denver, Colorado 80203
TEL 303.861.8661 FAX 303.861.1501 www.pebc.org

ED PERLMUTTER
7TH DISTRICT, COLORADO

WASHINGTON OFFICE:
415 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
PHONE: (202) 225-2645
FAX: (202) 225-5278

DISTRICT OFFICE:
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SUITE B-400
LAKEWOOD, CO 80215
PHONE: (303) 274-7944
FAX: (303) 274-6455

www.perlmutter.house.gov

Congress of the United States
House of Representatives

COMMITTEES:
FINANCIAL SERVICES
CAPITAL MARKETS, INSURANCE AND GOVERNMENT SPONSORED ENTERPRISES (GSEs)

FINANCIAL INSTITUTIONS AND CONSUMER CREDIT

RULES

January 13, 2010

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

Dear Secretary Duncan,

I am writing on behalf of the constituents of the 7th Congressional District of Colorado to express my support for the State of Colorado's grant application submitted through the Race to the Top Fund. As a Member of Congress from Colorado, I believe the plans outlined in Colorado's proposal will help raise the performance of children throughout the state and close the achievement gap.

One of my top priorities in Congress is ensuring all Colorado children receive a high quality education and graduate prepared for success in postsecondary education and the workforce. The current difficulties with the state's budget jeopardize Colorado's investment in our children. However, the infusion of funds through a Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary resources to effectively serve all students.

The Race to the Top program is very competitive, and I ask for your additional consideration of Colorado's bold proposal which paves the way for improving student performance and closing achievement gaps throughout Colorado. This proposal meets your goal of investing in the future of Colorado's excellent education system through innovation and will have a significant positive impact on the State of Colorado and the 7th Congressional District.

I appreciate your time and consideration of this important grant request.

Thank you.

Sincerely,

Ed Perlmutter
Member of Congress

PRINTED ON RECYCLED PAPER

JARED POLIS
2ND DISTRICT, COLORADO

501 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-0602
(202) 225-2161
(202) 225-7840 (FAX)

website and email:
http://polis.house.gov

Congress of the United States
House of Representatives

January 8, 2010

COMMITTEES:
COMMITTEE ON EDUCATION AND LABOR
SUBCOMMITTEES:
EARLY CHILDHOOD, ELEMENTARY AND SECONDARY EDUCATION
HIGHER EDUCATION, LIFELONG LEARNING AND COMPETITIVENESS
HEALTHY FAMILIES AND COMMUNITIES
COMMITTEE ON RULES
STEERING AND POLICY

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

Prior to being elected to the U.S. House of Representatives, I was a committed member of Colorado's education community. I founded several schools in Colorado that are devoted to students that are struggling within our current education system and supported a number of education initiatives throughout the state. Although I play a different role now, focusing on national policy, I still have a deep interest in what happens at the state and local level.

It is not only in Colorado's best interest, but the nation's as well, to ensure that all of Colorado's children receive a high quality education and graduate prepared for success in postsecondary education and the workforce. The infusions of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students.

I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. I urge you to approve Colorado's Race to the Top grant application, in accordance with all applicable laws and regulations. Thank you in advance for your consideration.

Sincerely,

Jared Polis

Jared Polis
Member of Congress

BOULDER OFFICE
4770 BASELINE ROAD, SUITE 220
BOULDER, CO 80303
303-484-9696
303-568-8007 (FAX)

DISTRICT OFFICES

MOUNTAIN OFFICE
101 WEST MAIN STREET, SUITE 1010
FRISCO, CO 80443
970-668-3240

THORNTON OFFICE
1200 EAST 78TH AVENUE, SUITE 105
THORNTON, CO 80229
303-287-4159

PRINTED ON RECYCLED PAPER

JARED POLIS
2ND DISTRICT, COLORADO

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website and email:
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Congress of the United States
House of Representatives

January 8, 2010

COMMITTEES:
COMMITTEE ON EDUCATION AND LABOR
SUBCOMMITTEES:
EARLY CHILDHOOD, ELEMENTARY AND SECONDARY EDUCATION
HIGHER EDUCATION, LIFELONG LEARNING AND COMPETITIVENESS
HEALTHY FAMILIES AND COMMUNITIES
COMMITTEE ON RULES
STEERING AND POLICY

Arne Duncan, Secretary of Education
U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

Prior to being elected to the U.S. House of Representatives, I was a committed member of Colorado's education community. I founded several schools in Colorado that are devoted to students that are struggling within our current education system and supported a number of education initiatives throughout the state. Although I play a different role now, focusing on national policy, I still have a deep interest in what happens at the state and local level.

It is not only in Colorado's best interest, but the nation's as well, to ensure that all of Colorado's children receive a high quality education and graduate prepared for success in postsecondary education and the workforce. The infusions of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students.

I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. I urge you to approve Colorado's Race to the Top grant application, in accordance with all applicable laws and regulations. Thank you in advance for your consideration.

Sincerely,

Jared Polis

Jared Polis
Member of Congress

BOULDER OFFICE
4770 BASELINE ROAD, SUITE 220
BOULDER, CO 80303
303-484-9696
303-568-8007 (FAX)

DISTRICT OFFICES

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THORNTON, CO 80229
303-287-4159

PRINTED ON RECYCLED PAPER

Project VOYCE

(Voices of Youth Changing Education) 2900
Downing, Ste. 1B Denver, Colorado
80205

January 13, 2010

Arne Duncan, Secretary of Education

U.S. Department of Education 400 Mar
yland Ave. Washington, D.C. 20202

Dear Secretary Duncan,

As Executive Director of Project VOYCE, I want to express my support for Colorado's intense, broadbased efforts in producing an exemplary Race to the Top proposal to produce the big academic achievement gains we have to attain for all of our children.

Project VOYCE trained and supported 18 diverse youth from 14 different high schools to be intensely engaged in Colorado's Race to the Top and you triggered it. When you were here in Denver last spring at Bruce Randolph School one of our Project VOYCE students stood up and asked you about the importance of student voice in school reform. You respon ded: "The students know what's working and not working in school before anyone else." Your words inspired our students to jump into Race to the Top.

Project VOYCE hires and trains economically disadvantaged youth to become change agents to improve their schools. The encouragement they have received from educators in Colorado's RTTT planning process has jolted their self-esteem upward and intensified their commitment to working for educational transformation in their schools. RTTT funding of Colorado's proposal will bring critical financial support to the exciting, broad public engagement that RTTT has stimulated here in Colorado.

On behalf of Project VOYCE, I applaud Colorado for submitting a bold proposal that builds continuous innovation into improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely,

Brian Barhaugh

Brian Barhaugh
Executive Director

2900 Downing, Ste. 1B Denver. Colorado 80205 303/2922488 Fax: 303/2922448
brian.barhaugh@projectvoyce.org www.projectvoyce.org

ROCKY MOUNTAIN PBS

1089 BANNOCK STREET
DENVER, COLORADO 80204
TEL 303-892-6666
FAX 303-620-5600
RMPBS.ORG

December 23, 2009

Arne Duncan, Secretary of Education

U.S. Department of
Education 400
Maryland Ave.
Washington, D.C.
20202

Dear Secretary Duncan,

The purpose of my writing today is to add my voice of support to Colorado's application for a Race to the Top grant. As President and CEO of Rocky Mountain PBS (RMPBS) in Denver, I am actively engaged and committed to education reform within the state. I believe without reservation that the strategies for success outlined in Colorado's proposal will greatly enhance student achievement and contribute to building quality schools and an educated workforce for the 21st Century. As one of the early proponents of school accountability through the quality ratings movement for early childhood settings, I well understand the benefits and imperatives of metrics and measurement to make real changes in school performance.

At Rocky Mountain PBS, we use the power of media to increase the odds that all children, regardless of their background or circumstances, have equal footing for success in school and in life. For over 40 years, public television has earned a reputation as a high-quality, trusted source for lifelong learning, and continues to serve local educational institutions with unmatched resources. A grant through Race to the Top would catalyze Colorado's proposal for student performance, allowing for increased collaboration with organizations such as RMPBS towards a shared purpose of educational excellence and equal opportunity. I know that the national organization of PBS shares my enthusiasm and support for Colorado's bid.

Colorado has put forth a courageous plan for education reform and, if given the opportunity, will take the lead nationwide in setting a new benchmark for achievement. Thank you in advance for your consideration.

(b)(6)

Yours sincerely,

Douglas M. Price President and CEO

January 12, 2010

Arne Duncan, Secretary of Education

U.S. Department of
Education 400
Maryland Ave.
Washington, D.C.
20202

Dear Secretary Duncan,

As the Executive Director of the Colorado affiliate of Stand for Children, I am writing to express our support for Colorado's application for the Race to the Top grant through the U.S. Department of Education. Stand for Children is a grassroots education advocacy organization comprised of parents, teachers and concerned community members, who believe that together, we can and must demand that the state of Colorado and our school districts do a better job of educating all of Colorado's children – no exceptions. With our own focus on school turnarounds, the expansion of high performing charter schools and an improved educator evaluation and support system, Stand for Children sees great opportunities within Colorado's application to make substantive and lasting change for Colorado children, particularly those who are in low performing schools.

Stand for Children is currently organizing Denver Public School parents and teachers in schools that feed into low or poor performing schools, creating the parent and teacher demand for long overdue changes focused on the children, not the adults. We seek to make parents across the city aware of the stark contrast in the educational quality provided by schools in the district and to demand change, rather than be the recipients of change. We also believe that by supporting the expansion of high performing charters and innovation schools as a part of turnaround strategies, we are able to add to the number of high performing seats in hard to serve parts of the city. Additionally we believe that teachers need the training, mentoring, evaluation and support to do their best work. To that end, we are organizing teachers as well as parents who can talk about the need for additional support and for change within the current teacher placement and tenure structures. We know that this change is possible, but in order to really move forward with the changes that will best serve children in Colorado, we need the resources required for implementation provided by the Race to the Top grant.

Race to the Top is the opportunity for Colorado to finally invest in a set of comprehensive improvements to our schools. The Lieutenant Governor and the Colorado Department of Education have done a phenomenal job bringing stakeholders together over the last several months to present to you a proposal that will no doubt improve education for kids in Colorado and provide the resources necessary to the first step towards ensuring that all children have access to a high quality education. The Colorado affiliate of Stand for Children supports Colorado's application and looks forward to bringing parents and teachers to the table for its implementation.

Respectfully,

Lindsay Neil Executive Director Stand for Children Colorado

January 3, 2010

Arne Duncan, Secretary of Education

U.S. Department of Education
400 Maryland Ave.
Washington, D.C. 20202

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As Director of Education Services for Sustainable Business Group, former school principal, and member of the Colorado STEM Affinity Group, whose work is included in the recommendations for the state application, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap. We have developed a significantly different approach to ensure an outcome of effective and productive change.

One of our focuses at Sustainable Business Group, as well as a personal goal as a school administrator, is to ensure all Colorado's children receive a high quality education and graduate prepared for success in postsecondary education and the workforce. We feel providing training in teacher leadership is an essential step in this process. The infusions of funds through the Race to the Top grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students.

As a member of the STEM Affinity Group, the Director of Education Services for Sustainable Business Group, and educator of twenty-four years, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely,

Diane C. Anderson Director of Education Services Sustainable Business Group 535 16th St., Suite 320 The Bard Center for Entrepreneurship University of Colorado Denver Denver, Colorado 80202 303-475-3868

United Launch Alliance

Michael C. Gass
President and Chief Executive Officer

January 13, 2010

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

Dear Mr. Secretary:

I am writing to express my support for Colorado's application to the U.S. Department of Education for a Race to the Top grant. As chief executive officer of United Launch Alliance, the nation's rocket company, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

It is my honor to serve on Colorado Governor Bill Ritter's P-20 Education Commission as a co-chair with Lieutenant Governor Barbara O'Brien. In addition to my involvement in education reform, several United Launch Alliance engineers advised the Colorado team in their preparation of the state's Race to the Top grant, enriching the proposal with a business approach to the process.

As you know, our country currently lags behind other developed nations when it comes to the number of undergraduates earning math, science and engineering degrees—the lifeblood of companies like United Launch Alliance. This has a direct impact on America's technological and economic competitiveness. Therefore, we view our involvement in the Race to the Top effort as integral to our work to inspire the rocket scientists of tomorrow.

Our rockets launch satellites and spacecraft on missions to Earth orbit, the Moon, Mars and the edges of our solar system to explore our universe, enable climate and weather observation, protect our nation and even help you find your way around Washington, D.C. through the power of GPS navigation.

But we are faced with growing competition. Specifically for my company, a space launch company, we face growing competition from countries that want their own space programs. The United States used to be dominant in space, along with Russia, but this is no longer the case. One of the most important components of globalization is how our country will face the challenges in education. In aerospace, we have an aging work force and not enough students going into science and math careers in the U.S.

The infusions of funds through the Race to the Top grant is a step towards mitigating these growing concerns and would help secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students.

United Launch Alliance • P.O. Box 277005 • Littleton, CO 80127-7005 • (720) 922-7110 • Fax (720) 922-7123 • michael.c.gass@ulalaunch.com

Mr. Secretary, thank you for your consideration of the Colorado proposal. On behalf of the United Launch Alliance, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado.

(b)(6)

Michael C. Gass
President and Chief Executive Officer
United Launch Alliance

DEPARTMENT OF THE AIR FORCE
OFFICE OF THE CHIEF SCIENTIST
USAF ACADEMY, COLORADO

30 December 2009

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

Dear Secretary Duncan,

I am writing to express my support for Colorado's application to the U.S. Department of Education for a *Race to the Top* grant. As Chief Scientist of the U.S. Air Force Academy, I strongly believe that the plans outlined in Colorado's proposal will help raise the performance of children in Colorado and close the achievement gap.

The U.S. Air Force Academy is intimately involved, through the Defense Department's National Defense Education Program, in ensuring that the children of Colorado are challenged and supported in world-class learning about Science, Technology, Engineering and Math (STEM). The state of Colorado's effort outlined in their Department of Education *Race to the Top* grant proposal provides a tremendous statewide framework that our efforts will complement. Winning a *Race to the Top* grant will ensure that Colorado's children receive a high-quality education and graduate prepared for success in postsecondary education. Further, it will ensure a better-prepared workforce in Colorado's large aerospace and defense industries. The infusion of funds through the *Race to the Top* grant would secure Colorado's ability to collaborate with districts and stakeholders to fully implement the state's proposal and provide educators with the necessary conditions to effectively serve all students. It is a matter of national security.

On behalf of the U.S. Air Force Academy, I applaud Colorado for submitting a bold proposal that paves the way for improving student performance and closing achievement gaps throughout Colorado. Thank you in advance for your consideration.

Sincerely,

ROBERT S. FREDELL, Colonel, USAF
Chief Scientist and Director of Research

Exhibit A-8: Summary of Recent Education Reforms in Colorado

In the past ten years, Colorado has passed a number of laws that create a framework for implementing its Race to the Top plan. The State education policy framework is most notable for its combination of "tight" goals and "loose" means: policies establishing common high expectations and accountability, combined with policies designed to encourage local autonomy and innovation.

Alignment and Accountability

Colorado was an early adopter of standards-based education, passing our first set of Model Content Standards in 1993 and implementing our first Statewide assessments in 1997. Under a landmark accountability bill passed one year before No Child Left Behind (SB00-01), our State assessments were expanded to grades 3-10 and school rankings based on student assessment scores were made public in School Accountability Reports. Schools that persistently underperformed were subject to conversion into charter schools under a process led by the State Board of Education. To assess college readiness, SB 1 required all juniors to take the ACTs.

Thanks to data from the Colorado Student Assessment Program (CSAP), ACT, and from higher education, flaws in our education system quickly became apparent. In particular, many students graduating from high school and entering our State institutions of higher education needed remedial education before they were ready for college-level work. Statewide standards for remedial education allowed comparisons of the preparedness of graduates from different high schools, which began driving conversations about high school and postsecondary alignment.

In 2003, the Colorado Commission on Higher Education adopted new course taking admission requirements intended to ensure that high school graduates would be sufficiently prepared for college. The State also joined the Achieve network of States interesting in implementing the recommendations of the American Diploma Project, and then-Governor Owens formed an Educational Alignment Council to make recommendations about better aligning high school and postsecondary education requirements. In particular, the Educational Alignment Council looked at the wide variation in high school graduation requirements across school districts, and recommended that districts adopt graduation requirements that were consistent with the recommendations coming from groups such as Achieve and ACT.

Governor Ritter, elected in 2006, formed a P-20 Council to continue the focus on alignment. The P-20 Council, comprised of a broad set of stakeholders in early childhood education, K-12 education, higher education, business, education reform organizations, government, and foundations, provided numerous recommendations to the Governor for policy changes to support alignment. The cornerstone of this work, the Colorado Achievement Plan for Kids (CAP4K), passed the General Assembly with wide bipartisan support in 2008.
CAP4K requires the State to take the following actions:

- Develop definitions of school readiness and postsecondary and workforce readiness
- Revise State model content standards to reflect the knowledge and skills that a student should acquire as the student progresses from preschool through elementary and secondary education in order to be prepared to compete academically and economically within the state or anywhere in the nation or the world
- Revise State assessments to align with the new standards, including assessments of postsecondary and workforce readiness and of school readiness

- Develop high school graduation guidelines and conditions for diploma endorsement that are consistent with the new standards

The State Board of Education has already adopted school readiness and postsecondary and workforce readiness standards, and model content standards in 13 content areas. The assessment revision process is underway, advised by an Assessment Stakeholder Advisory Committee.

In 2009, Colorado closed the alignment and accountability loop by passing the Education Accountability Act of 2009, again with bipartisan support. This law requires the State to establish annual Statewide expectations in key four areas – student longitudinal growth, student performance on State assessments, achievement gaps, and postsecondary and workforce readiness. LEAs and schools are required to set their own goals consistent with the State expectations, and to develop plans for meeting those goals. The State evaluates district and school performance using a common evaluation framework, which drives the State's accreditation of districts and districts' accreditation of their schools. The State is given extensive authority to intervene in underperforming schools, including directing their turnaround and ordering their closure.

Closing Achievement Gaps

In 2003, Colorado formed the Closing the Achievement Gap Commission, which met regularly and issued a final report based on its findings. CDE is currently exploring ways to implement the recommendations in the report through its Forward Thinking on Achievement Gaps Committee.

In 2008, the legislature authorized funds for a pilot project testing different approaches to closing gaps in six districts. Each district is working with an external provider who is providing technical assistance in areas such as professional development, developing assessments, and implementing interventions. Preliminary evidence indicates that the district strategies are working and the lessons learned from this pilot will help guide future efforts.

The State is also leading LEAs in the implementation of Response to Intervention, which uses a tiered approach to intervening with students who have different academic needs. Colorado was an early adopter of RtI and provided input into the reauthorization of IDEA in this area. All districts in the State are currently implementing RtI, guided by the thinking of regional RtI cadres who met regularly during 2008-09 and using online professional development materials related to RtI. CDE is convening a technical advisory committee composed of national RtI experts to assist the State with problem-solving and best practices for this area.

Data

Colorado has consistently been a leader in the area of student achievement growth data as well as the visualization of that data. In 2008, the State put the Colorado Growth Model in place to analyze annual student growth and projected trajectories towards proficiency. In 2009, SchoolView became a central repository for the CGM data and for analysis and visualization of that data. Colorado also added an Educator Identifier to the data system.

The next steps are to implement the provisions of laws recommended by the P-20 Council and passed in 2008 that provide for improved data sharing among State agencies and between schools and other entities involved with supporting youth. The primary parties responsible for these initiatives are the Government Data Advisory Board and the Education Data Subcommittee.

Colorado Department of Education

Current State Commissioner of Education Dwight Jones, a former superintendent, was instrumental in the passage of CAP4K and the Education Accountability Act of 2009, and was a co-author of the report "Benchmarking for Success: Ensuring U.S. Students Receive a World-Class Education," released in 2008 by the National Governors' Association, the Council of Chief State School Officers, and Achieve, Inc.

Under the leadership of Commissioner Dwight Jones, the CDE has engaged in a review of its own structure and activities. Guided by a new strategic plan and the results of benchmarking its efforts against other State departments of education, the department has reorganized around strategic priorities and regained the confidence of LEAs around the State.

The Colorado Legacy Foundation is a nonprofit organization formed in 2008 to support CDE's initiatives. The Legacy Foundation is an independent non-profit entity that works closely with the CDE to both spur innovation with the department as well as support LEA implementation of key CDE initiatives. The CLF is able to quickly raise private funds and leverage partnerships to help lead and support projects that are aligned with the department's key strategies.

Early Childhood Education

The Colorado Preschool Program, authorized in 1988, currently serves more than 20,000 at-risk children in 171 of Colorado's 178 school districts. CPP programs are located in a variety of early childhood education settings, including for-profit and nonprofit centers, Head Start programs, and public schools. CPP programs participate in Results Matter, a comprehensive early childhood accountability program. CPP programs contribute data on children, family, program, and system outcomes, and the results are used to impact early childhood practices and policies. Research on the impact of the CPP shows that CPP is helping to close achievement gaps.

Legislation passed in 2007 authorized the formation of Early Childhood Councils to improve access to and availability of early childhood services in the State. Thirty Early Childhood Councils across the State coordinate partnerships among providers of child care, early childhood education, child health services, and family support.

Educator Preparation and Effectiveness

Colorado has a vibrant and diverse collection of preparation programs for educators. For university-based preparation programs, the State's requirement for preservice clinical preparation is among the highest in the country. The alternative routes allow people at various stages of their careers to enter teaching, without unnecessary restrictions, but maintain quality controls. All teacher and principal preparation programs must assure that their graduates can meet professional performance standards set by the State Board of Education.

Colorado adopted a performance based licensing system for teachers since 2000 and for principals since 2003. To renew professional licenses, teachers and principals must provide evidence of professional development hours that are relevant to the area in which they teach.

Colorado law requires each LEA to provide an induction program for its new teachers and principals. Induction must include mentoring support and each program must be submitted to the state for its approval. The State has provided incentives for teachers to pursue certification from the National Board of Professional Teaching Standards.

Colorado's legislature recently passed SB 10-191, which requires the following: (1) creation of a statewide council for educator effectiveness to provide to the state board and general assembly

recommendations that seek to ensure that all licensed educators are evaluated using multiple fair, transparent, timely, rigorous and valid methods, at least fifty percent of which evaluation is determined by the academic growth of their students, (2) revised standards for local educator evaluation systems, including the requirement that teachers and principals be evaluated in part on measures of the longitudinal academic growth of their students and that principals be evaluated in part on the number and percentage of licensed personnel in the principal's school that are rated as effective or highly effective or are rated as ineffective but are improving in effectiveness, and (3) established new responsibilities for the state board of education to revise regulations concerning educator evaluations and review local evaluation systems to ensure that they satisfy the new statutory and regulatory standards.

The new legislation requires local school boards to begin annually evaluating teachers on the basis of demonstrated effectiveness or ineffectiveness, as defined by the state board's new quality standards, and to confer nonprobationary status only to teachers who have three consecutive years of demonstrated effectiveness. (Note: "Tenure" is referred to in Colorado law as nonprobationary status. Teachers that have probationary status have year-to-year contracts and can be dismissed for any reason. Teachers that have nonprobationary status cannot be dismissed except for reasons stated in statute and according to procedures outlined in statute.) Nonprobationary teachers with two consecutive years of demonstrated ineffectiveness will be moved back to probationary status.

Additionally, SB 10-191 establishes that a teacher may be assigned to a particular school only with the consent of the hiring principal and with input from at least two representative teachers employed at the school. Local school boards will be responsible for developing incentive systems to encourage effective teachers in high-performing schools to move to jobs in schools that have low performance ratings.

Pursuant to a separate bill passed during the most recent legislative session (SB 10-036), the department will now be required to prepare an annual report on the effectiveness of educator preparation programs, including (1) the correlation between different educator preparation programs in the state, including alternative educator preparation programs, and student academic growth, (2) educator placement, and (3) educator mobility and retention. Information included in the report will be shared with educator preparation programs to inform curriculum and program improvements.

Current teacher compensation law provides that LEAs must have a compensation plan that applies to all teachers in the district. This can include traditional salary schedules as well as performance-based plans.

Colorado does not have a public employee collective bargaining statute, and it is up to LEAs as to whether to recognize a teachers association for bargaining purposes. Some districts have collective bargaining agreements, but most do not. Principals are not represented by unions in any LEA.

Exhibit A-9: The CDE and Department of Higher Education Postsecondary and Workforce Readiness (PWR) Definition

Description of PWR

"Postsecondary and workforce readiness" describes the knowledge, skills, and behaviors essential for high school graduates to be prepared to enter college and the workforce and to compete in the global economy. The description assumes students have developed consistent intellectual growth throughout their high school career as a result of academic work that is increasingly challenging, engaging, and coherent.

Postsecondary education and workforce readiness assumes that students are ready and able to demonstrate the following without the need for remediation.

I. Content Knowledge

Literacy

- Read fiction and non-fiction, understanding conclusions reached and points of view expressed
- Write clearly and coherently for a variety of purposes and audiences
- Use logic and rhetoric to analyze and critique ideas
- Access and use primary and secondary sources to explain questions being researched
- Use standard language properly: correct grammar, usage and spelling

Mathematical Sciences

- Think critically, analyze evidence, read graphs, understand logical arguments, detect logical fallacies, test conjectures, evaluate risks, and appreciate the role mathematics plays in the modern world, i.e., be quantitatively literate
- Understand and apply algebraic and geometric concepts and techniques
- Use concepts and techniques of probability and statistics
- Apply knowledge of mathematics to problem-solve, analyze issues, and make critical decisions that arise in everyday life

Science

- Think scientifically and apply the scientific method to complex systems and phenomena
- Use empirical evidence to draw conclusions
- Recognize conclusions are subject to interpretation and can be challenged
- Understand the core scientific concepts, principles, laws, and vocabulary, and how scientific knowledge is extended, refined, and revised over time

Social Sciences

- Identify and describe historical, social, cultural, political, geographical, and economic concepts
- Interpret sources, and evaluate evidence and competing ideas
- Build conceptual frameworks based on understanding themes and the overall flow of events
- Understand civic responsibility, including how governments work in the United States and in other countries
- Interpret new information from a global and multicultural perspective

The Arts and Humanities

- Understand and appreciate how the arts and humanities (expressions of culture and identity through language, movement, sound, and visual representation) contribute to and shape culture and understanding of culture
- Understand how the arts are used as an instrument of social and political thought
- Identify leading innovators in the arts and humanities and the contributions they have made to their respective genres

- Communicate and interact effectively with communicators of different languages
- Understand how communicating in another language can improve learning in other disciplines and expand professional, personal, and social opportunities

II. Learning and Life Skills

Critical Thinking and Problem-Solving
- Apply logical reasoning and analytical skills
- Evaluate the credibility and merit of information, ideas, and arguments
- Discern bias, pose questions, marshal evidence, and present solutions

Find and Use Information/Information Technology
- Assess the credibility and relevance of information
- Conduct research using acceptable research methods
- Apply different research paradigms, including the collection and analysis of both quantitative and qualitative data and research
- Select, integrate, and apply appropriate technology to expand information and knowledge

Creativity and Innovation
- Demonstrate intellectual curiosity
- Generate new ideas and novel approaches
- Develop new connections where none previously existed

Global and Cultural Awareness
- Appreciate the arts, culture, and humanities
- Interact effectively with and respect the diversity of different individuals, groups, and cultures
- Recognize the interdependent nature of our world

Civic Responsibility
- Practice civic responsibility and citizenship
- Balance personal freedom with the interests of a community

Work Ethic
- Set priorities and manage time
- Take initiative, and follow through
- Learn from instruction and criticism
- Take responsibility for actions and work
- Act with maturity, civility, and politeness

Personal Responsibility
- Act assertively
- Be a self-advocate
- Possess financial literacy and awareness of consumer economics
- Behave honestly and ethically

Communication
- Read, write, listen and speak effectively
- Construct clear, coherent, and persuasive arguments

Collaboration
- Be a team player
- Acknowledge authority and take direction
- Cooperate for a common purpose

Exhibit A-10: The New Teacher Project Memorandum of Understanding

MEMORANDUM

TO: Helayne Jones, Executive Director, Colorado Legacy Foundation

FROM: Joan Schunck and Dan Weisberg, The New Teacher Project

CC: Dwight Jones, Commissioner, Colorado Department of Education

Nina Lopez, Special Assistant to the Commissioner, Colorado Department of Education

DATE: March 15, 2010

RE: Teacher Effectiveness Strategy Implementation Proposal

Thank you for your continued interest in The New Teacher Project (TNTP) and our work. We are pleased to submit the following proposal to support the implementation of a teacher effectiveness strategy by the Colorado Department of Education (CDE) and the Colorado Legacy Foundation (CLF). Through this year-long initiative, we will work side-by-side with CDE and CLF leadership and staff to institutionalize state-level policies, structures, and practices to achieve the CDE's long-term vision of an effective teacher in every classroom with the ultimate goal of positively impacting student learning.

This project will support the CDE in the design and implementation of its educator effectiveness strategy and will complement each of the following elements of the CDE's vision of educator effectiveness in Colorado:

- Leadership on educator effectiveness by the Commissioner of Education and CDE staff, including state-level educator effectiveness goals, senior level responsibility for execution at the CDE, and strategic engagement in external partnerships and other opportunities to increase educator effectiveness, including competitive federal grant programs;

- Performance management of districts and schools, including the alignment of federal and state funds with effectiveness goals, inclusion of effectiveness metrics in the state's school and district accountability framework, and integration of effectiveness data into the SchoolView platform;

- Policy leadership (in coordination with the CLF's role in convening stakeholders), including forward-looking planning and advocacy around federal policy changes, input on state policy changes related to educator evaluation and employment, informing the work of the Governor's Council on Educator Effectiveness and the Quality Teaching Commission, and the publication of an annual report on state educator policy; and

- A new vision for Colorado's educator workforce, including changes by the State Board of Education to the criteria for educator licensure and alignment of the accreditation criteria for educator preparation program with effectiveness measures.

This initiative will build upon the work already completed by TNTP to advise the CDE in laying the initial groundwork for a statewide teacher effectiveness strategy. In particular, as of March 2010, TNTP's efforts to support the CDE included the following activities.

- Initial analysis of statewide student performance data to gauge the need for increased teacher effectiveness and improvements in the equitable distribution of effective teachers

- Extensive interviews with internal and external stakeholders and independent research on current state and local efforts affecting teachers and teacher effectiveness

- A report to the Commissioner of Education summarizing the teacher effectiveness landscape in Colorado and short- and long-term recommendations for reform

- Substantial contributions to the design and development of Colorado's Race to the Top application, in particular in the area of Great Teachers and Leaders

- Ongoing advice to the Commissioner of Education and his staff on critical issues affecting teacher effectiveness

- Development of a draft definition of teacher effectiveness and extensive outreach to gather input from internal and external stakeholders

The work completed by TNTP with the CDE to date consisted primarily of *diagnosis* of current conditions and opportunities for reform and *advice* to the CDE in planning for its teacher effectiveness strategy. In the upcoming work outlined below, TNTP will expand its scope of activities to include *execution* of its recommendations to the CDE and *deploying* educator effectiveness tools to local stakeholders. In particular, the expansion of TNTP's work with the CDE will include the following activities.

- The CDE is pursuing its vision of becoming a strategic leader on educator effectiveness in Colorado at a time of significant activity on that front. From the implementation of the Colorado Educator ID, to the dramatic current and proposed changes in federal education funding as tied to effectiveness, to the work of the Governor's Council on Educator Effectiveness and the Colorado General Assembly to enact new educator effectiveness policy, the CDE requires staff capacity to see the big picture and manage all the moving pieces in concert to meet educator effectiveness goals. TNTP will fill this need for capacity by providing two full-time, dedicated staff who will work on-site at the CDE to own and execute a coordinated plan to align this diverse set of activities and drive them toward meeting common effectiveness goals.

- By managing both the policy and implementation aspects of the CDE's educator effectiveness transformation, TNTP will ensure that those work streams are responsive to and aligned with one another, thus increasing the impact of each work stream beyond its potential in isolation.

- Colorado's proven strategy for leveraging stakeholder collaboration to accomplish significant reform requires a dedicated investment to engaging with all stakeholders on a regular basis. Building upon the CLF's role in convening diverse stakeholders, TNTP will own and execute the process for ensuring robust and continuous stakeholder engagement on all aspects of the CDE's educator effectiveness strategy.

- As the CDE shifts to incentivizing and supporting districts to pursue reform of local human capital management, districts will need tools to understand educator effectiveness data, implement new policies and processes, and align the work of the district with the state's effectiveness goals. TNTP will develop and deploy tools for use by districts in their work related to teachers and human capital management.

SCOPE OF WORK

March – May 2010 (Preliminary work): On a limited, as-needed basis until the commencement of the full scope of work in June 2010, TNTP will provide input into the direction of the CDE's teacher effectiveness activities, including the work of the CLF educator effectiveness policy director to fully assess the current state of teacher effectiveness activities in Colorado and opportunities for increased impact. During this time, TNTP will also work with CDE staff to develop a 12-month teacher effectiveness work plan.

June – August 2010:

□ Development of state teacher effectiveness goals, particularly in the areas of increasing the number of effective and highly effective teachers in the state; decreasing the number of ineffective teachers; increasing new teacher effectiveness; and ensuring an equitable distribution of effective teachers in high-need schools and subject areas

□ Recommendations for changes to the organizational structure of the CDE to align all department activities related to teachers and teacher effectiveness to a common set of goals and a single line of authority for execution. These recommendations will include supporting job descriptions, work flows, dependencies, and feedback loops between the department's teacher effectiveness activities and other internal and external departments and initiatives, such as the School Leadership Academy and the Department of Higher Education.

□ Facilitation of the reorganization of the department by gathering internal and external stakeholder feedback, developing communications explaining the reasoning behind and process for the reorganization, and working with existing CDE staff and leadership to transition individuals to new roles and responsibilities.

September – November 2010

□ In cooperation with the CDE Research and Evaluation and Data Services units, development of district- and school-level teacher effectiveness metrics that incorporate data obtained from the Educator ID.

□ In cooperation with the CDE Research and Evaluation and Data Services units, input on the inclusion of state-, district-, school-, and teacher-level effectiveness data into SchoolView

□ Recommendation of changes to the distribution of state and federal funds (e.g., Title I, Title IIA, IDEA) to support a system of effectiveness-based incentives and accountability for schools and districts.

December 2010 – February 2011

□ Design and implementation of a process to incorporate LEA data on new teacher hiring needs into a feedback process providing real-time guidance to teacher preparation programs in the state

□ Advise on the development of Colorado's annual report on the effectiveness of teacher preparation programs

□ Development of web-based training materials for LEAs on the use of effectiveness data in SchoolView to drive district- and school-level decision making

March – May 2011

- Full transition of teacher effectiveness activities from TNTP staff to CDE leadership and staff

- Advise on the inclusion of effectiveness metrics into the district and school accountability framework established by SB163

- Development of a set of broadly deployable strategies for districts and schools to use in infusing effectiveness into their performance plans.

Ongoing activities: In addition to the time-sensitive deliverables listed above, throughout the project period, TNTP will provide ongoing support around teacher effectiveness to the CDE through the following activities.

- Advise the Commissioner on a proactive strategy to influence and capitalize on changes in federal policy around teacher effectiveness.

- Advise the Commissioner on strategic engagement with other external organizations that are focused on teacher effectiveness to ensure that the department's engagement in any initiative is aligned with its long-term effectiveness goals and has strong potential to accelerate progress toward those goals

- Identify opportunities and key messages for communications about the CDE's teacher effectiveness strategy to external stakeholders

- Conduct outreach to stakeholder groups and participate in state-level teacher effectiveness committees and working groups, including the Colorado Legacy Foundation's Educator Evaluation Group, and the Quality Teaching Commission

- Conduct timely and actionable analysis of existing state teacher effectiveness data, and work with CDE staff to gather new data as needed, so as to inform policy changes and day-to-day operations

- Advise regarding CDE activities related to school principals, in particular the School Leadership Academy, to the extent that those activities relate to principals' performance management of teachers

ALIGNMENT WITH CDE TEACHER EFFECTIVENESS POLICY REFORM

Throughout the course of this initiative, the CLF educator effectiveness policy director will execute the CDE's teacher effectiveness policy agenda through the following activities. TNTP will provide limited input and support on these activities, but we will not manage this work stream or own responsibility for final deliverables.

- Develop new effectiveness-based criteria for teacher licensure for adoption by the State Board of Education (SBE)

- Recommend changes to the accreditation of preparation programs to ensure alignment with teacher effectiveness metrics

- Support the CDE's representative to the Governor's Council on Educator Effectiveness by providing input on the definition of teacher effectiveness, the rubric for measures of teacher effectiveness, and existing policy proposals and developing new policy proposals to ensure that the Council's policy recommendations are aligned with the CDE's vision of educator effectiveness

- In the event that the recommendations of the Governor's Council are not aligned with the CDE's vision of educator effectiveness, work with the Commissioner of Education to advocate for policy changes by the SBE and the General Assembly that will advance the CDE's vision

- Develop the first annual educator effectiveness Colorado state policy assessment

STAFFING

In order to execute this comprehensive reform of the CDE with regard to teacher effectiveness, we will engage multiple staff members both on- and off-site, each with particular expertise and responsibility.

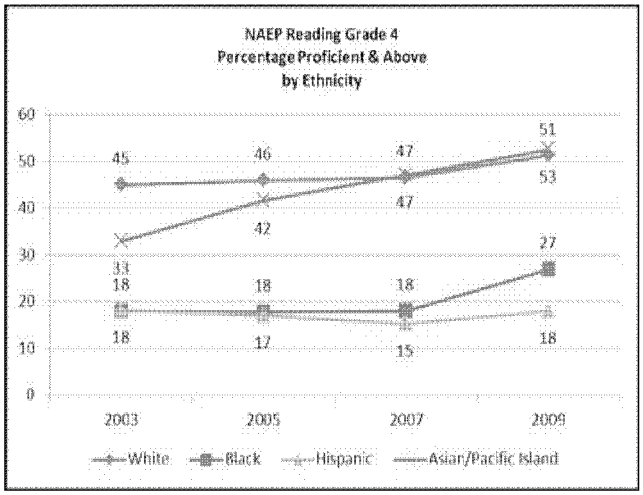
- One full-time project director, on site at CDE: Primary responsibilities will include facilitating the change management of the CDE reorganization, convening stakeholders to provide input on policy changes, supporting the CDE's teacher effectiveness communications strategy, working with CDE staff to implement realignment of grant programs and federal fund programs, and implementing state efforts to improve recruitment of out-of-state teacher candidates and to facilitate a feedback loop between preparation programs and districts.

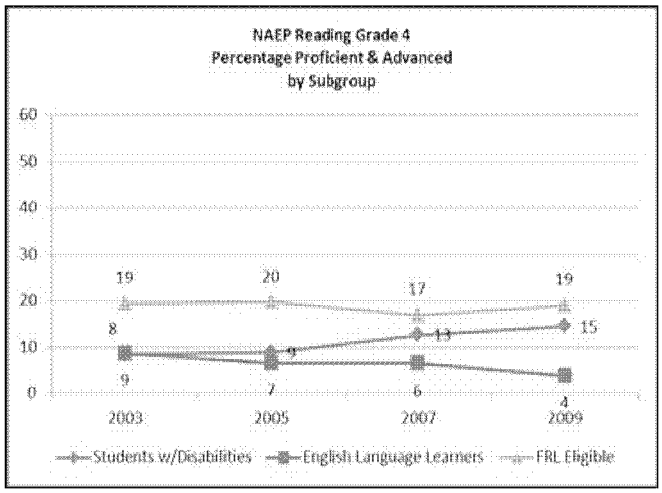
- One full-time analyst, on site at CDE: Primary responsibilities will include providing input on the design and implementation of teacher effectiveness data and metrics into SchoolView, conducting analysis of available data and collection of additional data as needed to inform policy changes, and developing tools to monitor progress toward effectiveness goals.

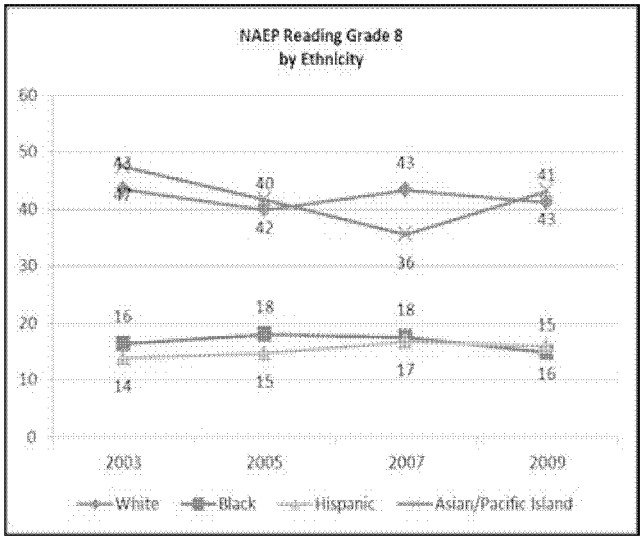
- One half-time analyst, off site: Supporting the work of the project director, the on-site analyst, and the CLF educator effectiveness policy director as needed

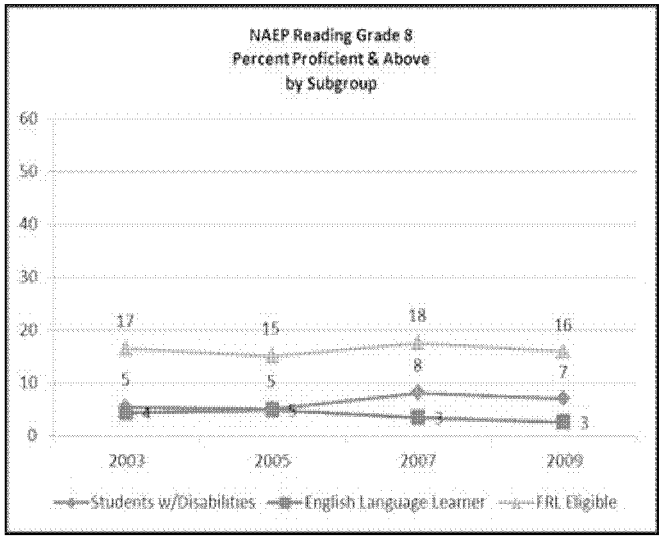
- One half-time partner, off site and Vice President of Policy: Primary responsibilities will include project management, and consultations and strategic advice to CDE senior leadership and other state-level senior policy officials regarding strategic planning for effectiveness initiatives coming from the federal government and through external organizations.

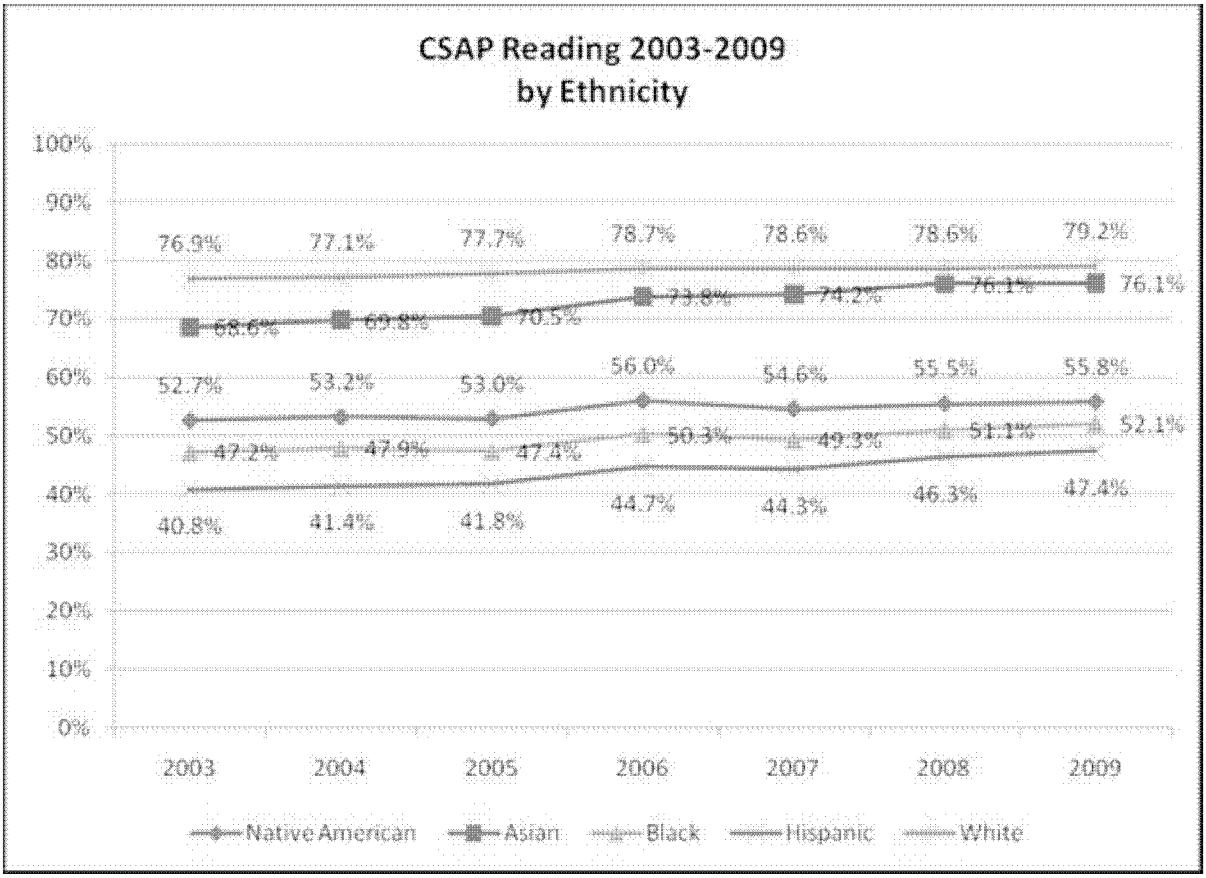
Exhibit A-11: Evidence for A(3) ii – NAEP and ESEA (CSAP) Results from 2003-2009










CSAP Reading 2003-2009
by Ethnicity
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
76.9%
77.1%
77.7%
78.7%
78.6%
78.6%
79.2%
76.1%
68.6%
69.8%
70.5%
73.8%
74.2%
76.1%
52.7%
53.2%
53.0%
56.0%
54.6%
55.5%
55.8%
52.1%
47.2%
47.9%
47.4%
50.3%
49.3%
51.1%
40.8%
41.4%
41.8%
44.7%
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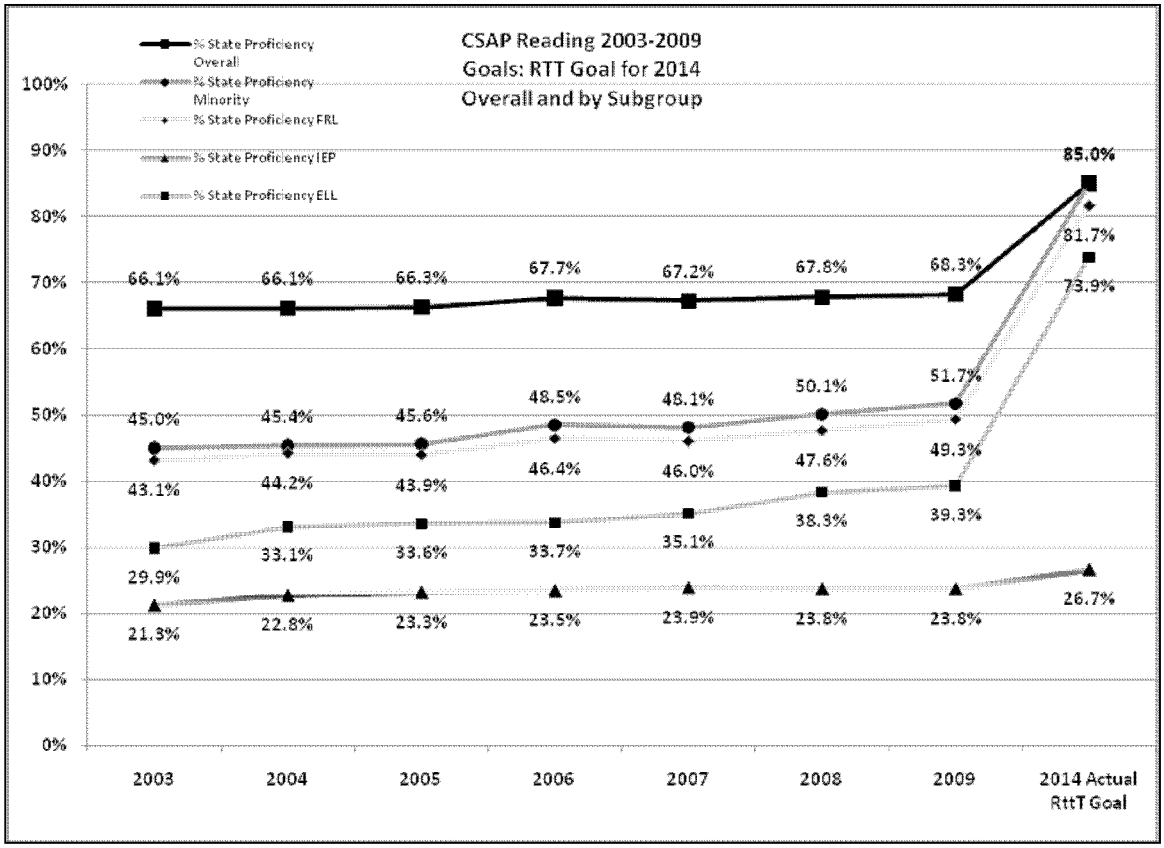
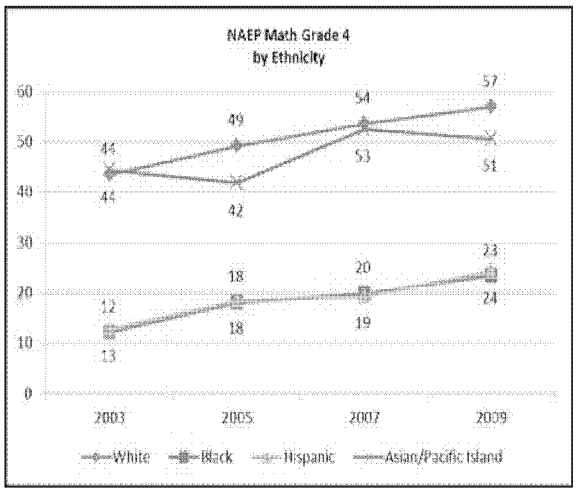
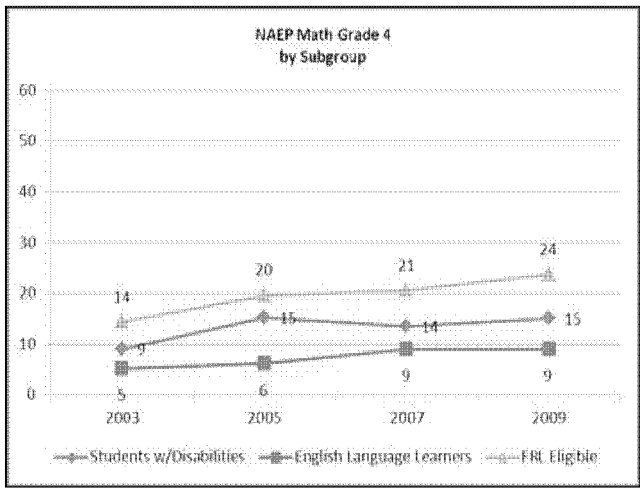
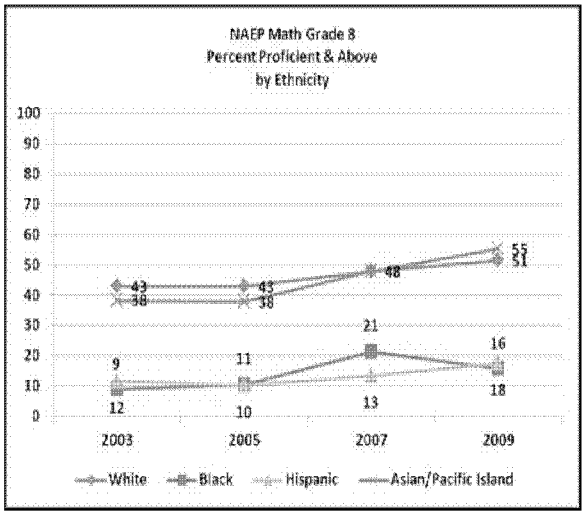
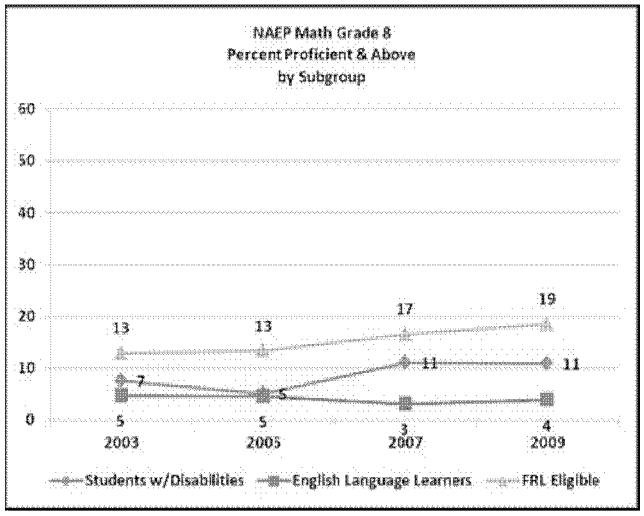
2003
2004
2005
2006
2007
2008
2009
Native American
Asian
Black
Hispanic
White

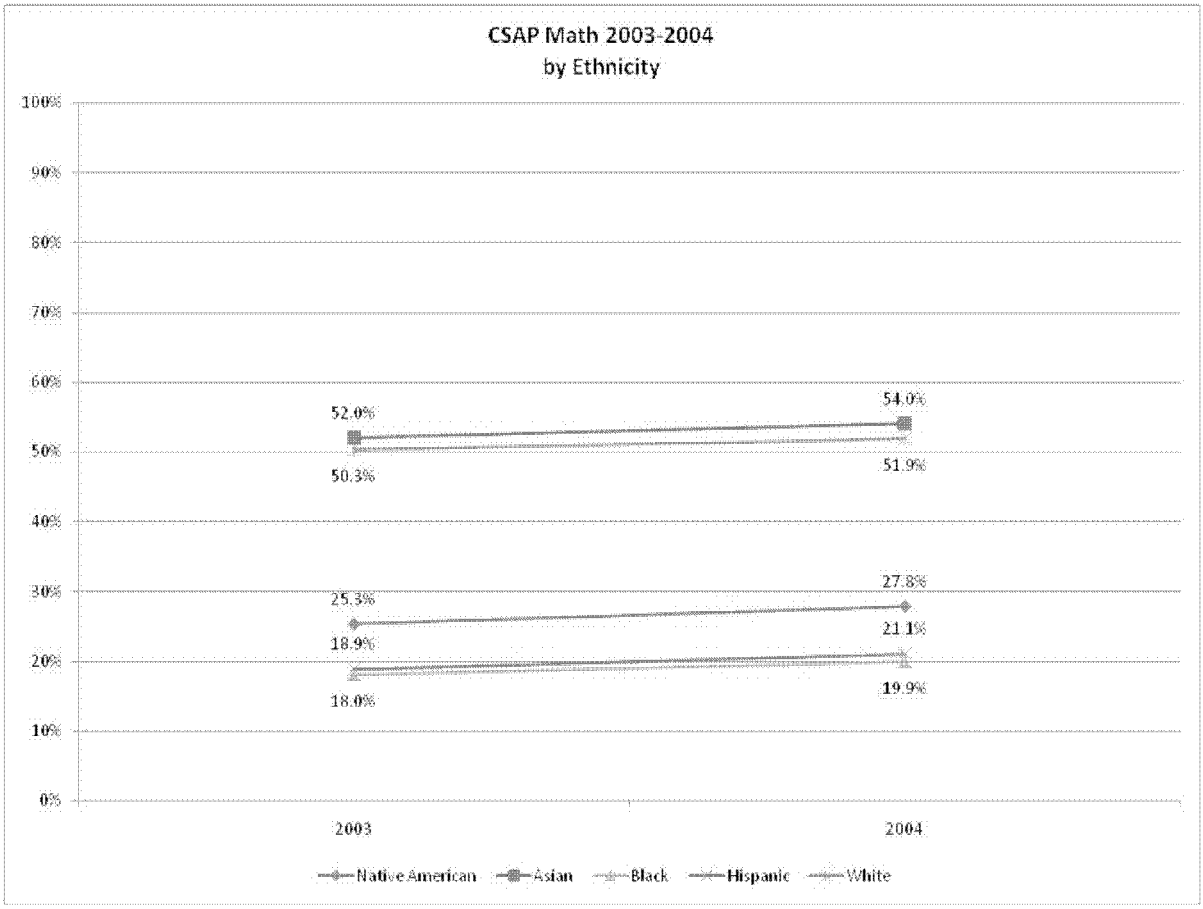

CSAP Reading 2003-2009
Goals: RTT Goal for 2014
Overall and by Subgroup
% State Proficiency Overall
% State Proficiency Minority
% State Proficiency FRL
% State Proficiency IEP
% State Proficiency ELL
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
66.1%
66.1%
66.3%
67.7%
67.2%
67.8%
68.3%
85.0%
81.7%
73.9%
45.0%
45.4%
45.6%
48.5%
48.1%
50.1%
51.7%
43.1%
44.2%
43.9%
46.4%
46.0%
47.6%
49.3%
29.9%
33.1%
33.6%
33.7%
35.1%
38.3%
39.3%
21.3%
22.8%
23.3%
23.5%
23.9%
23.8%
23.8%
26.7%
2003
2004
2005
2006
2007
2008
2009
2014 Actual RttT Goal


NAEP Math Grade 4
by Ethnicity
60
50
40
30
20
10
0
44
49
54
57
44
42
53
51
12
18
20
23
13
18
19
24
2003
2005
2007
2009
White
Black
Hispanic
Asian/Pacific Island


NAEP Math Grade 4
by Subgroup
60
50
40
30
20
10
0
14
20
21
24
9
15
14
15
5
6
9
9
2003
2005
2007
2009
Students w/Disabilities
English Language Learners
FRL Eligible


NAEP Math Grade 8
Percent Proficient & Above
by Ethnicity
100
90
80
70
60
50
40
30
20
10
0
43
43
48
55
51
38
38
9
11
21
16
12
10
13
18
2003
2005
2007
2009
White
Black
Hispanic
Asian/Pacific Island


NAEP Math Grade 8
Percent Proficient & Above
by Subgroup
60
50
40
30
20
10
0
13
13
17
19
7
5
11
11
5
5
3
4
2003
2005
2007
2009
Students w/Disabilities
English Language Learners
FRL Eligible


CSAP Math 2003-2004
by Ethnicity
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
52.0%
54.0%
50.3%
51.9%
25.3%
27.8%
18.9%
21.1%
18.0%
19.9%
2003
2004
Native American
Asian
Black
Hispanic
White

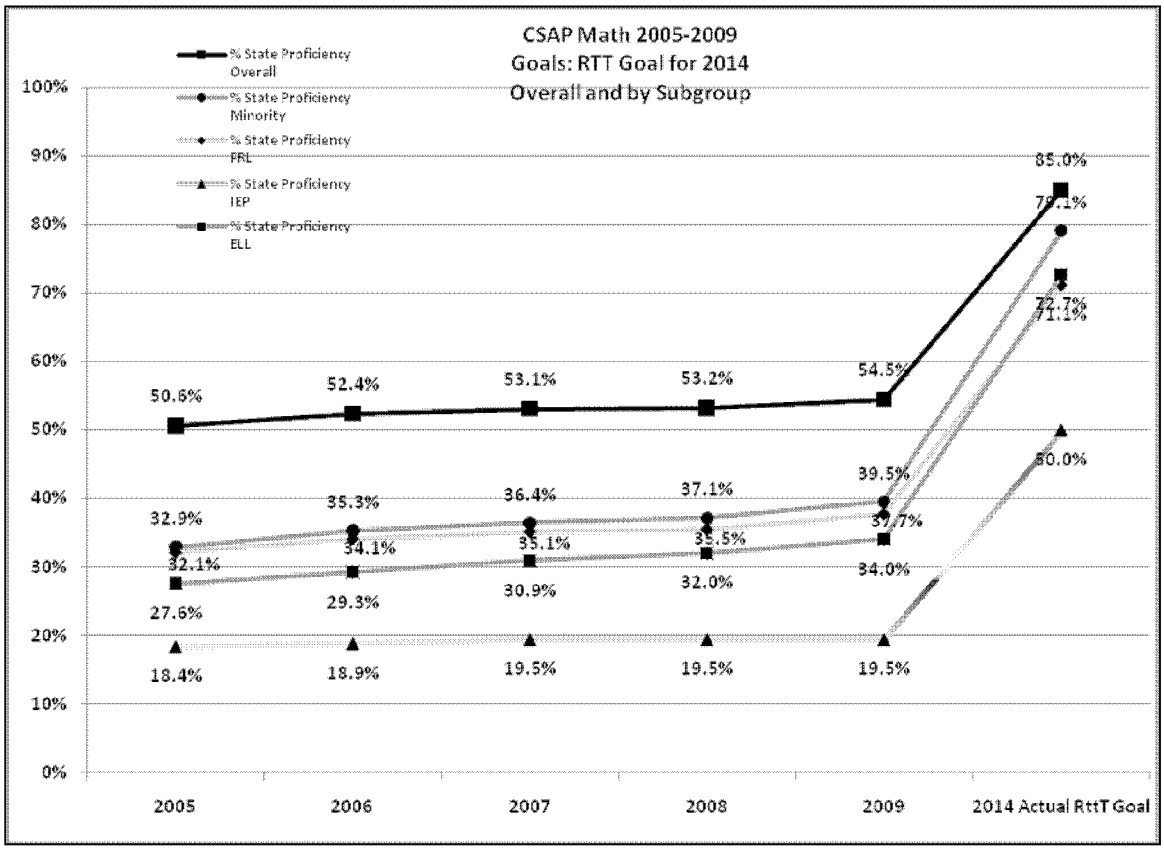

CSAP Math 2005-2009
Goals: RTT Goal for 2014
Overall and by Subgroup
% State Proficiency Overall
% State Proficiency Minority
% State Proficiency FRL
% State Proficiency IEP
% State Proficiency ELL
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
50.6%
52.4%
53.1%
53.2%
54.5%
85.0%
79.1%
72.7%
71.1%
60.0%
32.9%
35.3%
36.4%
37.1%
39.5%
37.7%
34.1%
35.1%
35.5%
32.1%
34.0%
30.9%
32.0%
27.6%
29.3%
18.4%
18.9%
19.5%
19.5%
19.5%
2005
2006
2007
2008
2009
2014 Actual RttT Goal

Exhibit A-12: Leadership Commitment

Governor Bill Ritter Jr.	Since 2007, Governor Ritter has advocated for educational reform through the "Colorado Promise" and the Colorado Achievement Plan for Kids. He has initiated sweeping K-12 education reforms to give Colorado children the skills and knowledge they need to compete and succeed in a 21st century global economy
Lieutenant Governor Barbara O'Brien	Barbara O'Brien is a long-time advocate for young children and teens and has a history of innovative policy initiatives. Her leadership has produced major statewide policy initiatives that increased funding for schools, created charter schools, expanded early childhood education, increased access to health care for uninsured children, reduced teen smoking and expanded after-school programs.
Dwight D. Jones, Commissioner of Education	Commissioner Jones has dramatically improved the capabilities of the Colorado Department of Education by reorganizing the department to provide dedicated service to LEAs. The CDE also created a unified planning process, and aligned the system of LEA and school accountability so they are streamlined, transparent and consistent. He is appointed by the State Board of Education and will continue to lead the State's education reform in partnership with the new administration in 2011.
Rico Munn, Executive Director, Colorado Department of Higher Education	A former member of the Colorado State Board of Education and the former director of the Colorado Department of Regulatory Affairs, Mr. Munn helped forge effective partnerships between the CDE and the Department of Higher Education.

Exhibit B-1: Colorado's Memorandum of Agreement Concerning Participation in CCSSO/NGA Standards Consortium

COLORADO DEPARTMENT OF EDUCATION

201 East Colfax Avenue • Denver, Colorado 80203-1799
303.866.6600 • www.cde.state.co.us

Dwight D. Jones
Commissioner of Education

Robert K. Hammond
Deputy Commissioner

Kenneth R. Turner
Deputy Commissioner

May 20, 2009

Ray Scheppach, Executive Director
National Governors Association
Hall of the States
444 North Capitol Street, Suite 267
Washington, DC 20001-1512

Gene Wilhoit, Executive Director
Council of Chief State School Officers
One Massachusetts Avenue, NW, Suite 700
Washington, DC 20001-1431

Dear Messrs. Scheppach and Wilhoit:

Enclosed please find a Common Core Standards Memorandum of Agreement (MOA) executed on behalf of the State of Colorado. Colorado has recently engaged in a comprehensive review and alignment of its model content standards to ensure that they adequately prepare students to be competitive in a national and international context. We are hopeful that this effort to facilitate the articulation and adoption by a majority of states of common core standards will embody the goals Colorado has sought to achieve through its own standards review.

Colorado's recent standards review and alignment process has engaged a significant amount of public input as well as thoughtful review by national experts and policy makers. Central to this work is the notion that internationally competitive standards tend to be "fewer, clearer and higher" than those typically seen in the U.S. today. Colorado is eager to build upon the work done to date in our state through the common core standards effort you are proposing. However, we would like to ensure that the expectations around this effort and our participation in it are clear. To that end, Colorado's participation is premised upon the following assumptions:

- We set our sights not just on being the best in the U.S. but the best worldwide.
- To prepare *all* students for post-secondary and workforce readiness and success in a global economy, we must expect more of ourselves and of our students.
- The educational system should be aligned from preschool through college.
- The effect of our efforts should be to prepare young people for the next century, not the last one.
- We are committed to internationally competitive standards that are "fewer, clearer and higher" than those typically seen in the U.S. today.

cde Improving Academic Achievement

- Our participation does not constitute an implicit agreement to ultimately adopt the work of this process.

In addition, we are eager to gain a clearer understanding of certain aspects of the process In particular,

- Whether participating states will develop a common core or inform those proposed by Achieve, ACT and College Board.
- Clarity as to how final decisions concerning common core standards and end-of-high-school expectations will be made.
- Whether there is an opportunity for Colorado to nominate individuals to the national validation committee referenced in the MOA.

We applaud your efforts to ensure that all of the nation's students are well prepared and ready to compete with not only their American peers, but with students from around the world. Colorado looks forward to actively contributing towards that goal.

Sincerely,

Bill Ritter, Jr.
Governor

Dwight D. Jones
Commissioner of Education

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 set of standards. 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 a set of common core standards in English language arts and math 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. 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. 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.

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 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 may choose to include additional state standards beyond the common core. 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 based on research and evidence-based learning and can support the development of assessments that are aligned to the common core 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 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 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:

Chief State School Officer:

Exhibit B-2: Number and list of States participating in CCSSO/NGA Standards Consortium

According to the Common Core State Standards Initiative website (**www.corestandards.org**) and the National Governor's Association, The following 48 States and 3 territories 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.

Exhibit B-3: Common Core State Standards

COMMON CORE STATE STANDARDS

English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

Colorado Race to the Top Phase 2 Appendix

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Colorado Race to the Top Phase 2 Appendix

Introduction

The Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects (—the Standards||) are the culmination of an extended, broad-based effort to fulfill the charge issued by the states to create the next generation of K–12 standards in order to help ensure that all students are college and career ready in literacy no later than the end of high school.

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 on the most important international models as well as research and input from numerous sources, including state departments of education, scholars, assessment developers, professional organizations, educators from kindergarten through college, and parents, students, and other members of the public. In their design and content, refined through successive drafts and numerous rounds of feedback, 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 included in the document only when the best available evidence indicated that its mastery was essential for college and career readiness in a twenty-first-century, globally competitive society. The Standards are intended to be a living work: 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, speaking, listening, and language as well as in mathematics. The CCR Reading, Writing, and Speaking and Listening Standards, released in draft form in September 2009, serve, in revised form, as the backbone for the present document. Grade-specific K–12 standards in reading, writing, speaking, listening, and language translate the broad (and, for the earliest grades, seemingly distant) aims of the CCR standards into age- and attainment-appropriate terms.

The Standards set requirements for English language arts (ELA) but also for literacy in history/social studies, science, and technical subjects. Just as students must learn to read, write, speak, listen, and use language effectively in a variety of content areas, so too must the Standards specify the literacy skills and understandings required for college and career readiness in multiple disciplines. Literacy standards for grade 6 and above are predicated on teachers of ELA, history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. It is important to note that the 6–12 literacy standards in history/social studies, science, and technical subjects are not meant to replace content standards in those areas but rather to supplement them. States may incorporate the standards into their standards for these subjects or adopt them as content area literacy standards.

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 are expected to demonstrate have wide applicability outside the classroom or workplace. Students who meet the Standards readily undertake the close, attentive reading that is at the heart of understanding and enjoying complex works of literature. They habitually perform the critical reading necessary to pick carefully through the staggering amount of information available today in print and digitally. They actively seek the wide, deep, and thoughtful engagement with high-quality literary and informational texts that builds knowledge, enlarges experience, and broadens worldviews. They reflexively demonstrate the cogent reasoning and use of evidence that is essential to both private deliberation and responsible citizenship in a democratic republic. In short, students who meet the Standards develop the

skills in reading, writing, speaking, and listening that are the foundation for any creative and purposeful expression in language.
May 2010

Key Design Considerations

CCR and grade-specific standards

The CCR standards anchor the document and define general, cross-disciplinary literacy expectations that must be met for students to be prepared to enter college and workforce training programs ready to succeed. The K–12 grade-specific standards define end-of-year expectations and a cumulative progression designed to enable students to meet college- and career-readiness expectations no later than the end of high school. The CCR and high school grade-specific standards work in tandem to define the college- and career-readiness line—the former providing broad standards, the latter providing additional specificity. Hence, both should be considered when developing college- and career-readiness assessments.

Students advancing through the grades are expected to meet each year's grade-specific standards, retain or further develop skills and understandings mastered in preceding grades, and work steadily toward meeting the more general expectations described by the CCR standards.

Grade levels for K–8; grade bands for 9–10 and 11–12

The Standards use individual grade levels in kindergarten through grade 8 to provide useful specificity; the Standards use two-year bands in grades 9–12 to allow schools, districts, and states flexibility in high school course design.

A focus on results rather than means

By emphasizing 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. Thus, the Standards do not mandate such things as a particular writing process or the full range of metacognitive strategies that students may need to monitor and direct their thinking and learning. Teachers are thus free to provide students with whatever tools and knowledge their professional judgment and experience identify as most helpful for meeting the goals set out in the Standards.

An integrated model of literacy

Although the Standards are divided into Reading, Writing, Speaking and Listening, and Language strands for conceptual clarity, the processes of communication are closely connected, as reflected throughout this document. For example, Writing standard 9 requires that students be able to write about what they read. Likewise, Speaking and Listening standard 4 sets the expectation that students will share findings from their research.

Research and media skills blended into the Standards as a whole

To be ready for college, workforce training, and life in a technological society, students need the ability to gather, comprehend, evaluate, synthesize, and report on information and ideas, to conduct original research in order to answer questions or solve problems, and to analyze and create a high volume and extensive range of print and nonprint texts in media forms old and new. The need to conduct research and to produce and consume media is embedded into every aspect of today's curriculum. In like fashion, research and media skills and understandings are embedded throughout the Standards rather than treated in a separate section.

Shared responsibility for students' literacy development

The Standards insist that instruction in reading, writing, speaking, listening, and language be a shared responsibility within the school. The K–5 standards include expectations for reading, writing, speaking, listening, and language applicable to a range of subjects, including but not limited to ELA. The grades 6–12 standards are divided into two sections, one for ELA and the other for history/social studies, science, and technical subjects. This division reflects the unique, time-honored place of ELA teachers in developing students' literacy skills while at the same time recognizing that teachers in other areas must have a role in this development as well.

Part of the motivation behind the interdisciplinary approach to literacy promulgated by the Standards is extensive research establishing the need for college- and career-ready students to be proficient in reading complex informational text independently in a variety of content areas. Most of the required reading in college and workforce training programs is informational in structure and challenging in content; postsecondary education programs typically provide students with both a higher volume of such reading than is generally required in K–12 schools and comparatively little scaffolding.

The Standards are not alone in calling for a special emphasis on informational text. The 2009 reading framework of the National Assessment of Educational Progress (NAEP) requires a high and increasing proportion of informational text on its assessment as students advance through the grades.

Distribution of Literary and Informational Passages by Grade in the 2009 NAEP Reading Framework

The Standards aim to align instruction with this framework so that many more students than at present can meet the requirements of college and career readiness. In K–5, the Standards follow NAEP's lead in balancing the reading of literature with the reading of informational texts, including texts in history/social studies, science, and technical subjects. In accord with NAEP's growing emphasis on informational texts in the higher

4	50%
8	45%

grades, the Standards demand that a significant amount of reading of informational texts take place in and outside of the ELA classroom. Fulfilling the standards for 6–12 ELA requires much greater attention to a specific category of informational text—literary nonfiction—than has been traditional. Because the ELA classroom must focus on literature (stories, drama, and poetry) as well as literary nonfiction, a great deal of informational reading in grades 6–12 must take place in other classes if the NAEP assessment framework is to be matched instructionally.[1] To measure students' growth toward college and career readiness, assessments aligned with the Standards should adhere to the distribution of texts across grades cited in the NAEP framework.

1 The percentages on the table reflect the sum of student reading, not just reading in ELA settings. Teachers of senior English classes, for example, are not required to devote 70 percent of reading to informational texts. Rather, 70 percent of student reading across the grade should be informational.

NAEP likewise outlines a distribution across the grades of the core purposes and types of student writing. Similar to the Standards, the 2011 NAEP framework cultivates the development of three mutually reinforcing writing capacities: writing to persuade, to explain, and to convey real or imagined experience. Evidence concerning the demands of college and career readiness gathered during development of the Standards concurs with NAEP's shifting emphases: standards for grades 9–12 describe writing in all three forms, but, consistent with NAEP, the overwhelming focus of writing

throughout high school should be on writing to argue and to inform or explain.[2]

2 As with reading, the percentages in the table reflect the sum of student writing, not just writing in ELA settings.

Distribution of Communicative Purposes by Grade in the 2011 NAEP Writing Framework

It

4	30%
8	35%

follows that writing assessments aligned with the Standards should adhere to the distribution of writing purposes across grades outlined by NAEP.

What is* not *covered by the Standards

The Standards should be recognized for what they are *not* as well as what they are. The most important intentional design limitations are as follows:

1) The Standards define what all students are expected to know and be able to do, not how teachers should teach. The Standards must be complemented by a well-developed, content-rich curriculum consistent with the expectations laid out in this document.

2) While the Standards do attempt to focus on what is most essential, they do not describe all that can or should be taught. A great deal is left to the discretion of teachers and curiculum developers. The aim of the Standards is to articulate the fundamentals, not to set out an exhaustive list nor a set of restrictions that limits what can be taught beyond what is specified herein.

3) The Standards do not define the nature of advanced work for students who meet the Standards prior to the end of high school. For those students, advanced work in such areas as literature, composition, language, and journalism should be available. This

work should provide the next logical step up from the college and career readiness baseline established here.

4) The Standards set grade-specific standards but do not define the intervention methods or materials necessary to support students who are well below or well above grade-level expectations. It is also beyond the scope of the Standards to define the full range of supports appropriate for English language learners and for students with special needs. At the same time, all students must have the opportunity to learn and meet the same high standards if they are to access the knowledge and skills necessary in their post-school lives. The Standards should be read as allowing for the widest possible range of students to participate fully from the outset, along with appropriate accommodations to ensure maximum participaton of students with special education needs. For example, for students with disabilities *reading* should allow for use of Braille, screen reader technology, or other assistive devices, while *writing* should include the use of a scribe, computer, or speech-to-text technology. In a similar vein, speaking and *listening* should be interpreted broadly to include sign language. No set of grade-specific standards can fully reflect the great variety in abilities, needs, learning rates, and achievement levels of students in any given classroom. However, the Standards do provide clear signposts along the way to the goal of college and career readiness for all students.

5) While the ELA and content area literacy components described herein are critical to college and career readiness, they do not define the whole of such readiness. Students require a wide-ranging, rigorous academic preparation and, particularly in the early grades, attention to such matters as social, emotional, and physical development and approaches to learning. Similarly, the Standards define literacy expectations in history/social studies, science, and technical subjects, but literacy standards in other areas, such as mathematics and health education, modeled on those herein are strongly encouraged to allow for a comprehensive, schoolwide literacy program.

The Student Who is College and Career Ready in Reading, Writing, Speaking, Listening, and Language

The descriptions that follow are not standards themselves but instead offer a portrait of students who meet the standards set out in this document. As students advance through the grades and master the standards in reading, writing, speaking, listening, and language, they are able to exhibit with increasing fullness and regularity these capacities of the literate individual.

☐ **They demonstrate independence.**

Students can, without significant scaffolding or support, comprehend and evaluate complex texts 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 and request clarification if something is not understood. They ask relevant questions, build on others' ideas, articulate their own ideas, and ask for confirmation that they have been understood. Without prompting, they observe language conventions, determine word meanings, attend to the connotations of words, and acquire new vocabulary.

☐ **They build strong content knowledge.**

Students establish a base of knowledge across a wide range of subject matter by engaging with works of quality and substance. They become proficient in new areas through research and study. They read purposefully and listen attentively to gain both general knowledge and discipline-specific expertise. They refine and share their knowledge through writing and speaking.

☐ **They respond to the varying demands of audience, task, purpose, and discipline.**

Students consider their communication in relation to audience, task, purpose, and discipline. They appreciate nuances, such as how the composition of an audience should affect tone when speaking 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).

☐ **They comprehend as well as critique.**

Students are engaged and open-minded—but discerning—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.

☐ **They value 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.

☐ **They use technology and digital media 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.

☐ **They come to understand other perspectives and cultures.**

Students appreciate that the twenty-first-century classroom and workplace are settings in which people from often widely divergent cultures and who represent

diverse experiences and perspectives must learn and work together. Students actively seek to understand other perspectives and cultures through reading and listening, and they are able to communicate effectively with people of varied backgrounds. They evaluate other points of view critically and constructively. Through reading great classic and contemporary works of literature representative of a variety of periods, cultures, and worldviews, students can vicariously inhabit worlds and have experiences much different than their own.

Colorado Race to the Top Phase 2 Appendix

How to Read This Document

Overall Document Organization and Main Features

The Standards comprise three main sections: a comprehensive K–5 section and two content area–specific sections for grades 6–12, one for ELA and one for history/social studies, science, and technical subjects. Three appendices (lettered A, B, and C) accompany the main document.

Each section is divided into *strands*. K–5 and 6–12 ELA have Reading, Writing, Speaking and Listening, and Language strands; the 6–12 history/social studies, science, and technical subjects section focuses on Reading and Writing. Each strand is headed by a strand-specific set of *College and Career Readiness Anchor Standards* that is identical across all grades and content areas.

Standards for each grade within K–8 and for grades 9–10 and 11–12 follow the CCR standards in each strand. Each *grade-specific standard* (as these standards are collectively referred to) corresponds to the same-numbered CCR standard. Put another way, each CCR standard has an accompanying grade-specific standard translating the broader CCR statement into grade-appropriate end-of-year expectations.

Individual CCR standards can be identified by their strand, CCR status, and number (R.CCR.6, for example). Individual grade-specific standards can be identified by their strand, grade, and number or number and letter so that RI.4.3, for example, stands for Reading, Informational Text, grade 4, standard 3. Likewise, W.5.1a stands for Writing, grade 5, standard 1a. Strand designations can be found in brackets alongside the full strand title.

Who is responsible for which portion of the Standards

A single K–5 section lists CCR and grade-specific standards for reading, writing, speaking, listening, and language across the curriculum, reflecting the fact that most or all of the instruction students in these grades receive comes from one teacher. Grades 6–12 are covered in two content area–specific sections, the first for the English language arts teacher and the second for teachers of history/social studies, science, and technical subjects. Each section uses the same CCR standards but also includes grade-specific standards tuned to the literacy requirements of the particular discipline(s).

Key Features of the Standards

Reading: Text complexity and the growth of comprehension

The Reading standards place equal emphasis on the sophistication of what students read and the skill with which they read. Standard 10 defines a grade-by-grade ―staircase‖ of increasing text complexity that rises from beginning reading to the college- and career-readiness level. Whatever they are reading, students must also show a steadily growing ability to discern more from and make fuller use of text, including 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.

Writing: Text types, responding to reading, and research

The Standards acknowledge the fact that whereas some writing skills, such as the ability to plan, revise, edit, and publish, are applicable to many types of writing, other skills are more properly defined in terms of specific writing types: arguments, informative/explanatory texts, and narratives. Standard 9 stresses the importance of the writing-reading connection by requiring students to draw and write about evidence from literary and informational texts. Because of the centrality of writing to most forms of inquiry, research standards are prominently included in this strand, though skills important to research are infused throughout the document.

Speaking and Listening: Flexible communication and collaboration

Including but not limited to skills necessary for formal presentations, the Speaking and Listening standards require students to develop a range of broadly useful oral communication and interpersonal skills. Students must learn to work together, express and listen to ideas, integrate information from oral, visual, and

multimodal sources, evaluate what they hear, use digital media and visual displays strategically to help achieve communicative purposes, and adapt speech to context and task.

Language: Conventions and vocabulary

The standards on conventions and effective language use 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. The vocabulary standards focus on understanding words, their relationships, and

their nuances and on acquiring new words and phrases, particularly general academic and domain-specific vocabulary.

Appendices A, B, and C

Appendix A contains supplementary material on reading, writing, speaking and listening, and language as well as a glossary of key terms. Appendix B consists of text exemplars illustrating the complexity, quality, and range of reading appropriate for various grade levels. Appendix C includes annotated samples demonstrating at least adequate performance in student writing at various grade levels.

Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

K–5

Colorado Race to the Top Phase 2 Appendix

College and Career Readiness Anchor Standards for Reading

Note on range and content of student reading

To build a foundation for college and career readiness, students must read widely and deeply from among a broad range of high-quality, increasingly challenging literary and informational texts. Through extensive reading of stories, dramas, poems, and myths from diverse cultures and different time periods, students gain literary and cultural knowledge as well as familiarity with various text structures and elements. By reading texts in history/social studies, science, and other disciplines, students build a foundation of knowledge in these fields that will also give them the background to be better readers in all content areas. Students can only gain this foundation when the curriculum is intentionally and coherently structured to develop rich content knowledge within and across grades. Students also acquire the habits of reading independently and closely, which are essential to their future success.

The K–5 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

Craft and Structure

4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and explain how specific word choices shape meaning or tone.

5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented graphically, visually, orally, and multimodally as well as in words within and across print and digital sources.*

8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.

9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently.

*Please see ―Research to Build and Present Knowledge‖ in Writing and ―Comprehension and Collaboration‖ in Speaking and Listening for additional standards relevant to gathering, assessing, and applying information from print and digital sources.

Reading Standards for Literature K–5 [RL]

The following standards offer a focus for instruction each year and help ensure that students gain adequate exposure to a range of texts and tasks. Rigor is also infused through the requirement that students read increasingly complex texts through the grades. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.

Kindergartners:	**Grade 1 students:**	**Grade 2 students:**
Key Ideas and Details		
1. With prompting and support, ask and answer questions about key details in a text.	**1. Ask and answer questions about key details in a text.**	**1.** Ask and answer such questions as *who*, *what*, *where*, *when*, *why*, and *how* to demonstrate understanding of key details in a text.
2. With prompting and support, retell familiar stories, including key details.	**2.** Retell stories, including key details, and demonstrate understanding of their central message or lesson.	**2.** Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral.
3. With prompting and support, identify characters, settings, and major events in a story.	**3.** Describe characters, settings, and major events in a story, using key details.	**3.** Describe how characters in a story respond to major events and challenges.
Craft and Structure		
4. Ask and answer questions about unknown words in a text.	**4.** Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.	**4.** Describe how words and phrases (e.g., regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning in a story, poem, or song.
5. Recognize common types of texts (e.g., storybooks, poems).	**5.** Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.	**5.** Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action.
6. With prompting and support, name the author and illustrator of a story and define the role of each in telling the story.	**6. Identify who is telling the story at various points in a text.**	**6.** Acknowledge differences in the points of view of characters, including by speaking in a different voice for each character when reading dialogue aloud.

Reading Standards for Literature K–5 [RL]

Grade 3 students:	Grade 4 students:	Grade 5 students:
Key Ideas and Details		
1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.	**1.** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.	**1.** Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
2. Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text.	**2.** Determine a theme of a story, drama, or poem from details in the text; summarize the text.	**2.** Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.
3. Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.	**3.** Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).	**3.** Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.	**4.** Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., *Herculean*), drawing on a wide reading of classic myths from a variety of cultures and periods.	**4.** Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.

Reading Standards for Literature K–5 [RL]

Grade 3 students:

Grade 4 students:

Grade 5 students:

Range of Reading and Level of Text Complexity

Reading Standards for Informational Text K–5 [RI]

Kindergartners:	**Grade 1 students:**	**Grade 2 students:**
Key Ideas and Details		
1. With prompting and support, ask and answer questions about key details in a text.	**1. Ask and answer questions about key details in a text.**	**1.** Ask and answer such questions as *who*, *what*, *where*, *when*, *why*, and *how* to demonstrate understanding of key details in a text.
2. With prompting and support, identify the main topic and retell key details of a text.	**2. Identify the main topic and retell key details of a text.**	**2.** Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.
3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	**3.** Describe the connection between two individuals, events, ideas, or pieces of information in a text.	**3.** Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
Craft and Structure		
4. With prompting and support, ask and answer questions about	**4.** Ask and answer questions to help determine or clarify the	**4.** Determine the meaning of words and phrases in a text

Reading Standards for Informational Text K–5 [RI]

Grade 3 students:	Grade 4 students:	Grade 5 students:
Key Ideas and Details		
1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.	**1.** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.	**1.** Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
2. Determine the main idea of a text; recount the key details and explain how they support the main idea.	**2.** Determine the main idea of a text and explain how it is supported by key details; summarize the text.	**2.** Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.
3. Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.	**3.** Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.	**3.** Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

Craft and Structure

Reading Standards for Informational Text K–5 [RI]

Grade 3 students:

Range of Reading and Level of Text Complexity

10. By the end of the year, read and comprehend informational texts, including historical, scientific, and technical texts, in the grades 2–3 text complexity band independently and proficiently.

Grade 4 students:

10. By the end of year, read and comprehend informational texts, including historical, scientific, and technical texts, in the grades 4–5 text complexity band proficiently, with scaffolding as necessary at the high end of the range.

Grade 5 students:

10. By the end of the year, read and comprehend informational text, including historical, scientific, and technical texts, in the grades 4–5 text complexity band level independently and proficiently.

Reading Standards: Foundational Skills (K–5) [RF]

These standards are directed toward fostering students' understanding and working knowledge of concepts of print, the alphabetic principle, and other basic conventions of the English writing system. These Foundational Skills are not an end in and of themselves; rather, they are necessary and important components of an effective, comprehensive reading program designed to develop proficient readers with the capacity to comprehend texts across a range of types and disciplines. Instruction should be differentiated: Good readers will need much less practice with these concepts than struggling readers. The point is to teach students what they need to learn and not what they already know—to discern when particular children or activities warrant more or less attention.

** In Kindergarten children are expected to demonstrate increasing awareness and competence in the areas that follow.*

[1]Words, syllables, or phonemes written in /slashes/ refer to their pronunciation or phonology. Thus, /CVC/ is a word with three phonemes regardless of the number of letters in the spelling of the word.

Kindergartners:

Print Concepts

1. Demonstrate understanding of the organization and basic features of print.

a. Follow words from left to right, top to bottom, and page-by-page.

b. Recognize that spoken words are represented in written language by specific sequences of letters.

c. Understand that words are separated by spaces in print.

d. Recognize and name all upper- and lowercase letters of the alphabet.

Grade 1 students:

1. Demonstrate understanding of the organization and basic features of print.

a. Recognize the distinguishing features of a sentence (e.g., first word, capitalization, ending punctuation).

Reading Standards: Foundational Skills (K–5) [RF]

**** In Kindergarten children are expected to demonstrate increasing awareness and competence in the areas that follow.***

Kindergartners:*

Phonics and Word Recognition

3. 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. Associate the long and short sounds with the common spellings (graphemes) for the five major vowels.

c. Read common high-frequency words by sight. (e.g., *the*, *of*, *to*, *you*, *she*, *my*, *is*, *are*, *do*, *does*).

d. Distinguish between similarly spelled words by identifying the sounds of the letters that differ.

Grade 1 students:

3. Know and apply grade-level phonics and word analysis skills in decoding words.

a. Know the spelling-sound correspondences for common consonant digraphs.(two letters that represent one sound).

b. Decode regularly spelled one-syllable words.

c. Know final *-e* and common vowel team conventions for representing long vowel sounds.

d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word.

e. Decode two-syllable words following basic patterns by breaking the words into syllables.

f. Read words with inflectional endings.

g. Recognize and read grade-appropriate irregularly spelled words.

Grade 2 students:

3. Know and apply grade-level phonics and word analysis skills in decoding words.

a. Distinguish long and short vowels when reading regularly spelled one-syllable words.

b. Know spelling-sound correspondences for additional common vowel teams.

c. Decode regularly spelled two-syllable words with long vowels.

d. Decode words with common prefixes and suffixes.

e. Identify words with inconsistent but common spelling-sound correspondences.

f. Recognize and read grade-appropriate irregularly spelled words.

Reading Standards: Foundational Skills (K–5) [RF]

Grade 3 students:

Phonics and Word Recognition

3. 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.

b. Decode words with common Latin suffixes.

c. Decode multisyllable words.

d. Read grade-appropriate irregularly spelled words.

Grade 4 students:

3. Know and apply grade-level phonics and word analysis skills in decoding words.

a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multi-syllabic words in context and out of context.

Grade 5 students:

3. Know and apply grade-level phonics and word analysis skills in decoding words.

a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multi-syllabic words in context and out of context.

Colorado Race to the Top Phase 2 Appendix

College and Career Readiness Anchor Standards for Writing

Note on range and content of student writing

To build a foundation for college and career readiness, students need to learn to use writing as a way of offering and supporting opinions, demonstrating understanding of the subjects they are studying, and conveying real and imagined experiences and events. They learn to appreciate that a key purpose of writing is to communicate clearly to an external, sometimes unfamiliar audience, and they begin to adapt the form and content of their writing to accomplish a particular task and purpose.. They develop the capacity to build knowledge on a subject through research projects and to respond analytically to literary and informational sources. To meet these goals, students must devote significant time and effort to writing, producing numerous pieces over short and extended time frames throughout the year.

The K–5 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Text Types and Purposes[1]

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.[2]

6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

[1]These broad types of writing include many subgenres. See Appendix A for definitions of key writing types.

[2]See standards 1–3 in Language, pages 26–31, for specific editing expectations.

Writing Standards K–5 [W]

The following standards for K–5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Each year in their writing, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas, and they should address increasingly demanding content and sources. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades. The expected growth in student writing ability is reflected both in the standards themselves and in the collection of annotated student writing samples in Appendix C.

Kindergartners:	Grade 1 students:	Grade 2 students:
Text Types and Purposes		
1. Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., *My favorite book is . . .*).	**1.** Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.	**1.** Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., *because*, *and*, *also*) to connect opinion and reasons, and provide a concluding statement or section.
2. Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.	**2.** Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.	**2.** Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.
3. Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened.	**3.** Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure.	**3.** Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure.
4. (Begins in grade 3)	**4.** (Begins in grade 3)	**4.** (Begins in grade 3)
5. With guidance and support from adults, respond to questions and suggestions from peers and add details to strengthen writing as needed.	**5.** With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed.	**5.** With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing.
6. With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.	**6.** With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.	**6.** With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

Writing Standards K–5 [W]

Grade 3 students:

Text Types and Purposes

1. Write opinion pieces on familiar topics or texts, supporting a point of view with reasons.

a. Introduce the topic or book they are writing about, state an opinion, and create an organizational structure that lists reasons.

b. Provide reasons that support the opinion.

c. Use linking words and phrases (e.g., *because*, *therefore*, *since*, *for example*) to connect opinion and reasons.

d. Provide a concluding statement or section.

2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

a. Introduce a topic and group related information together; include illustrations when useful to aiding comprehension.

b. Develop the topic with facts, definitions, and details.

Grade 4 students:

1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose.

b. Provide reasons that are supported by facts and details.

c. Link opinion and reasons using words and phrases (e.g., *for instance*, *in order to, in addition*).

d. Provide a concluding statement or section related to the opinion presented.

2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

a. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.

Grade 5 students:

1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose.

b. Provide logically ordered reasons that are supported by facts and details.

c. Link opinion and reasons using words, phrases, and clauses (e.g., *consequently*, *specifically*).

d. Provide a concluding statement or section related to the opinion presented.

2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.

Writing Standards K–5 [W]

Grade 3 students:	Grade 4 students:	Grade 5 students:
Production and Distribution of Writing		
4. With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose. (Grade-specific expectations for writing types are defined in standards 1–3 above.)	**4.** Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)	**4.** Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.	**5.** With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.	**5.** With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others.	**6.** With some guidance and support from adults, use technology, including the Internet, to produce and publish writing (using the keyboard) as well as to interact and collaborate with others.	**6.** With some guidance and support from adults, use technology, including the Internet, to produce and publish a minimum of two pages of writing (using the keyboard) as well as to interact and collaborate with others.

College and Career Readiness Anchor Standards for Speaking and Listening

The K–5 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Note on range and content of student speaking and listening

To build a foundation for college and career readiness, students must have ample opportunities to take part in a variety of rich, structured conversations—as part of a whole class, in small groups, and with a partner. Being productive members of these conversations requires that students contribute accurate, relevant information; respond to and develop what others have said; make comparisons and contrasts; and analyze and synthesize a multitude of ideas in various domains.

New technologies have broadened and expanded the role that speaking and listening play in acquiring and sharing knowledge and have tightened their link to other forms of communication. Digital texts confront students with the potential for continually updated content and dynamically changing combinations of words, graphics, images, hyperlinks, and embedded video and audio.

Comprehension and Collaboration

1. Prepare for and participate effectively in a range of conversations and collaborations, building on others' ideas and expressing their own clearly and persuasively.

2. Integrate and evaluate content from multiple graphical, visual, oral, or multimodal sources.

3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas

4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

Colorado Race to the Top Phase 2 Appendix

Speaking and Listening Standards K–5 [SL]

The following standards for K–5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.

Kindergartners:

Comprehension and Collaboration

1. Participate in collaborative conversations about *kindergarten topics and texts* with peers and adults in small and larger groups.

a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion).

b. Continue a conversation through multiple exchanges.

2. Confirm understanding of written texts read aloud or information presented orally or through media by asking and answering questions about key details.

Grade 1 students:

1. Participate in collaborative conversations about *grade 1 topics and texts* with peers and adults in small and larger groups.

a. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).

b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges.

c. Ask questions to clear up any confusion about the topics and texts under discussion.

2. Demonstrate understanding of written texts read aloud or information presented orally or through media by asking and answering questions about key details and restating key elements.

Grade 2 students:

1. Participate in collaborative conversations about *grade 2 topics and texts* with peers and adults in small and larger groups.

a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).

b. Build on others' talk in conversations by linking their comments to the remarks of others.

c. Ask for clarification and further explanation as needed about the topics and texts under discussion.

2. Recount or describe key ideas or details from written texts read aloud or information presented orally or through media.

Speaking and Listening Standards K–5 [SL]

Grade 3 students:

Comprehension and Collaboration

1. Engage effectively in a range of collaborative discussions (one-on-one and in groups) on *grade 3 topics and texts*, building on others' ideas and expressing their own clearly.

a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).

b. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.

c. Explain their own ideas and understanding in light of the discussion.

Grade 4 students:

1. Engage effectively in range of collaborative discussions (one-on-one and in groups) on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly.

a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussions.

b. Follow agreed-upon rules for discussions and carry out assigned roles.

c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.

d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.

Grade 5 students:

1. Engage effectively in a range of collaborative discussions (one-on-one and in groups) on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly.

a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.

b. Follow agreed-upon rules for discussions and carry out assigned roles.

c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.

d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.

College and Career Readiness Anchor Standards for Language

The K–5 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Note on range and content of student language use

To build a foundation for college and career readiness in language, students must gain control over many conventions of grammar, usage, and mechanics as well as learn ways to use language to enhance meaning. They must also be able to determine or clarify the meaning of grade-appropriate words encountered through listening, reading, and media use, come to appreciate that words have nonliteral meanings, shadings of meaning, and relationships to other words, and expand their vocabulary in the course of studying content. The inclusion of Language standards in their own strand should not be taken as an indication that skills related to conventions, effective language use, and vocabulary are unimportant to reading, writing, speaking, and listening; indeed, they are inseparable from such contexts.

Conventions

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

2. Demonstrate command of the conventions of capitalization, punctuation, and spelling when writing.

Effective Language Use

3. Use language to enhance meaning, convey style, and achieve particular effects when writing or speaking.

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.

5. Demonstrate understanding of word relationships and nuances in word meanings.

6. Acquire and use accurately a range of general academic and domain-specific vocabulary sufficient for reading, writing, speaking, and listening at the college and career readiness level.

Language Standards K–5 [L]

The following standards for grades K–5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades. Beginning in grade 3, skills and understandings that are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking are marked with an asterisk (*). See the table on page 31 for a complete list and Appendix A for an example of how these skills develop in sophistication.

Kindergartners:

Conventions

1. Observe conventions of grammar and usage when writing or speaking.

a. Print many upper- and lowercase letters.

b. Use frequently occurring nouns and verbs.

c. Form regular plural nouns orally by adding /s/ or /es/ (e.g., *dog*, *dogs*; *wish*, *wishes*).

d. Understand and use question words (interrogatives) (e.g., *who*, *what*, *where*, *when*, *why*, *how*).

e. Use the most frequently occurring prepositions (e.g., *to*, *from*, *in*, *out*, *on*, *off*, *for*, *of*, *by*, *with*).

f. Produce and expand complete sentences in shared language activities.

Grade 1 students:

1. Observe conventions of grammar and usage when writing or speaking.

a. Print all upper- and lowercase letters.

b. Use common, proper, and possessive nouns.

c. Use singular and plural nouns with matching verbs in basic sentences (e.g., *He hops*; *We hop*).

d. Use personal, possessive, and indefinite pronouns (e.g., *I*, *me*, *my*; *they*, *them*, *their*, *anyone*, *everything*).

e. Use verbs to convey a sense of past, present, and future (e.g., *Yesterday I walked home*; *Today I walk home*; *Tomorrow I will walk home*).

f. Use frequently occurring adjectives.

g. Use frequently occurring conjunctions (e.g., *and*, *but*, *or*, *so*, *because*).

g. Use determiners (e.g., articles, demonstratives).

Grade 2 students:

1. Observe conventions of grammar and usage when writing or speaking.

a. Use collective nouns (e.g., *group*).

b. Form and use frequently occurring irregular plural nouns (e.g., *feet*, *children*, *teeth*, *mice*, *fish*).

c. Use reflexive pronouns (e.g., *myself*, *ourselves*).

d. Form and use the past tense of frequently occurring irregular verbs (e.g., *sat*, *hid*, *told*).

e. Use adjectives and adverbs, and choose between them depending on what is to be modified.

f. Produce, expand, and rearrange complete simple and compound sentences (e.g., *The boy watched the movie*; *The little boy watched the movie*; *The action movie was watched by the little boy*).

Language Standards K–5 [L]

Kindergartners:

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *kindergarten reading and content*.

a. Identify new meanings for familiar words and apply them accurately (e.g., knowing *duck* as a bird and learning the verb *to duck*).

b. Use the most frequently occurring inflections and affixes (e.g., *-ed*, *-s*, *re-*, *un-*, *pre-*, *-ful*, *-less*) as a clue to the meaning of an unknown word.

5. With guidance and support from adults, explore word relationships and nuances in word meanings.

a. Sort common objects into categories (e.g., shapes, foods) to

Grade 1 students:

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 1 reading and content*, choosing flexibly from an array of strategies.

a. Use sentence-level context as a clue to the meaning of a word or phrase.

b. Use frequently occurring affixes as a clue to the meaning of a word.

c. Identify frequently occurring root words (e.g., *look*) and their inflectional forms (e.g., *looks*, *looked*, *looking*).

5. With guidance and support from adults, demonstrate understanding of word relationships and nuances in word meanings.

Grade 2 students:

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 2 reading and content*, choosing flexibly from an array of strategies.

a. Use sentence-level context as a clue to the meaning of a word or phrase.

b. Determine the meaning of the new word formed when a known prefix is added to a known word (e.g., *happy/unhappy*, *tell/retell*).

c. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *addition*, *additional*).

d. Use knowledge of the meaning of individual words to predict the meaning of compound words (e.g., *birdhouse*, *lighthouse*, *housefly*; *bookshelf*, *notebook*, *bookmark*).

e. Use glossaries and beginning dictionaries, both print and digital, to determine or clarify the meaning of words and phrases.

5. Demonstrate understanding of word relationships and nuances in word meanings.

a. Identify real-life connections between words and their use

Language Standards K–5 [L]

Grade 3 students:

Conventions

1. Observe conventions of grammar and usage when writing or speaking.

a. Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their functions in particular sentences.

b. Form and use regular and irregular plural nouns.

c. Use abstract nouns (e.g., *childhood*).

d. Form and use regular and irregular verbs.

e. Form and use the simple (e.g., *I walked*; *I walk*; *I will walk*) verb tenses.

f. Ensure subject-verb and pronoun-antecedent agreement.*

g. Form and use comparative and superlative adjectives and adverbs, and choose between them depending on what is to be modified.

h. Use coordinating and subordinating conjunctions.

i. Produce simple, compound, and complex sentences.

Grade 4 students:

1. Observe conventions of grammar and usage when writing or speaking.

a. Use relative pronouns (*who*, *whose*, *whom*, *which*, *that*) and relative adverbs (*where*, *when*, *why*).

b. Form and use the progressive (e.g., *I was walking*; *I am walking*; *I will be walking*) verb aspects.

c. Use modal auxiliaries (e.g., *can*, *may*, *must*) to convey various conditions.

d. Order adjectives within sentences according to conventional patterns (e.g., *a small red bag* rather than *a red small bag*).

e. Form and use prepositional phrases.

f. Produce complete sentences, recognizing and correcting rhetorically poor fragments and run-ons.*

g. Correctly use frequently confused words (e.g., *to*, *too*, *two*; *there*, *their*).*

Grade 5 students:

1. Observe conventions of grammar and usage when writing or speaking.

a. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences.

b. Form and use the perfect (e.g., *I had walked*; *I have walked*; *I will have walked*) verb aspects.

c. Use verb tense and aspect to convey various times, sequences, states, and conditions.

d. Recognize and correct inappropriate shifts in verb tense and aspect.*

e. Use correlative conjunctions.

Language Standards K–5 [L]

Grade 3 students:

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on *grade 3 reading and content*, choosing flexibly from a range of strategies.

a. Use sentence-level context as a clue to the meaning of a word or phrase.

b. Determine the meaning of the new word formed when a known affix is added to a known word (e.g., *agreeable/disagreeable*, *comfortable/uncomfortable*, *care/careless*, *heat/preheat*).

c. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *company*, *companion*).

d. Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases.

5. Demonstrate understanding of word relationships and nuances in word meanings.

a. Distinguish the literal and nonliteral meanings of words and

Grade 4 students:

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 4 reading and content*, choosing flexibly from a range of strategies.

a. Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase.

b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *telegraph*, *photograph*, *autograph*).

c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.

5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

a. Explain the meaning of simple similes and metaphors (e.g., *as*

Grade 5 students:

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 5 reading and content*, choosing flexibly from a range of strategies.

a. Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase.

b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *photograph*, *photosynthesis*).

c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.

5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

a. Interpret figurative language, including similes and metaphors,

Colorado Race to the Top Phase 2 Appendix

Language Progressive Skills, by Grade

The following skills, marked with an asterisk (*) in Language standards 1–3, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.

Skill	3	4	5	6	7	8	9–10	11–12
Ensure subject-verb and pronoun-antecedent agreement.								
Choose words								

Qualitative evaluation of the text: Levels of meaning, structure, language conventionality and clarity, and knowledge demands

Quantitative evaluation of the text: Readability measures and other scores of text complexity

Matching reader to text and task: Reader knowledge, motivation, and interests as well as the complexity generated by the tasks assigned and the questions posed

Standard 10: Range, Quality, and Complexity of Student Reading K–5

Measuring Text Complexity: Three Factors

Range of Text Types for K–5

Students in K–5 apply the Reading standards to the following range of text types, with texts selected from a broad range of cultures and periods.

Staying on Topic Within a Grade and Across Grades:

How to Build Knowledge Systematically in English Language Arts K–5

Standards for English Language Arts

6–12

Building knowledge systematically in English language arts is like giving children various pieces of a puzzle in each grade that, over time, will form one big picture. At a curricular or instructional level, texts—within and across grade levels—need to be selected around topics or themes that systematically develop the knowledge base of students. Within a grade level, there should be an adequate number of titles on a single topic that would allow children to study that topic for a sustained period. The knowledge children have learned about particular topics in early grade levels should then be expanded and developed in subsequent grade levels to ensure an increasingly deeper understanding of these topics. Children in the upper elementary grades will generally be expected to read these texts independently and reflect on them in writing. However, children in the early grades (particularly K–2) should participate in rich, structured conversations with an adult in response to the written texts that are read aloud, *orally* comparing and contrasting as well as analyzing and synthesizing, in the manner called for by the *Standards*.

Preparation for reading complex informational texts should begin at the very earliest elementary school grades. What follows is one example that uses domain-specific nonfiction titles across grade levels to illustrate how curriculum designers and classroom teachers can infuse the English language arts block with rich, age-appropriate content knowledge and vocabulary in history/social studies, science, and the arts. Having students listen to informational read-alouds in the early grades helps lay the necessary foundation for students' reading and understanding of increasingly complex texts on their own in subsequent grades.

Colorado Race to the Top Phase 2 Appendix

College and Career Readiness Anchor Standards for Reading

Note on range and content of student reading

To become college and career ready, students must grapple with works of exceptional craft and thought whose range extends across genres, cultures, and centuries. Such works offer profound insights into the human condition and serve as models for students' own thinking and writing. Along with high-quality contemporary works, these texts should be chosen from among seminal U.S. documents, the classics of American literature, and the timeless dramas of Shakespeare. Through wide and deep reading of literature and literary nonfiction of steadily increasing sophistication, students gain a reservoir of literary and cultural knowledge, references, and images; the ability to evaluate intricate arguments; and the capacity to surmount the challenges posed by complex texts.

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

Craft and Structure

4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented graphically, visually, orally, and multimodally as well as in words within and across print and digital sources. *

8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.

9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently.

*Please see ―Research to Build Knowledge‖ in Writing and ―Comprehension and Collaboration‖ in Speaking and Listening for additional standards relevant to gathering, assessing, and applying information from print and digital sources.

Reading Standards for Literature 6–12 [RL]

The following standards offer a focus for instruction each year and help ensure that students gain adequate exposure to a range of texts and tasks. Rigor is also infused through the requirement that students read increasingly complex texts through the grades. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.

Grade 6 students:	Grade 7 students:	Grade 8 students:
Key Ideas and Details		
1. Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	**1.** Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	**1.** Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.
2. Determine a theme or central idea of a text and analyze its development over the course of the text; summarize the text.	**2.** Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; summarize the text.	**2.** Determine a theme or central idea of a text and analyze its development over the course of the text, including how it is conveyed through particular details; provide an accurate summary of the text distinct from personal opinions or judgments.
3. Describe how a particular story's or drama's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution.	**3.** Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot).	**3.** Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.

Reading Standards for Literature 6–12 [RL]

Grade 6 students:

Integration of Knowledge and Ideas

9. Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories) in terms of their approaches to similar themes and topics.

Grade 7 students:

9. Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history.

Grade 8 students:

9. Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new.

Reading Standards for Literature 6–12 [RL]

Grades 9–10 students:

Key Ideas and Details

1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

2. Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.

3. Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.

Craft and Structure

Grades 11–12 students:

1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.

2. Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.

3. Evaluate various explanations for characters' actions or for events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.

Reading Standards for Informational Text 6–12 [RI]

Grade 6 students:	Grade 7 students:	Grade 8 students:
Key Ideas and Details		
1. Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	**1.** Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	**1.** Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.
2. Determine a central idea of a text and analyze its development over the course of the text; summarize the text.	**2.** Determine two or more central ideas in a text and analyze their development over the course of the text and their relationship to one another; summarize the text.	**2.** Determine a central idea of a text and analyze its development over the course of the text, including how it is conveyed through particular details; provide an accurate summary of the text distinct from personal opinions or judgments.
3. Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text (e.g., through examples or anecdotes).	**3.** Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).	**3.** Analyze how a text makes connections among and distinctions between key individuals, ideas, or events (e.g., through comparisons, analogies, or categories).

Craft and Structure

Reading Standards for Informational Text 6–12 [RI]

Grade 6 students:

Range of Reading and Level of Text Complexity

10. By the end of the year, read and comprehend literary nonfiction in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Grade 7 students:

10. By the end of the year, read and comprehend literary nonfiction in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Grade 8 students:

10. By the end of the year, read and comprehend literary nonfiction in the grades 6–8 text complexity band independently and proficiently.

Reading Standards for Informational Text 6–12 [RI]

Grades 9–10 students:

Key Ideas and Details

1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

2. Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.

3. Analyze how the author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.

Craft and Structure

Grades 11–12 students:

1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.

2. Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.

3. Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.

Colorado Race to the Top Phase 2 Appendix

College and Career Readiness Anchor Standards for Writing

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Note on range and content of student writing

For students, writing is a key means of asserting and defending claims, showing what they know about a subject, and conveying what they have experienced, imagined, thought, and felt. To be college- and career-ready writers, students must take task, purpose, and audience into careful consideration, choosing words, information, structures, and formats deliberately. They need to know how to combine elements of different kinds of writing—for example, to use narrative strategies within argument and explanation within narrative—to produce complex and nuanced writing. They need to be able to use technology strategically when creating, refining, and collaborating on writing. They have to become adept at gathering information, evaluating sources, and citing material accurately, reporting findings from their research and analysis of sources in a clear and cogent manner. They must have the flexibility, concentration, and fluency to produce high-quality first-draft text under a tight deadline as well as the capacity to revisit and make improvements to a piece of writing over multiple drafts when circumstances encourage or require it.

Text Types and Purposes[1]

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.[2]

6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

[1]These broad types of writing include many subgenres. See Appendix A for definitions of key writing types.

[2]See standards 1–3 in Language, pages 53–57, for specific editing expectations.

Writing Standards 6–12 [W]

The following standards for grades 6–12 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Each year in their writing, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas, and they should address increasingly demanding content and sources. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades. The expected growth in student writing ability is reflected both in the standards themselves and in the collection of annotated student writing samples in Appendix C.

Grade 6 students:

Text Types and Purposes

1. Write arguments to support claims with clear reasons and relevant evidence.

a. Introduce claim(s) and organize the reasons and evidence clearly.

b. Support claim(s) with clear reasons and relevant evidence, demonstrating an understanding of the topic or text.

c. Use words, phrases, and clauses to clarify the relationships among claim(s) and reasons.

d. Establish and maintain a formal style.

e. Provide a concluding statement or section that follows from the argument presented.

2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.

Grade 7 students:

1. Write arguments to support claims with clear reasons and relevant evidence.

a. Introduce claim(s), acknowledge alternate or opposing claims, and organize the reasons and evidence logically.

b. Support claim(s) with logical reasoning and relevant evidence, demonstrating an understanding of the topic or text.

c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence.

d. Establish and maintain a formal style.

e. Provide a concluding statement or section that follows from and supports the argument presented.

2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.

Grade 8 students:

1. Write arguments to support claims with clear reasons and relevant evidence.

a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.

b. Support claim(s) with logical reasoning and relevant evidence, using credible sources and demonstrating an understanding of the topic or text.

c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.

d. Establish and maintain a formal style.

e. Provide a concluding statement or section that follows from and supports the argument presented.

2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.

Writing Standards 6–12 [W]

Grade 6 students:

Text Types and Purposes (continued)

3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

a. Engage and orient the reader by establishing a context and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically.

b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters.

c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another.

d. Use precise words and phrases, relevant descriptive details, and sensory language to convey experiences and events.

e. Provide a conclusion that follows from the narrated experiences or events.

Grade 7 students:

3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically.

b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters.

c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another.

d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.

e. Provide a conclusion that follows from and reflects on the narrated experiences or events.

Grade 8 students:

3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically.

b. Use narrative techniques, such as dialogue, pacing, description, and reflection, to develop experiences, events, and/or characters.

c. Use a variety of transition words, phrases, and clauses to convey sequence, signal shifts from one time frame or setting to another, and show the relationships among experiences and events.

d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.

e. Provide a conclusion that follows from and reflects on the narrated experiences or events.

Production and Distribution of Writing

Writing Standards 6–12 [W]

Grade 6 students:

Research to Build and Present Knowledge

7. Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.

8. Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.

9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

a. Apply *grade 6 Reading standards* to literature (e.g., ―Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories) in terms of their approaches to similar themes and topics.‖).

b. Apply *grade 6 Reading standards* to literary nonfiction (e.g., ―Delineate and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not‖).

Grade 7 students:

7. Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.

8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

a. Apply *grade 7 Reading standards* to literature (e.g., ―Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history‖).

b. Apply *grade 7 Reading standards* to literary nonfiction (e.g., ―Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is sufficient to support the claims‖).

Grade 8 students:

7. Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

a. Apply *grade 8 Reading standards* to literature (e.g., ―Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new‖).

b. Apply *grade 8 Reading standards* to literary nonfiction (e.g., ―Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient and identifying when irrelevant evidence is introduced‖).

Writing Standards 6–12 [W]

Grades 9–10 students:

Text Types and Purposes

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence.

b. Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns.

c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.

d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

e. Provide a concluding statement or section that follows from and supports the argument presented.

2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

a. Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables),

Grades 11–12 students:

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence.

b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.

c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.

d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

e. Provide a concluding statement or section that follows from and supports the argument presented.

2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

a. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings),

Writing Standards 6–12 [W]

Grades 9–10 students:

Text Types and Purposes (continued)

3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

a. Engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.

b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.

c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole.

d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.

e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

Grades 11–12 students:

3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

a. Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.

b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.

c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole and build toward a particular tone and outcome (e.g., a sense of mystery, suspense, growth, or resolution).

d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.

e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

Writing Standards 6–12 [W]

Grades 9–10 students:

Research to Build and Present Knowledge (continued)

9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

a. Apply *grades 9–10 Reading standards* to literature (e.g., ―Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, drawing on how two or more texts from the same period treat similar themes or topics‖).

b. Apply *grades 9–10 Reading standards* to literary nonfiction (e.g., ―Delineate and evaluate the argument and claims in a text, assessing the relevance and sufficiency of the evidence and the validity of the reasoning and identifying false statements and fallacious reasoning‖).

Grades 11–12 students:

9. Draw evidence form literary or informational texts to support analysis, reflection, and research.

a. Apply *grades 11–12 Reading standards* to literature (e.g., ―Analyze how an author draws on and transforms source material in a specific work (e.g., how Shakespeare draws on Ovid or the Bible or how a later author draws on a play by Shakespeare) in order to evaluate how the texts treat similar themes or topics‖).

b. Apply *grades 11–12 Reading standards* to literary nonfiction (e.g., ―Delineate and evaluate the argument and claims in a text, assessing the relevance and sufficiency of the evidence and the validity of the reasoning, identifying and evaluating stated and unstated premises and assumptions‖).

Colorado Race to the Top Phase 2 Appendix

College and Career Readiness Anchor Standards for Speaking and Listening

Note on range and content of student speaking and listening

To become college and career ready, students must have ample opportunities to take part in a variety of rich, structured conversations—as part of a whole class, in small groups, and with a partner—built around important content in various domains. They must be able to contribute appropriately to these conversations, to make comparisons and contrasts, and to analyze and synthesize a multitude of ideas in accordance with the standards of evidence appropriate to a particular discipline. Whatever their intended major or profession, high school graduates will depend heavily on their ability to listen attentively to others so that they are able to build on others' meritorious ideas while expressing their own clearly and persuasively.

New technologies have broadened and expanded the role that speaking and listening play in acquiring and sharing knowledge and have tightened their link to other forms of communication. The Internet has accelerated the speed at which connections between speaking, listening, reading, and writing can be made, requiring that students be ready to use these modalities nearly simultaneously. Technology itself is changing quickly, creating a new urgency for students to be adaptable in response to change.

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Comprehension and Collaboration

1. Prepare for and participate effectively in a range of conversations and collaborations, building on others' ideas and expressing their own clearly and persuasively.

2. Integrate and evaluate content from multiple graphical, visual, oral, or multimodal sources.

3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas

4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

Speaking and Listening Standards 6–12 [SL]

The following standards for grades 6–12 offer a focus for instruction in each year to help ensure that students gain adequate mastery of a range of skills and applications. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.

Grade 6 students:

Comprehension and Collaboration

1. Engage effectively in a range of collaborative discussions (one-on-one and in groups) on *grade 6 topics, texts, and issues*, building on others' ideas and expressing their own clearly.

a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.

b. With guidance and support from adults, work with peers to set rules for collegial discussions, clear goals and deadlines, and individual roles as needed.

c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion.

d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.

Grade 7 students:

1. Engage effectively in a range of collaborative discussions (one-on-one and in groups) on *grade 7 topics, texts, and issues*, building on others' ideas and expressing their own clearly.

a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.

b. Work with peers to set rules for collegial discussions, clear goals and deadlines, and individual roles as needed.

c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed.

d. Acknowledge new information expressed by others and, when warranted, modify their own views and understanding.

Grade 8 students:

1. Engage effectively in a range of collaborative discussions (one-on-one and in groups) on *grade 8 topics, texts, and issues*, building on others' ideas and expressing their own clearly.

a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.

b. Work with peers to set rules for collegial discussions, clear goals and deadlines, and individual roles as needed.

c. Pose questions that connect the ideas of several speakers and elicit elaboration, and respond to others' questions and comments with relevant evidence, observations, and ideas.

d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views and understanding in light of the evidence presented.

Speaking and Listening Standards 6–12 [SL]

Grades 9–10 students:

Comprehension and Collaboration

1. Initiate and participate effectively in a range of collaborative discussions (one-on-one and in groups) on *grades 9–10 topics, texts, and issues*, building on others' ideas and expressing their own clearly and persuasively.

a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.

b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.

c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

2. Synthesize information from multiple graphical, visual, or multimodal sources with other information presented orally, noting any discrepancies among the data.

Grades 11–12 students:

1. Initiate and participate effectively in a range of collaborative discussions (one-on-one and in groups) on *grades 11–12 topics, texts, and issues*, building on others' ideas and expressing their own clearly and persuasively.

a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.

b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed.

c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.

d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.

2. Integrate information from multiple graphical, oral, visual, or multimodal sources in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and resolving conflicting information when possible.

Colorado Race to the Top Phase 2 Appendix

College and Career Readiness Anchor Standards for Language

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Note on range and content of student language use

To be college and career ready in language, students must have firm control over the conventions of grammar, usage, and mechanics. At the same time, they must come to appreciate that language is as at least as much a matter of craft as of rules and be able to use words, syntax, and punctuation to achieve particular rhetorical effects. They must also have extensive vocabularies, built through reading and study, enabling them to comprehend complex texts and engage in purposeful writing about and conversations around content. They need to become skilled in determining or clarifying the meaning of words and phrases they encounter, choosing flexibly from an array of strategies to aid them. They must learn to see an individual word as part of a network of other words—words, for example, that have similar denotations but different connotations. The inclusion of Language standards in their own strand should not be taken as an indication that skills related to conventions, effective language use, and vocabulary are unimportant to reading, writing, speaking, and listening; indeed, they are inseparable from such contexts.

Conventions

1. Demonstrate command of the conventions of standard English grammar and usage.

2. Demonstrate command of the conventions of capitalization, punctuation, and spelling.

Effective Language Use

3. Use language to enhance meaning, convey style, and achieve particular effects when writing and speaking.

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.

5. Demonstrate understanding of word relationships and nuances in word meanings.

6. Acquire and use accurately a range of general academic and domain-specific vocabulary sufficient for reading, writing, speaking, and listening at the college and career readiness level.

Language Standards 6–12 [L]

The following standards for grades 6–12 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades. Beginning in grade 3, skills and understandings that are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking are marked with an asterisk (*). See the table on page 57 for a complete listing and Appendix A for an example of how these skills develop in sophistication.

Grade 6 students:

Conventions

1. Observe conventions of grammar and usage when writing or speaking.

a. Ensure that pronouns are in the proper case (subjective, objective, possessive).

b. Use intensive pronouns (e.g., *myself*, *ourselves*).

c. Recognize and correct inappropriate shifts in pronoun number and person.*

d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).*

e. Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.*

Grade 7 students:

1. Observe conventions of grammar and usage when writing or speaking.

a. Explain the function of phrases and clauses in general and their function in specific sentences.

b. Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas.

c. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.*

Grade 8 students:

1. Observe conventions of grammar and usage when writing or speaking.

a. Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences.

b. Form and use verbs in the active and passive voice.

c. Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood.

d. Recognize and correct inappropriate shifts in verb voice and mood.*

Language Standards 6–12 [L]

Grade 6 students:

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 6 reading and content*, choosing flexibly from a range of strategies.

a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.

b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *audience*, *auditory*, *audible*).

c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.

d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

Grade 7 students:

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 7 reading and content*, choosing flexibly from a range of strategies.

a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.

b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *belligerent*, *bellicose*, *rebel*).

c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.

d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

Grade 8 students:

4. Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on *grade 8 reading and content*, choosing flexibly from a range of strategies.

a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.

b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *precede*, *recede*, *secede*).

c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.

d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

Language Standards 6–12 [L]

Grades 9–10 students:

Conventions

1. Observe conventions of grammar and usage when writing or speaking.

a. Use parallel structure.*

b. 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 or presentations.

2. Observe conventions of capitalization, punctuation, and spelling when writing.

a. Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses.

b. Use a colon to introduce a list or quotation.

c. Spell correctly.

Grades 11–12 students:

1. Observe conventions of grammar and usage when writing or speaking.

a. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested.

b. Resolve issues of complex or contested usage, consulting references (e.g., *Merriam-Webster's Dictionary of English Usage*, *Garner's Modern American English*) as needed.

2. Observe conventions of capitalization, punctuation, and spelling when writing.

a. Observe hyphenation conventions.

b. Spell correctly.

Effective Language Use

Language Progressive Skills, by Grade

The following skills, marked with an asterisk (*) in Language standards 1–3, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.

Skill	3	4	5	6	7
Ensure subject-verb and pronoun-antecedent agreement.					
Choose words and phrases for effect.					
Produce complete sentences, recognizing and correcting rhetorically poor fragments					

Qualitative evaluation of the text: Levels of meaning, structure, language conventionality and clarity, and knowledge demands

Quantitative evaluation of the text: Readability measures and other scores of text complexity

Matching reader to text and task: Reader knowledge, motivation, and interests as well as the complexity generated by the tasks assigned and the questions posed

Standard 10: Range, Quality, and Complexity of Student Reading 6–12

Measuring Text Complexity: Three Factors

Range of Text Types for 6–12

Students in grades 6–12 apply the Reading standards to the following range of text types, with texts selected from a broad range of cultures and periods.

Stories

Includes the subgenres of adventure stories, historical fiction, mysteries, myths, science

Drama

Includes one-act and multiact plays, both in written form and on film

Poetry

Includes the subgenres of narrative poems, lyrical poems, free verse poems, sonnets, odes,

Literary Nonfiction

Includes the subgenres of exposition, argument, and functional text in the form of personal

- *Little Women* by Louisa May Alcott (1869)
- *The Adventures of Tom Sawyer* by Mark Twain (1876)
- ―The Road Not Taken‖ by Robert Frost (1915)
- *The Dark Is Rising* by Susan Cooper (1973)
- *Dragonwings* by Laurence Yep (1975)
- *Roll of Thunder, Hear My Cry* by Mildred Taylor (1976)
- ♓♋♏♦♦♏♐ □■ ♒♒□○♋• ☺♏♐♐♏♐•□■▯ ♌♎ ☺□♒■ ♑♎♋○• ☎🗁🗎🗎⌛☽
- *Narrative of the Life of Frederick Douglass, an American Slave* by Frederick Douglass (1845)
- *Harriet Tubman: Conductor on the Underground Railroad* by Ann Petry (1955)
- *Travels with Charley: In Search of America* by John Steinbeck (1962)
- *The Great Fire* by Jim Murphy (1995)
- *This Land Was Made for You and Me: The Life and Songs of Woody Guthrie* by Elizabeth Partridge (2002)

Texts Illustrating the Complexity, Quality, and Range of Student Reading 6–12

Note: Given space limitations, the illustrative texts listed above are meant only to show individual titles that are representative of a range of topics and genres. (See Appendix B for excerpts of these and other texts illustrative of grades 6–12 text complexity, quality, and range.) At a curricular or instructional level, within and across grade levels, texts need to be selected around topics or themes that generate knowledge and allow students to study those topics or themes in depth.

Standards for Literacy in History/Social Studies, Science, and Technical Subjects

6–12

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College and Career Readiness Anchor Standards for Reading

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Note on range and content of student reading

Reading is critical to building knowledge in history/social studies as well as in science and technical subjects. College- and career-ready reading in these fields requires an appreciation of the norms and conventions of each discipline, such as the kinds of evidence used in history and science; an understanding of domain-specific words and phrases; an attention to precise details; and the capacity to evaluate intricate arguments, synthesize complex information, and follow detailed descriptions of events and concepts. In history/social studies, for example, students need to be able to analyze, evaluate, and differentiate primary and secondary sources. When reading scientific and technical texts, students need to be able to gain knowledge from challenging texts that often make extensive use of elaborate diagrams and data to convey information and illustrate concepts. Students must be able to read complex informational texts in these fields with *independence and confidence because the vast majority of reading in college and workforce training programs will be sophisticated nonfiction. It is important to note that these Reading standards are meant to complement the specific content demands of the disciplines, not replace them.*

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

3. Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

Craft and Structure

4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented graphically, visually, orally, and multimodally as well as in words within and across print and digital sources.*

8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.

9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range Reading and Level of Text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently.

*Please see ―Research to Build and Present Knowledge‖ in Writing for additional standards relevant to gathering, assessing, and applying information from print and digital sources.

Reading Standards for Literacy in History/Social Studies 6–12 [RH]

The standards below begin at grade 6; standards for K–5 reading in history/social studies, science, and technical subjects are integrated into the K–5 Reading standards.

Grades 6–8 students:

Key Ideas and Details

1. Cite specific textual evidence to support analysis of primary and secondary sources.

2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

3. Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).

Craft and Structure

4. Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

5. Describe how a text presents information (e.g., sequentially, comparatively, causally).

6. Identify aspects of a text that reveal an author's point of view

Grades 9–10 students:

1. Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.

2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.

3. Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.

4. Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.

5. Analyze how a text uses structure to emphasize key points or advance a point of view.

6. Compare the point of view of two or more authors by

Grades 11–12 students:

1. Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.

2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.

3. Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.

4. Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).

5. Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.

science/technical texts in the grades 6–8 text complexity band independently and proficiently.

science/technical texts in the grades 9–10 text complexity band independently and proficiently.

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science/technical texts in the grades 11–12 text complexity band independently and proficiently.

Reading Standards for Literacy in Science and Technical Subjects 6–12

[RST]

Grades 6–8 students:

Key Ideas and Details

1. Cite specific textual evidence to support analysis of science and technical texts.

2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

Craft and Structure

4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 6–8 texts and topics*.

Grades 9–10 students:

1. Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

2. Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.

3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.

4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 9–10 texts and topics*.

Grades 11–12 students:

1. Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

2. Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 11–12 texts and topics*.

Colorado Race to the Top Phase 2 Appendix

College and Career Readiness Anchor Standards for Writing

Colorado Race to the Top Phase 2 Appendix

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Note on range and content of student writing

For students, writing is a key means of asserting and defending claims, showing what they know about a subject, and conveying what they have experienced, imagined, thought, and felt. To be college- and career-ready writers, students must take task, purpose, and audience into careful consideration, choosing words, information, structures, and formats deliberately. They need to be able to use technology strategically when creating, refining, and collaborating on writing. They have to become adept at gathering information, evaluating sources, and citing material accurately, reporting findings from their research and analysis of sources in a clear and cogent manner. They must have the flexibility, concentration, and fluency to produce high-quality first-draft text under a tight deadline and the capacity to revisit and make improvements to a piece of writing over multiple drafts when circumstances encourage or require it. To meet these goals, students must devote significant time and effort to writing, producing numerous pieces over short and long time frames throughout the year.

Text Types and Purposes[1]

1. Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.

2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details and well-structured event sequences.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.[2]

6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

[1]These broad types of writing include many subgenres. See Appendix A for definitions of key writing types.

Colorado Race to the Top Phase 2 Appendix

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6–12 [WHST]

The standards below begin at grade 6; standards for K–5 writing in history/social studies, science, and technical subjects are integrated into the K–5 Writing standards.

Grades 6–8 students:

Text Types and Purposes

2. Write arguments focused on *discipline-specific content*.

a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.

b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.

f. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.

g. Establish and maintain a formal style.

c. Provide a concluding statement or section that follows from and supports the argument presented.

Grades 9–10 students:

1. Write arguments focused on *discipline-specific content*.

f. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.

g. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.

h. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.

i. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

j. Provide a concluding statement or section that follows from or supports the argument presented.

Grades 11–12 students:

1. Write arguments focused on *discipline-specific content*.

f. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.

g. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.

h. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.

i. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6–12 [WHST]

Grades 6–8 students:

Text Types and Purposes (continued)

4. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

g. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.

h. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.

i. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.

j. Use precise language and domain-specific vocabulary to inform about or explain the topic.

k. Establish and maintain a formal style and objective tone.

l. Provide a concluding statement or section that follows from and supports the information or explanation presented.

Grades 9–10 students:

3. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

g. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.

h. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

i. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.

j. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers.

k. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

l. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g.,

Grades 11–12 students:

3. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.

b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.

d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.

e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6–12 [WHST]

Grades 6–8 students:

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

6. Use technology, including the Internet, to produce and publish a minimum of five pages of writing as well as to interact and collaborate with others.

Research to Build and Present Knowledge

7. Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

10. Draw evidence from informational texts to support analysis reflection, and research.

Grades 9–10 students:

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

7. Conduct short as well as more sustained research projects to answer a question (including a self-generate question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

9. Draw evidence from informational texts to support analysis, reflection, and research.

Grades 11–12 students:

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

9. Draw evidence from informational texts to support analysis,

Colorado Race to the Top Phase 2 Appendix

COMMON CORE STATE STANDARDS

MATHEMATICS

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Introduction
Toward greater focus and coherence

Mathematics experiences in early childhood settings should concentrate on (1) number (which includes whole number, operations, and relations) and (2) geometry, spatial relations, and measurement, with more mathematics learning time devoted to number than to other topics. [M]athematical process goals should be integrated in these content areas.

National Research Council, 2009

The composite standards [of Hong Kong, Korea and Singapore] have a number of features that can inform an international benchmarking process for the development of K–6 mathematics standards in the U.S. First, the composite standards concentrate the early learning of mathematics on the number, measurement, and geometry strands with less emphasis on data analysis and little exposure to algebra. The Hong Kong standards for grades 1–3 devote approximately half the targeted time to numbers and almost all the time remaining to geometry and measurement.

Ginsburg, Leinwand and Decker, 2009

Because the mathematics concepts in [U.S.] textbooks are often weak, the presentation becomes more mechanical than is ideal. We looked at both traditional and non-traditional textbooks used in the US and found this conceptual weakness in both.

Ginsburg et al., 2005

There are many ways to organize curricula. The challenge, now rarely met, is to avoid those that distort mathematics and turn off students.

Steen, 2007

For over a decade, research studies of mathematics education in high-performing countries have pointed to the conclusion that the mathematics curriculum in the United States must become substantially more focused and coherent in order to improve mathematics achievement in this country. To deliver on the promise of common standards, the standards must address the problem of a curriculum that is 'a mile wide and an inch deep.' These Standards are a substantial answer to that challenge.

It is important to recognize that "fewer standards" are no substitute for *focused* standards. Achieving "fewer standards" would be easy to do by resorting to broad, general statements. Instead, these Standards aim for clarity and specificity.

Assessing the coherence of a set of standards is more difficult than assessing their focus. William Schmidt and Richard Houang (2002) have said that content standards and curricula are coherent if they are:

> *articulated over time as a sequence of topics and performances that are logical and reflect, where appropriate, the sequential or hierarchical nature of the disciplinary content from which the subject matter derives. That is, what and how students are taught should reflect not only the topics that fall within a certain academic discipline,* ***but also the key ideas*** *that determine how knowledge is organized and generated within that discipline. This implies that "to be coherent," a set of content standards must evolve from particulars (e.g., the meaning and operations of whole numbers, including simple math facts and routine computational procedures associated with whole numbers and fractions) to deeper structures inherent in the discipline. This deeper structure then serves as a means for connecting the particulars (such as an understanding of the rational number system and its properties).* (emphasis added)

These Standards endeavor to follow such a design, not only by stressing conceptual understanding of key ideas, but also by continually returning to organizing principles such as place value or the laws of arithmetic to structure those ideas.

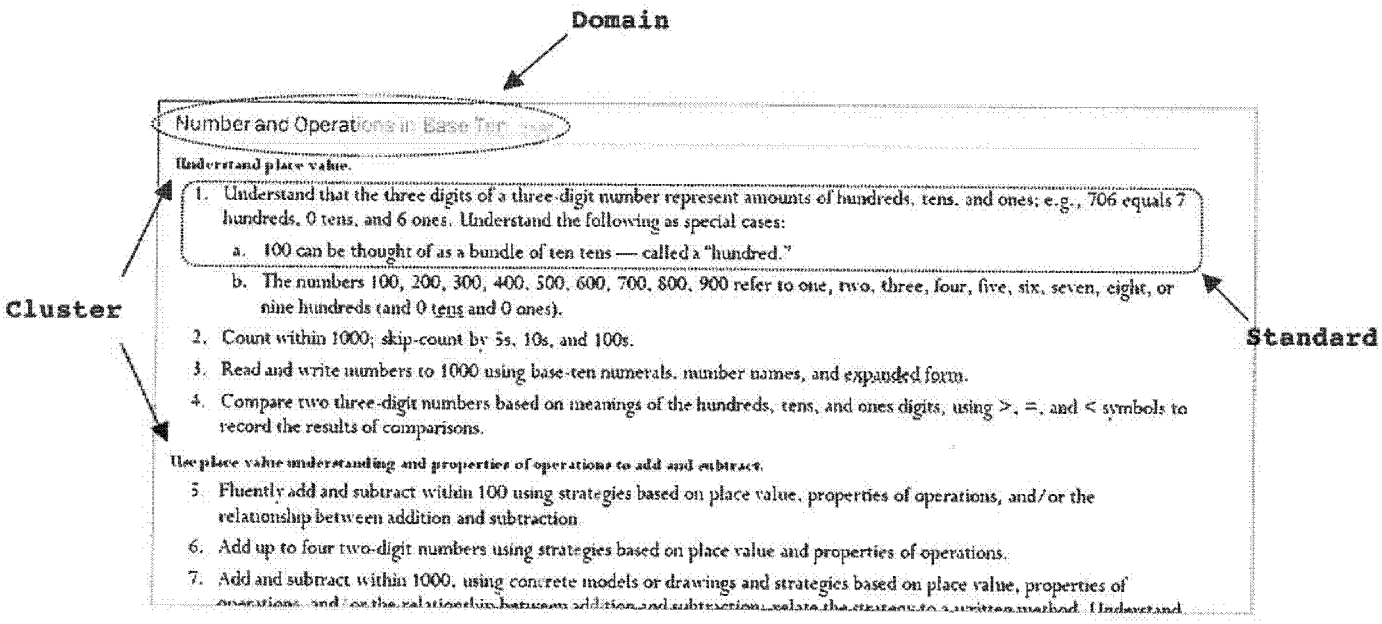
In addition, the 'sequence of topics and performances' that is outlined in a body of mathematics standards must also respect what is known about how students learn. As Confrey (2007) points out, developing "sequenced obstacles and challenges for students...absent the insights about meaning that derive from careful study of learning, would be unfortunate and unwise." In recognition of this, the development of these Standards began with research-based learning progressions detailing what is known today about how students' mathematical knowledge, skill, and understanding develop over time.

Understanding mathematics

These Standards define what students should understand and be able to do in their study of mathematics. Asking a student to understand something means asking a teacher to assess whether the student has understood it. But what does mathematical understanding look like? One hallmark of mathematical understanding is the ability to justify, in a way appropriate to the student's mathematical maturity, *why* a particular mathematical statement is true or where a mathematical rule comes from. There is a world of difference between a student who can summon a mnemonic device to expand a product such as $(a + b)(x + y)$ and a student who can explain where the mnemonic comes from. The student who can explain the rule understands the mathematics, and may have a better chance to succeed at a less familiar task such as expanding $(a + b + c)(x + y)$. Mathematical understanding and procedural skill are equally important, and both are assessable using mathematical tasks of sufficient richness.

The Standards begin on the next page with eight Standards for Mathematical Practice.

How to read the grade level standards



Standards define what students should understand and be able to do. **Clusters** summarize groups of related standards. Note that standards from different clusters may sometimes be closely related, because mathematics is a connected subject. **Domains** are larger groups of related standards. Standards from different domains may sometimes be closely related.

Dotted Underlines: Dotted underlines, for example, associative property, indicate terms that are defined in the Glossary. In each grade, underlining is used for the first occurrence of a defined term, but not in subsequent occurrences.

Mathematics | Standards for Mathematical Practice

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education: the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections; and the strands of mathematical proficiency specified in the National Research Council's report *Adding It Up*: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy).

1 Make sense of 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 analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. Key related processes: Problem solving. Key related proficiencies: Conceptual understanding, strategic competence, productive disposition.

2 Reason abstractly and quantitatively.

Mathematically proficient students make sense of the quantities and their relationships in problem situations. Students bring two complementary abilities to bear on problems involving quantitative relationships: 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 referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. Key related processes: Problem solving, Representation. Key related Key related proficiencies: Strategic competence, productive disposition.

3 Construct viable arguments and critique the reasoning of others.

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 are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They 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. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. Key related processes: Problem solving, Representation. Key related proficiencies: Strategic competence, productive disposition.

4 Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. Key related processes: Representation. Key related proficiencies: Adaptive reasoning.

5 Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, ruler, protractor, calculator, spreadsheet, computer algebra system, statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. Key related processes: Problem solving. Key related proficiencies: Strategic competence.

6 Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. Key related processes: Problem solving, Representation. Key related proficiencies: Procedural fluency.

7 Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. Key related processes: Reasoning and proof. Key related proficiencies: Adaptive reasoning.

8 Look for and express regularity in repeated reasoning.

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x -$

$1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. Key related processes: Problem solving, Reasoning and proof. Key related proficiencies: Adaptive reasoning.

Connecting the Standards for Mathematical Practice to the Standards for Mathematical Content

The Standards for Mathematical Practice describe ways in which developing student-practitioners of the discipline of mathematics increasingly ought to engage with the subject matter as they grow in mathematical maturity and expertise throughout the elementary, middle and high school years. Designers of curriculum, assessment, and professional development should all attend to the need to connect the mathematical practices to mathematical content in mathematics instruction.

The Standards for Mathematical Content are a balanced combination of procedure and understanding. Expectations that begin with the word "understand" are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging in the mathematical practices.

In this respect, those content standards which set an expectation of understanding are potential "points of intersection" between the Standards for Mathematical Content and the Standards for Mathematical Practice. These points of intersection are intended to be weighted toward central and generative concepts in the school mathematics curriculum that most merit the time, resources, innovative energies, and focus necessary to qualitatively improve curriculum, instruction, assessment, professional development, and student achievement in mathematics.

Mathematics | Kindergarten

In Kindergarten, instructional time should focus on two critical areas: (1) representing and comparing whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

(1) Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; comparing sets or numerals; and modeling simple joining and separating situations with sets of objects, or eventually with equations such as $5 + 2 = 7$ and $7 - 2 = 5$. (Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten is encouraged, but it is not required.) Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.

(2) Students describe their physical world using geometric ideas (e.g., shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two-dimensional shapes, such as squares, triangles, circles, rectangles, and hexagons, presented in a variety of ways (e.g., with different sizes and orientations), as well as three-dimensional shapes such as cubes, cones, cylinders, and spheres. They use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes.

Grade Level Overview

Counting and Cardinality	• Know number names and the count sequence. • Count to tell the number of objects. • Compare numbers.
Operations and Algebraic Thinking	• Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.
Number and Operations in Base Ten	• Work with numbers 11-19 to gain foundations for place value.
Measurement and Data	• Describe and compare measurable attributes. • Classify objects and count the number of objects in each category
Geometry	1. Identify and describe shapes. 2. Analyze, compare, create, and compose shapes.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Counting and Cardinality K.CC

Know number names and the count sequence.

1. Count to 100 by ones and by tens.
2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

Count to tell the number of objects.

4. Understand the relationship between numbers and quantities; connect counting to cardinality.
   a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
   b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
   c. Understand that each successive number name refers to a quantity that is one larger.
5. Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle; or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.

Compare numbers.

6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.[1]
7. Compare two numbers between 1 and 10 presented as written numerals.

Operations and Algebraic Thinking K.OA

Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

1. Represent addition and subtraction with objects, fingers, mental images, drawings,[2] sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.
3. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).
4. For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.
5. Fluently add and subtract within 5.

Number and Operations in Base Ten K.NBT

Work with numbers 11-19 to gain foundations for place value.

1. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (such as 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

Measurement and Data K.MD

Describe and compare measurable attributes.

1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
2. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.*

Classify objects and count the number of objects in each category.

3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.[3]

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[1] Include groups with up to ten objects.
[2] Drawings need not show details, but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the Standards.)

Geometry K.G

Identify and describe shapes (such as squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to*.
2. Correctly name shapes regardless of their orientations or overall size.
3. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").

Analyze, compare, create, and compose shapes.

4. Analyze and compare a variety of two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).
5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
6. Compose simple shapes to form larger shapes.

[1] Limit category counts to be less than or equal to 10.

Mathematics | Grade 1

In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

(1) Students develop strategies for adding and subtracting whole numbers based on their prior work with small numbers. They use a variety of models, including discrete objects and length-based models (e.g., cubes connected to form lengths), to model add-to, take-from, put-together, take-apart, and compare situations to develop meaning for the operations of addition and subtraction, and to develop strategies to solve arithmetic problems with these operations. Students understand connections between counting and addition and subtraction (e.g., adding two is the same as counting on two). They use properties of addition to add whole numbers and to create and use increasingly sophisticated strategies based on these properties (e.g., "making tens") to solve addition and subtraction problems within 20. By comparing a variety of solution strategies, children build their understanding of the relationship between addition and subtraction.

(2) Students develop, discuss, and use efficient, accurate, and generalizable methods to add within 100 and subtract multiples of 10. They compare whole numbers (at least to 100) to develop understanding of and solve problems involving their relative sizes. They think of whole numbers between 10 and 100 in terms of tens and ones (especially recognizing the numbers 11 to 19 as composed of a ten and some ones). Through activities that build number sense, they understand the order of the counting numbers and their relative magnitudes.

(3) Students develop an understanding of the meaning and processes of measurement, including underlying concepts such as iterating (the mental activity of building up the length of an object with equal-sized units) and the transitivity principle for indirect measurement.[4]

(4) Students compose and decompose plane or solid figures (e.g., put two triangles together to make a quadrilateral) and build understanding of part-whole relationships as well as the properties of the original and composite shapes. As they combine shapes, they recognize them from different perspectives and orientations, describe their geometric attributes, and determine how they are alike and different, to develop the background for measurement and for initial understandings of properties such as congruence and symmetry.

Grade Level Overview

Operations and Algebraic Thinking	• Represent and solve problems involving addition and subtraction. • Understand and apply properties of operations and the relationship between addition and subtraction. • Add and subtract within 20. • Work with addition and subtraction equations.
Number and Operations in Base Ten	• Extend the counting sequence. • Understand place value. • Use place value understanding and properties of operations to add and subtract.
Measurement and Data	• Measure lengths indirectly and by iterating length units. • Tell and write time. • Represent and interpret data.
Geometry	• Reason with shapes and their attributes.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

[4] Students should apply the principle of transitivity of measurement to make indirect comparisons, but they need not use this technical term.

Operations and Algebraic Thinking 1.OA

Represent and solve problems involving addition and subtraction.

1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.[5]
2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, *e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.*

Understand and apply properties of operations and the relationship between addition and subtraction.

3. Apply properties of operations as strategies to add and subtract.[6] *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*
4. Understand subtraction as an unknown-addend problem. *For example, subtract 10 − 8 by finding the number that makes 10 when added to 8.*

Add and subtract within 20.

5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 − 4 = 13 − 3 − 1 = 10 − 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 − 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

Work with addition and subtraction equations.

7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. *For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 − 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.*
8. Determine the unknown number in a whole-number addition or subtraction equation. *For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = □ − 3, 6 + 6 = □.*

Number and Operations in Base Ten 1.NBT

Extend the counting sequence.

1. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

Understand place value.

2. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
   a. 10 can be thought of as a bundle of ten ones — called a "ten."
   b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
   c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.

Use place value understanding and properties of operations to add and subtract.

4. Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
6. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

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[5] See Glossary, Table 1.
[6] Students need not use formal terms for these properties.

Measurement and Data 1.MD

Measure lengths indirectly and by iterating length units.

1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.
2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*

Tell and write time.

3. Tell and write time in hours and half-hours using analog and digital clocks.

Represent and interpret data.

4. Organize, represent, and interpret data with up to three 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.

Geometry 1.G

Reason with shapes and their attributes.

1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size) for a wide variety of shapes; build and draw shapes to possess defining attributes.
2. Compose two-dimensional shapes (such as rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (such as cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.[7]
3. Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

[7] Students do not need to learn formal names such as "right rectangular prism."

Mathematics | Grade 2

In Grade 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

(1) Students extend their understanding of the base-ten system. This includes ideas of counting in fives, tens, and multiples of hundreds, tens, and ones, as well as number relationships involving these units, including comparing. Students understand multi-digit numbers (up to 1000) written in base-ten notation, recognizing that the digits in each place represent amounts of thousands, hundreds, tens, or ones (e.g., 853 is 8 hundreds + 5 tens + 3 ones).

(2) Students use their understanding of addition to develop fluency with addition and subtraction within 100. They solve problems by applying their understanding of models for addition and subtraction, and they develop, discuss, and use efficient, accurate, and generalizable methods to compute sums and differences of whole numbers in base-ten notation, using their understanding of place value and the properties of operations. They select and accurately apply methods that are appropriate for the context and the numbers involved to mentally calculate sums and differences for numbers with only tens or only hundreds.

(3) Students recognize the need for standard units of measure (centimeter and inch) and they use rulers and other measurement tools with the understanding that linear measure involves an iteration of units. They recognize that the smaller the unit, the more iterations they need to cover a given length.

(4) Students describe and analyze shapes by examining their sides and angles. Students investigate, describe, and reason about decomposing and combining shapes to make other shapes. Through building, drawing, and analyzing two- and three-dimensional shapes, students develop a foundation for understanding area, volume, congruence, similarity, and symmetry in later grades.

Grade Level Overview

Operations and Algebraic Thinking	• Represent and solve problems involving addition and subtraction. • Add and subtract within 20. • Work with equal groups of objects to gain foundations for multiplication.	1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.	Mathematical Practices
Number and Operations in Base Ten	• Understand place value. • Use place value understanding and properties of operations to add and subtract.		
Measurement and Data	• Measure and estimate lengths in standard units. • Relate addition and subtraction to length. • Work with time and money. • Represent and interpret data.		
Geometry	• Reason with shapes and their attributes.		

Operations and Algebraic Thinking 2.OA

Represent and solve problems involving addition and subtraction.

1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.[8]

Add and subtract within 20.

2. Fluently add and subtract within 20. By end of Grade 2, know from memory all sums of two one-digit numbers.

Work with equal groups of objects to gain foundations for multiplication.

3. Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.
4. Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.

Number and Operations in Base Ten 2.NBT

Understand place value.

1. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:
   a. 100 can be thought of as a bundle of ten tens — called a "hundred."
   b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
2. Count within 1000; skip-count by 5s, 10s, and 100s.
3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
4. Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.

Use place value understanding and properties of operations to add and subtract.

5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
6. Add up to four two-digit numbers using strategies based on place value and properties of operations.
7. Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
8. Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.
9. Explain why addition and subtraction strategies work, using place value and the properties of operations.[9]

Measurement and Data 2.MD

Measure and estimate lengths in standard units.

1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
2. Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
3. Estimate lengths using units of inches, feet, centimeters, and meters.
4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

Relate addition and subtraction to length.

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[8] See Glossary, Table 1.
[9] Explanations may be supported by drawings or objects.

5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
6. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences on a number line diagram.

Work with time and money.

7. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. *Example: If you have 2 dimes and 3 pennies, how many cents do you have?*

Represent and interpret data.

9. Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.
10. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems[10] using information presented in a bar graph.

Geometry 2.G

Reason with shapes and their attributes.

1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.[11] Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
3. Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words *halves*, *thirds*, *half of*, *a third of*, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.

[10] See Glossary, Table 1.
[11] Sizes are compared directly or visually, not compared by measuring.

Mathematics | Grade 3

In Grade 3, instructional time should focus on four critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes.

(1) Students develop an understanding of the meanings of multiplication and division of whole numbers through activities and problems involving equal-sized groups, arrays, and area models; multiplication is finding an unknown product, and division is finding an unknown factor in these situations. For equal-sized group situations, division can require finding the unknown number of groups or the unknown group size. Students use properties of operations to calculate products of whole numbers, using increasingly sophisticated strategies based on these properties to solve multiplication and division problems involving single-digit factors. By comparing a variety of solution strategies, students learn the relationship between multiplication and division.

(2) Students develop an understanding of fractions, beginning with unit fractions. Students view fractions in general as being built out of unit fractions, and they use fractions along with visual fraction models to represent parts of a whole. Students understand that the size of a fractional part is relative to the size of the whole; for example, $1/2$ of the paint in a large bucket could be less paint than $1/3$ of the paint in a smaller bucket; but $1/3$ of a ribbon is longer than $1/5$ of the same ribbon because when the ribbon is divided into 3 equal parts, the parts are longer than when the ribbon is divided into 5 equal parts. Students are able to use fractions to represent numbers equal to, less than, and greater than one. They solve problems that involve comparing fractions by using visual fraction models and strategies based on noticing equal numerators or denominators.

(3) Students recognize area as an attribute of two-dimensional regions. They measure the area of a shape by finding the total number of same-size units of area required to cover the shape without gaps or overlaps, a square with sides of unit length being the standard unit for measuring area. Students understand that rectangular arrays can be decomposed into identical rows or into identical columns. By decomposing rectangles into rectangular arrays of squares, students connect area to multiplication, and justify using multiplication to determine the area of a rectangle.

(4) Students describe, analyze, and compare properties of two-dimensional shapes. They compare and classify shapes by their sides and angles, and connect these with definitions of shapes. Students also relate their fraction work to geometry by expressing the area of part of a shape as a unit fraction of the whole.

Grade Level Overview

Operations and Algebraic Thinking	• Represent and solve problems involving multiplication and division. • Understand properties of multiplication and the relationship between multiplication and division. • Multiply and divide within 100. • Solve problems involving the four operations, and identify and explain patterns in arithmetic.
Number and Operations in Base Ten	• Use place value understanding and properties of operations to perform multi-digit arithmetic.
Number and Operations—Fractions	• Develop understanding of fractions as numbers.
Measurement and Data	• Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects. • Represent and interpret data. • Geometric measurement: understand concepts of area and relate area to multiplication and to addition. • Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.
Geometry	• Reason with shapes and their attributes.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Operations and Algebraic Thinking 3.OA

Represent and solve problems involving multiplication and division.

1. Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, , describe a context in which a total number of objects can be expressed as 5 × 7.*
2. Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*
3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.[12]
4. Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = □ ÷ 3, 6 × 6 = ?.*

Understand properties of multiplication and the relationship between multiplication and division.

5. Apply properties of operations as strategies to multiply and divide.[13] *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by multiplying 3 × 5 = 15 then multiplying 15 × 2 = 30, or by multiplying 5 × 2 = 10 then multiplying 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*
6. Understand division as an unknown-factor problem. *For example, divide 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*

Multiply and divide within 100.

7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By end of Grade 3, know from memory all products of one-digit numbers.

Solve problems involving the four operations, and identify and explain patterns in arithmetic.

8. Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity; assess the reasonableness of answers using mental computation and estimation strategies including rounding.[14]
9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*

Number and Operations in Base Ten 3.NBT

Use place value understanding and properties of operations to perform multi-digit arithmetic.[15]

1. Use place value understanding to round whole numbers to the nearest 10 or 100.
2. Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
3. Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.

Number and Operations—Fractions[16] 3.NF

Develop understanding of fractions as numbers.

1. Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$.
2. Understand a fraction as a number on the number line; represent fractions on a number line diagram.

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[12] See Glossary, Table 2.
[13] Students need not use formal terms for these properties.
[14] This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order.
[15] A range of algorithms may be used.
[16] Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, 8.

a. Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $1/b$ and that the endpoint of the part based at 0 locates the number $1/b$ on the number line.

b. Represent a fraction a/b on a number line diagram by marking off a lengths $1/b$ from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.

3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

   a. Recognize and generate simple equivalent fractions (e.g., $1/2 = 2/4$, $4/6 = 2/3$); explain why the fractions are equivalent, e.g., by using a visual fraction model.

   b. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form $3 = 3/1$; recognize that $6/1 = 6$; locate $4/4$ and 1 at the same point of a number line diagram.*

   c. Compare two fractions with the same numerator or the same denominator, by reasoning about their size; recognize that valid comparisons rely on the two fractions referring to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

Measurement and Data 3.MD

Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

1. Tell and write time to the nearest minute and measure time intervals in minutes; solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.

2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).[17] Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.[18]

Represent and interpret data.

3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 1 pet, 5 pets, or 10 pets.*

4. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.

Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

5. Recognize area as an attribute of plane figures and understand concepts of area measurement.

   a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.

   b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.

6. Measure areas by counting unit squares, using square cm, square m, square in, square ft, and improvised units.

7. Relate area to the operations of multiplication and addition.

   a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.

   b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems; represent whole-number products as rectangular areas in mathematical reasoning.

   c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$; use area models to represent the distributive property in mathematical reasoning.

   d. Recognize area as additive; find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems.

Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

8. Solve real-world and mathematical problems involving perimeters of polygons, such as finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different area or with the same area and different perimeter.

Geometry 3.G

[17] Excludes compound units such as cm^3 and finding the geometric volume of a container.

[18] Excludes multiplicative comparison problems (problems involving notions of "times as much"; see Glossary, Table 2).

Reason with shapes and their attributes.

1. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals); recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
2. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part is $1/4$ of the area of the shape.*

Mathematics | Grade 4

In Grade 4, instructional time should focus on four critical areas: (1) developing understanding and fluency with whole number multiplication, and developing understanding of whole number division; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) continuing to develop understanding of area; and (4) understanding that geometric figures can be analyzed and classified based on their properties such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

(1) Students generalize their understanding of place value to 1,000,000, understanding the relative sizes of numbers in each place. They use understandings of multiplication and division to develop fluency with multiplication and division of whole numbers. They apply their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations, in particular the distributive property, as they develop, discuss, and use efficient, accurate, and generalizable methods to compute products of multi-digit whole numbers. Depending on the numbers and the context, they select and accurately apply appropriate methods to estimate or mentally calculate products. They develop fluency with efficient procedures for multiplying whole numbers; understand and explain why the procedures work based on place value and properties of operations; and use them to solve problems. Students apply their understanding of models for division, place value, properties of operations, and the relationship of division to multiplication as they develop, discuss, and use efficient, accurate, and generalizable procedures to find quotients involving multi-digit dividends. They select and accurately apply appropriate methods to estimate and mentally calculate quotients, and interpret remainders based upon the context.

(2) Students develop understanding of fraction equivalence and operations with fractions. They recognize that two different fractions can be equal (e.g., $15/9 = 5/3$), and they develop methods for generating and recognizing equivalent fractions. Students extend previous understandings about how fractions are built from unit fractions, composing fractions from unit fractions, decomposing fractions into unit fractions, and using the meaning of fractions and the meaning of multiplication to multiply a fraction by a whole number.

(3) Students develop their understanding of area. They understand and apply the area formula for rectangles and also find areas of shapes that can be decomposed into rectangles. They select appropriate units, strategies (e.g., decomposing shapes), and tools for solving problems that involve estimating and measuring area.

(4) Students describe, analyze, compare, and classify two-dimensional shapes. Through building, drawing, and analyzing two-dimensional shapes, students deepen their understanding of properties of two-dimensional objects and the use of them to solve problems involving symmetry.

Grade Level Overview

Operations and Algebraic Thinking	• Use the four operations with whole numbers to solve problems. • Gain familiarity with factors and multiples. • Generate and analyze patterns.
Number and Operations in Base Ten	• Generalize place value understanding for multi-digit whole numbers. • Use place value understanding and properties of operations to perform multi-digit arithmetic.
Number and Operations—Fractions	• Extend understanding of fraction equivalence and ordering. • Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. • Understand decimal notation for fractions, and compare decimal fractions.
Measurement and Data	• Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. • Represent and interpret data. • Geometric measurement: understand concepts of angle and measure angles.
Geometry	• Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Operations and Algebraic Thinking 4.OA

Use the four operations with whole numbers to solve problems.

1. Interpret a multiplication equation as a comparison, e.g., interpret $5 \times 7 = 35$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
2. Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.[19]
3. Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity; assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Gain familiarity with factors and multiples.

4. Find the factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.

Generate and analyze patterns.

5. Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example: Given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*

Number and Operations in Base Ten[20] 4.NBT

Generalize place value understanding for multi-digit whole numbers.

1. Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.*
2. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits, using >, =, and < symbols to record the results of comparisons.
3. Use place value understanding to round multi-digit whole numbers to any place.

Use place value understanding and properties of operations to perform multi-digit arithmetic.[21]

4. Add and subtract multi-digit whole numbers accurately and efficiently using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
6. Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Number and Operations--Fractions[22] 4.NF

Extend understanding of fraction equivalence and ordering.

1. Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size; use this principle to recognize and generate equivalent fractions.
2. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$; recognize that valid comparisons rely on the two fractions referring to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

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[19] See Glossary, Table 2.
[20] Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000.
[21] A range of algorithms may be used.
[22] Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, 100.

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

3. Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.
   a. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation (e.g., $3/8 = 1/8 + 1/8 + 1/8$ and $3/8 = 1/8 + 2/8$). Justify decompositions, e.g., by using a visual fraction model.
   b. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
   c. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.
4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.
   a. Understand a fraction a/b as a multiple of $1/b$. *For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.*
   b. Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.)*
   c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example: If each person at a party will eat $3/8$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*

Understand decimal notation for fractions, and compare decimal fractions.

5. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.[23] *For example, express $3/10$ as $30/100$ and add $3/10 + 4/100 = 34/100$.*
6. Interpret a two-digit decimal as a fraction and use decimal notation for parts of wholes; round decimals to the nearest whole number by reasoning about their size. *For example, rewrite 1.62 as $1\ 62/100$; describe a length as 1.62 meters; locate 1.62 on a number line diagram and round 1.62 to 2.*
7. Compare two decimals to hundredths by reasoning about their size; recognize that valid comparisons rely on the two decimals referring to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.

Measurement and Data 4.MD

Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; ℓ, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of smaller unit. Record measurement equivalents in a two-column table. *For example: Know that 1 ft is 12 times as long as 1 in; express the length of a 4 ft snake as 48 in; generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*
2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
3. Apply the area and perimeter formulas for rectangles in real-world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*

Represent and interpret data.

4. Make a line plot to display a data set of measurements in fractions of a unit ($1/2$, $1/4$, $1/8$). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*

Geometric measurement: understand concepts of angle and measure angles.

5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:

[23] Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.

a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $^1/_{360}$ of a circle is called a "one-degree angle," and can be used to measure angles.

b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.

6. Measure angles in whole-number degrees using a protractor; sketch angles of specified measure.
7. Recognize angle measure as additive; when an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

Geometry 4.G

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines; identify these in two-dimensional figures.
2. Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of specified size. Recognize right triangles as a category, and identify right triangles.
3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts; identify line-symmetric figures and draw lines of symmetry.

Mathematics | Grade 5

In Grade 5, instructional time should focus on four critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) developing fluency with whole number operations; (3) integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths; and (4) developing understanding of volume.

(1) Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. They develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them. Students also use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense. (Note: this is limited to the case of dividing unit fractions by whole numbers and whole numbers by unit fractions.)

(2) Students develop fluency with multi-digit addition, subtraction, and multiplication, and develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations.

(3) Students apply their understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths. They develop fluency in these computations, and make reasonable estimates of their results. Students use the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers (i.e., a finite decimal multiplied by an appropriate power of 10 is a whole number), to understand and explain why the procedures for multiplying and dividing finite decimals make sense. They compute products and quotients of decimals to hundredths efficiently and accurately.

(4) Students recognize volume as an attribute of three-dimensional space. They understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps. They understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. They select appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume. They decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes. They measure necessary attributes of shapes in order to determine volumes to solve real-world and mathematical problems.

Grade Level Overview

Operations and Algebraic Thinking	• Write and interpret numerical expressions. • Analyze patterns and relationships.
Number and Operations in Base Ten	• Understand the place value system. • Perform operations with multi-digit whole numbers and with decimals to hundredths.
Number and Operations—Fractions	• Use equivalent fractions as a strategy to add and subtract fractions. • Apply and extend previous understandings of multiplication and division to multiply and divide fractions.
Measurement and Data	• Convert like measurement units within a given measurement system. • Represent and interpret data. • Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.
Geometry	• Graph points on the coordinate plane to solve real-world and mathematical problems. • Classify two-dimensional figures into categories based on their properties.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Operations and Algebraic Thinking 5.OA

Write and interpret numerical expressions.

1. Interpret grouping symbols in numerical expressions and evaluate expressions with grouping symbols.
2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as $2 \times (8 + 7)$; recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.*

Analyze patterns and relationships.

3. Generate two numerical patterns using two given rules. Graph pairs of corresponding terms on a coordinate plane, and identify apparent relationships between corresponding terms. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*

Number and Operations in Base Ten 5.NBT

Understand the place value system.

1. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1/10$ of what it represents in the place to its left.
2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use positive integer exponents to denote powers of 10.
3. Read, write, and compare decimals to thousandths.
   a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.
   b. Compare two decimals to thousandths based on meanings of the digits, using >, =, and < symbols to record the results of comparisons.
4. Use place value understanding to round decimals to any place.

Perform operations with multi-digit whole numbers and with decimals to hundredths.

5. Fluently add, subtract, and multiply multi-digit whole numbers using the standard algorithm for each operation.
6. Find quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division; express the quotient as a fraction or mixed number. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
7. Add, subtract, multiply, and divide decimals of one or two digits, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Number and Operations—Fractions 5.NF

Use equivalent fractions as a strategy to add and subtract fractions.

1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)*
2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result $2/5 + 1/2 = 3/7$ by observing that $3/7 < 1/2$.*

Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

3. Interpret a fraction as the result of dividing the numerator by the denominator ($a/b = a \div b$); solve word problems involving division of whole numbers leading to fractional answers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret $3/4$ as the result of dividing 3 by 4, noting that $3/4$ multiplied by 4 equals 3 and that when 3 wholes are shared equally among 4 people each person has a share of size $3/4$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*

4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.
   a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. *For example, use a visual fraction model to show* $(2/3) \times 4 = 8/3$, *and create a story context for this equation; do the same with* $(2/3) \times (4/5) = 8/15$. *(In general,* $(a/b) \times (c/d) = ac/bd$.*)*
   b. Find the area of a rectangle with fractional side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths; multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.
5. Interpret multiplication as scaling (resizing), including by:
   a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
   b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.
6. Solve real-world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.[24]
   a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for* $(1/3) \div 4$ *and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that* $(1/3) \div 4 = 1/12$ *because* $(1/12) \times 4 = 1/3$.
   b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for* $4 \div (1/5)$ *and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that* $4 \div (1/5) = 20$ *because* $20 \times (1/5) = 4$.
   c. Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, How much chocolate will each person get if 3 people share* $1/2$ *lb of chocolate equally? How many* $1/3$*-cup servings are in 2 cups of raisins?*

Measurement and Data 5.MD

Convert like measurement units within a given measurement system.

1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step real-world problems.

Represent and interpret data.

2. Make a line plot to display a data set of measurements in fractions of a unit ($1/2$, $1/4$, $1/8$). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*

Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
   a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.
   b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.
4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
5. Relate volume to the operations of multiplication and addition and solve real-world and mathematical problems involving volume.
   a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent three-fold whole-number products as volumes, e.g., to represent the associative property of multiplication.

[24] Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. But division of a fraction by a fraction is not a requirement at this grade.

b. Apply the formulas $V = \ell w h$ and $V = b h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems;

c. Recognize volume as additive; find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real-world problems.

Geometry 5.G

Graph points on the coordinate plane to solve real-world and mathematical problems.

1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).
2. Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

Classify two-dimensional figures into categories based on their properties.

3. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*
4. Classify two-dimensional figures in a hierarchy based on properties.

Mathematics | Grade 6

In Grade 6, instructional time should focus on four critical areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions; (3) developing understanding of and using formulas to determine areas of two-dimensional shapes and distinguishing between volume and surface area of three-dimensional shapes; and (4) writing, interpreting, and using expressions and equations.

(1) Students use reasoning about multiplication and division of quantities to solve ratio and rate problems. By viewing equivalent ratios and rates as deriving from, and extending, pairs of rows (or columns) in the multiplication table, and by analyzing simple drawings that indicate the relative size of quantities, students extend multiplication and division to ratios and rates. Thus students expand the scope of problems for which they can use multiplication and division to solve problems, and they build on their understanding of fractions to understand ratios. Students solve a wide variety of problems involving ratios and rates.

(2) Students use the meaning of fractions, the meanings of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for dividing fractions make sense. Students are able to use these operations to solve problems.

(3) Students reason about relationships among shapes to determine area, surface area, and volume. They find areas of right triangles, other triangles, and special quadrilaterals by decomposing these shapes, rearranging or removing pieces, and relating the shapes to rectangles. Using these methods, students discuss, develop, and justify formulas for areas of triangles and parallelograms. Students find areas of polygons and surface areas of prisms and pyramids by decomposition into pieces whose area they can determine. They reason about right rectangular prisms with rational sides to extend the formula for its volume to rational side lengths. They prepare for work on scale drawings and constructions in Grade 8 by drawing polygons in the coordinate plane.

(4) Students understand the use of variables in mathematical expressions. They write expressions and equations that correspond to given situations, evaluate expressions, and use expressions and formulas to solve problems. Students understand that expressions in different forms can be equivalent, and they use the properties of operations to rewrite expressions in equivalent forms. Students know that the solutions of an equation are the values of the variables that make the equation true. Students use properties of operations and the idea of maintaining the equality of both sides of an equation to solve simple one-step equations. Students construct and analyze tables, such as tables of quantities that are in equivalent ratios, and they use equations (such as $3x = y$) to describe relationships between quantities.

Students in Grade 6 develop their ability to think statistically. Students recognize that a typical data distribution does not have a definite center, and so different ways to measure center yield different values. The median measures center in the sense that it is roughly the middle value. The mean measures center in the sense that it is the value that each data point would take on if the total of the data values were redistributed fairly, and also in the sense that it is a balance point. Students learn to describe and summarize distributions of data, identifying clusters, peaks, gaps, and symmetry, considering the context in which the data was collected.

Grade Level Overview

Ratios and Proportional Relationships	• Understand ratio concepts and use ratio reasoning to solve problems.	1. Make sense of problems and persevere in solving them.	Mathematical Practices
The Number System	• Apply and extend previous understandings of multiplication and division to divide fractions by fractions. • Apply and extend previous understandings of numbers to the system of rational numbers.	2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others.	
Expressions and Equations	• Apply and extend previous understandings of arithmetic to algebraic expressions. • Reason about and solve one-variable equations and inequalities. • Represent and analyze quantitative relationships between dependent and independent variables.	4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision.	
Geometry	• Solve real-world and mathematical problems involving area, surface area, and volume.	7. Look for and make use of structure.	
Statistics and Probability	• Develop understanding of statistical variability. • Summarize and describe distributions.	8. Look for and express regularity in repeated reasoning.	

Ratios and Proportional Relationships 6.RP

Understand ratio concepts and use ratio reasoning to solve problems.

1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."*
2. Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is $3/4$ cup of flour for each cup of sugar." "We paid $75 for 15 paperbacks, which is a rate of $5 per paperback."*[1]
3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.
   a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.
   b. Solve unit rate problems including unit pricing and constant speed. *For example, If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?*
   c. Find a percentage of a quantity as a rate per 100 (e.g., 30% of a quantity means $30/100$ times the quantity); solve problems involving finding the whole given a part and the percentage.
   d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

The Number System 6.NS

Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, create a story context for $(2/3) \div (3/4)$ and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that $(2/3) \div (3/4) = 8/9$ because $3/4$ of $8/9$ is $2/3$. (In general, $(a/b) \div (c/d) = ad/bc$.) How much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $3/4$-cup servings are in $2/3$ of a cup of yogurt? How wide is a rectangular strip of land with length $3/4$ mi and area $1/2$ square mi?*
2. Fluently divide multi-digit numbers using the standard algorithm for each operation.

Apply and extend previous understandings of numbers to the system of rational numbers.

3. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, debits/credits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
4. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate planes familiar from previous grades to represent negative numbers and their distance from 0.
   a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., $-(-3) = 3$, and that 0 is its own opposite.
   b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.
   c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
5. Understand the ordering of rational numbers.
   a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. *For example, interpret $-3 > -7$ as a statement that -3 is located to the right of -7 on a number line oriented from left to right.*
   b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. *For example, write $-3\,°C > -7\,°C$ to express the fact that $-3\,°C$ is warmer than $-7\,°C$.*
6. Understand absolute value and its relationship to the order of rational numbers.

[1] Expectations for unit rates in this grade are limited to non-complex fractions.

a. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. *For example, for an account balance of −30 dollars, write* $|-30| = 30$ *to describe the size of the debt in dollars.*

b. Distinguish comparisons of absolute value from statements of order. *For example, recognize that an account balance less than −30 dollars represents a debt greater than 30 dollars.*

7. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane, including using coordinates and absolute value reasoning to find distances between points with the same first coordinate or the same second coordinate.

Expressions and Equations 6.EE

Apply and extend previous understandings of arithmetic to algebraic expressions.

1. Evaluate numerical expressions involving whole-number exponents.
2. Write, read, and evaluate expressions in which letters stand for numbers.
   a. Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation "Subtract y from 5" as* $5 - y$.
   b. Identify parts of an expression using mathematical language (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. *For example, describe the expression* $2(8 + 7)$ *as a product of two factors; view* $(8 + 7)$ *as both a single entity and a sum of two terms.*
   c. Evaluate expressions by substituting values for their variables, including when using formulas in real-world problems. Perform arithmetic operations (including those involving whole-number exponents) in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *For example, use the formulas* $V = s^3$ *and* $A = 6s^2$ *to find the volume and surface area of a cube with sides of length* $s = 1/2$.
3. Apply the properties of operations as strategies to generate equivalent expressions. *For example, apply the distributive property to the expression* $3(2 + x)$ *to produce the equivalent expression* $6 + 3x$; *apply properties of operations to* $y + y + y$ *to produce the equivalent expression* $3y$.
4. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). *For example, the expressions* $y + y + y$ *and* $3y$ *are equivalent because they name the same number regardless of which number y stands for.*

Reason about and solve one-variable equations and inequalities.

5. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
6. Use variables to stand for numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can be used in cases where a number is unknown, or where, for the purpose at hand, it can be any number in a specified set.
7. Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers.
8. Write a statement of inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities graphically on a number line diagram.

Represent and analyze quantitative relationships between dependent and independent variables.

9. Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation* $d = 65t$ *to represent the relationship between distance and time.*

Geometry 6.G

Solve real-world and mathematical problems involving area, surface area, and volume.

1. Find area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
2. Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the

prism. Apply the formulas $V = \ell w h$ and $V = b h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.

3. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.
4. Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

Statistics and Probability 6.SP

Develop understanding of statistical variability.

1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. *For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*
2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its overall shape, center and spread.
3. Recognize that a measure of center for a numerical data set summarizes all of its values using a single number, while a measure of variation describes how its values vary using a single number.

Summarize and describe distributions.

4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
5. Summarize numerical data sets in relation to their context, such as by:
   a. Reporting the number of observations.
   b. Describing the nature of the attribute of investigation, including how it was measured and its units of measurement.
   c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data was gathered.
   d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data was gathered.

Mathematics | Grade 7

In Grade 7, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and solving linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

(1) Students extend their understanding of ratios and develop understanding of proportionality to solve single- and multi-step problems. Students use their understanding of ratios and proportionality to solve a wide variety of percent problems, including those involving discounts, interest, taxes, tips, and percent increase or decrease. Students solve problems about scale drawings by relating corresponding lengths between the objects or by using the fact that relationships of lengths within an object are preserved in similar objects. Students graph proportional relationships and understand the unit rate informally as a measure of the steepness of the related line, called the slope. They distinguish proportional relationships from other relationships.

(2) Students develop a unified understanding of number, recognizing fractions, decimals, and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division and their properties to all rational numbers, including integers and numbers represented by complex fractions and negative fractions. By applying the properties of operations, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain why the rules for adding, subtracting, multiplying, and dividing with negative numbers make sense. They use the arithmetic of rational numbers as they formulate and solve linear equations in one variable and use these equations to solve problems.

(3) Students continue their work with area from Grade 6, solving problems involving the area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity in Grade 8 they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by taking slices. They solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects made up from triangles, quadrilaterals, polygons, cubes and right prisms.

(4) Students build on their previous work with single data distributions to compare two data distributions and address questions about differences between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences.

Grade Level Overview

Ratios and Proportional Relationships	• Analyze proportional relationships and use them to solve real-world and mathematical problems.
The Number System	• Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.
Expressions and Equations	• Use properties of operations to generate equivalent expressions. • Solve real-life and mathematical problems using numerical and algebraic expressions and equations.
Geometry	• Draw, construct and describe geometrical figures and describe the relationships between them. • Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.
Statistics and Probability	• Use random sampling to draw inferences about a population • Draw informal comparative inferences about two populations. • Investigate chance processes and develop, use, and evaluate probability models.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Ratios and Proportional Relationships 7.RP

Analyze proportional relationships and use them to solve real-world and mathematical problems.

1. Compute unit rates associated with ratios of nonnegative rational numbers, including ratios of lengths, areas and other quantities measured in like or different units. *For example, If a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\frac{1}{2} / \frac{1}{4}$ miles per hour, equivalently 2 miles per hour.*
2. Recognize and represent proportional relationships between covarying quantities.
   a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
   b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
   c. Represent proportional relationships by equations. *For example, total cost, t, is proportional to the number, n, purchased at a constant price, p; this relationship can be expressed as $t = pn$.*
   d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.
3. Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*

The Number System 7.NS

Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

1. Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.
   a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.*
   b. Understand $p + q$ as the number located a distance $|q|$ from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.
   c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
   d. Apply properties of operations as strategies to add and subtract rational numbers.
2. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
   a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.
   b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p/q is a rational number, then $-(p/q) = (-p)/q = p/(-q)$. Interpret products of rational numbers by describing real-world contexts.
   c. Apply properties of operations as strategies to multiply and divide rational numbers.
   d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.
3. Solve real-world and mathematical problems involving the four operations with rational numbers.[2]

Expressions and Equations 7.EE

Use properties of operations to generate equivalent expressions.

1. Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example,* $3^3 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.

[2] Computations with rational numbers extend the rules for manipulating fractions to complex fractions.

2. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
3. Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *For example, $a + 0.05a = 1.05a$ means that "increase by 5%" is the same as "multiply by 1.05."*

Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

4. Use numbers expressed in the form of a single digit times a whole-number power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9, and determine that the world population is more than 20 times larger.*
5. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations as strategies for calculating with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional $1/10$ of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar $9\ 3/4$ inches long in the center of a door that is $27\ 1/2$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*
6. Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
   a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare the algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, The perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?*
   b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example, As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.*

Geometry 7.G

Draw, construct, and describe geometrical figures and describe the relationships between them.

1. Solve problems involving scale drawings of geometric figures in the coordinate plane, such as computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.
2. 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, ambiguously defined or nonexistent.
3. Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.

Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

4. Know the formulas for the area and circumference of a circle and solve problems; give an informal derivation of the relationship between the circumference and area of a circle.
5. Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
6. Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

Statistics and Probability 7.SP

Use random sampling to draw inferences about a population.

1. Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
2. Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. *For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*

Draw informal comparative inferences about two populations

3. Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. *For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean average deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.*
4. Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*

Investigate chance processes and develop, use, and evaluate probability models.

5. Understand that the probability of a chance event is a number between 0 and 1 expressing the likelihood of that event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around ½ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
6. Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. *For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.*
7. Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.
   a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.*
   b. Develop a possibly non-uniform probability model by observing frequencies in data generated from a chance process. *For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?*
8. Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.
   a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.
   b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes for which the event occurs.
   c. Design and use a simulation to generate frequencies for compound events. *For example, use random digits as a simulation tool to approximate the answer to the question: if 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*

Mathematics | Grade 8

In Grade 8, instructional time should focus on three critical areas: (1) solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem.

(1) Students use linear equations and systems of linear equations to represent, analyze, and solve a variety of problems. Students recognize proportions ($y/x = m$ or $y = mx$) as a special case of linear equations, $y = mx + b$, understanding that the constant of proportionality (m) is the slope and the graphs are lines through the origin. They understand that the slope (m) of a line is a constant rate of change, so that if the input or x-coordinate changes by an amount A, the output or y-coordinate changes by the amount $m \cdot A$. Students also formulate and solve linear equations in one variable and use these equations to solve problems. Students also use a linear equation to describe the association between two quantities in a data set (such as arm span vs. height for students in a classroom). At this grade, fitting the model, and assessing its fit to the data are done informally. Interpreting the model in the context of the data requires students to express a relationship between the two quantities in question.

Students strategically choose and efficiently implement procedures to solve linear equations in one variable, understanding that when they use the properties of equality and the concept of logical equivalence, they maintain the solutions of the original equation. Students solve systems of two linear equations in two variables and relate the systems to pairs of lines in the plane; these intersect, are parallel, or are the same line. Students use linear equations, systems of linear equations, linear functions, and their understanding of slope of a line to analyze situations and solve problems.

(2) Students grasp the concept of a function as a rule that assigns to each element of its domain exactly one element of its range. They use function notation and understand that functions describe situations where one quantity determines another. They can translate among verbal, tabular, graphical, and algebraic representations of functions (noting that tabular and graphical representations are usually only partial representations), and they describe how aspects of the function are reflected in the different representations.

(3) Students use ideas about distance and angles, how they behave under translations, rotations, reflections, and dilations, and ideas about congruence and similarity to describe and analyze two-dimensional figures and to solve problems. Students prove that the angles in a triangle add up to a straight line, and that various configurations of lines give rise to similar triangles because of the angles created when a transversal cuts parallel lines. Students understand the statement of the Pythagorean Theorem and its converse, and can explain why the Pythagorean Theorem is valid, for example, by decomposing a square in two different ways. They apply the Pythagorean Theorem to find distances between points on the coordinate plane, to find lengths, and to analyze polygons. Students complete their work on volume by solving problems involving cones, cylinders, and spheres.

Grade Level Overview

The Number System
- Know that there are numbers that are not rational, and approximate them by rational numbers.

Expressions and Equations
- Work with radicals and integer exponents.
- Understand the connections between proportional relationships, lines, and linear equations.
- Analyze and solve linear equations and pairs of simultaneous linear equations.

Functions
- Define, evaluate, and compare functions.
- Use functions to model relationships between quantities.

Geometry
- Understand congruence and similarity using physical models, transparencies, or geometry software.
- Understand and apply the Pythagorean Theorem.
- Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.

Statistics and Probability
- Investigate patterns of association in bivariate data.

Mathematical Practices
1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

The Number System 8.NS

Know that there are numbers that are not rational, and approximate them by rational numbers.

1. Understand informally that every number has a decimal expansion; the rational numbers are those with decimal expansions that terminate in 0s or eventually repeat. Know that other numbers are called irrational.
2. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). *For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*

Expressions and Equations 8.EE

Work with radicals and integer exponents.

1. Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.
2. Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.

Understand the connections between proportional relationships, lines, and linear equations.

3. Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.*
4. Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.

Analyze and solve linear equations and pairs of simultaneous linear equations.

5. Solve linear equations in one variable.
   a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).
   b. Solve linear equations with rational number coefficients, including equations that require expanding expressions using the distributive property and collecting like terms.
6. Analyze and solve pairs of simultaneous linear equations.
   a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.
   b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. *For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.*
   c. Solve real-world and mathematical problems leading to two linear equations in two variables. *For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.*

Functions 8.F

Define, evaluate, and compare functions.

1. Understand that a function from one set (called the domain) to another set (called the range) is a rule that assigns to each element of the domain (an input) exactly one element of the range (the corresponding output). The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.[3]
2. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.*

[3] Function notation is not required in Grade 8.

3. Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.*

Use functions to model relationships between quantities.

4. 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. 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.
5. Describe qualitatively the functional relationship between two quantities by reading a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

Geometry 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.

1. Verify experimentally the properties of rotations, reflections, and translations:
   a. Lines are taken to lines, and line segments to line segments of the same length.
   b. Angles are taken to angles of the same measure.
   c. Parallel lines are taken to parallel lines.
2. Understand that a plane figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.
3. Describe the effect of dilations, translations, rotations and reflections on figures using coordinates.
4. Understand that a plane figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar figures, describe a sequence that exhibits the similarity between them.
5. Use informal arguments to establish facts about the angle sum and exterior angle of triangles, and about the angles created when parallel lines are cut by a transversal. *For example, arrange three copies of the same triangle so that the three angles appear to form a line, and give an argument in terms of transversals why this is so.*

Understand and apply the Pythagorean Theorem.

6. Explain a proof of the Pythagorean Theorem and its converse.
7. Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.
8. Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.

9. Know the formulas for the volume of cones, cylinders and spheres and solve real-world and mathematical problems.

Statistics and Probability 8.SP

Investigate patterns of association in bivariate data.

1. Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.
2. Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
3. Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.*
4. Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*

Mathematics Standards for High School

Where is the College and Career Readiness line drawn?

The high school standards specify the mathematics that all students should study in order to be college and career ready. Additional mathematics that students should learn in order to take advanced courses such as calculus, advanced statistics, or discrete mathematics is indicated by (+), as in this example:

> (+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers).

Standards with a (+) symbol are beyond the college and career readiness threshold, but may appear in courses intended for all students. Any standard without a (+) symbol is intended to be in the common mathematics curriculum for all college and career ready students.

How are the high school standards organized?

The high school standards are listed in conceptual categories:

- Number and Quantity
- Algebra
- Functions
- Modeling
- Geometry
- Statistics and Probability.

Conceptual categories portray a coherent view of core high school mathematics; a student's work with functions, for example, crosses a number of traditional course boundaries, potentially up through and including calculus.

Modeling standards

Modeling is best interpreted not as a collection of isolated topics but in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards indicated by a star symbol (*).

Numbers and Number Systems. During the years from kindergarten to eighth grade, students must repeatedly extend their conception of number. At first, "number" means "counting number": 1, 2, 3.... Soon after that, 0 is used to represent "none" and the whole numbers are formed by the counting numbers together with zero. The next extension is fractions. At first, fractions are barely numbers and tied strongly to pictorial representations. Yet by the time students understand division of fractions, they have a strong concept of fractions as numbers and have connected them, via their decimal representations, with the base-ten system used to represent the whole numbers. During middle school, fractions are augmented by negative fractions to form the rational numbers. In Grade 8, students extend this system once more, augmenting the rational numbers with the irrational numbers to form the real numbers. In high school, students will be exposed to yet another extension of number, when the real numbers are augmented by the imaginary numbers to form the complex numbers.

This ascent through number systems makes it fair to ask: what does the word *number* mean that it can mean all of these things? One possible answer is that a number is something that can be used to do mathematics: calculate, solve equations, or represent measurements.

With each extension of number, the meanings of addition, subtraction, multiplication, and division are extended. In each new number system—integers, rational numbers, real numbers, and complex numbers—the four operations stay the same in two important ways: They have the commutative, associative, and distributive properties and their new meanings are consistent with their previous meanings. For example, multiplication by a whole number can be interpreted as repeated addition of the multiplicand in extensions of the whole numbers.

Extending the properties of whole-number exponents leads to new and productive notation. For example, properties of whole-number exponents suggest that $(5^{1/3})^3$ should be $5^{(1/3)\cdot 3} = 5^1 = 5$ and that $5^{1/3}$ should be the cube root of 5.

Calculators can provide ways for students to become better acquainted with these new number systems and their notation. They can be used to generate data for numerical experiments, to help understand the workings of matrix, vector, and complex number algebra, and to experiment with non-integer exponents.

Quantities. In their work in measurement up through Grade 8, students primarily measure commonly used attributes such as length, area, and volume. In high school, students encounter a wider variety of units in modeling, e.g., acceleration, currency conversions, derived quantities such as person-hours and heating degree days, social science rates such as per-capita income, and rates in everyday life such as points scored per game or batting averages. They also encounter novel situations in which they themselves must conceive the attributes of interest. For example, to find a good measure of overall highway safety, they might propose measures such as fatalities per year, fatalities per year per driver, or fatalities per vehicle-mile traveled. Such a conceptual process might be called quantification. Quantification is important for science, as when surface area suddenly "stands out" as an important variable in evaporation. Quantification is also important for companies, which must conceptualize relevant attributes and create or choose suitable measures for them.

Content Overview

The Real Number System Quantities The Complex Number System Vector and Matrix Quantities	• Extend the properties of exponents to rational exponents • Classify numbers as rational or irrational • Reason quantitatively and use units to solve problems • Perform arithmetic operations with complex numbers • Represent complex numbers and their operations on the complex plane • Use complex numbers in polynomial identities and equations • Represent and model with vector quantities • Perform operations on vectors • Perform operations on matrices and use matrices in applications		1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.	Mathematical Practices

The Real Number System N-RN

Extend the properties of exponents to rational exponents

1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define* $5^{1/3}$ *to be the cube root of* 5 *because we want* $(5^{1/3})^3 = 5^{(1/3)3}$ *to hold, so* $(5^{1/3})^3$ *must equal* 5.
2. Rewrite expressions involving radicals and rational exponents using the properties of exponents.

Use properties of rational and irrational numbers

3. Explain why sums and products of rational numbers are rational, that the sum of a rational number and an irrational number is irrational, and that the product of a nonzero rational number and an irrational number is irrational.

Quantities* N-Q

Reason quantitatively and use units to solve problems

1. Compare measurements of two quantities of the same type (e.g., two lengths or two weights) expressed in different units to decide which quantity is larger.
2. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
3. Define appropriate quantities for the purpose of descriptive modeling.
4. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

The Complex Number System N-CN

Perform arithmetic operations with complex numbers

1. Know there is a complex number i such that $i^2 = -1$, and every complex number has the form $a + bi$ with a and b real.
2. Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.
3. (+) Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers.

Represent complex numbers and their operations on the complex plane

4. (+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number.
5. (+) Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. *For example,* $(1 - \sqrt{3}i)^3 = 8$ *because* $(1 - \sqrt{3}i)$ *has modulus* 2 *and argument* $120°$.
6. (+) Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.

Use complex numbers in polynomial identities and equations

7. Solve quadratic equations with real coefficients that have complex solutions.
8. (+) Extend polynomial identities to the complex numbers. *For example, rewrite* $x^2 + 4$ *as* $(x + 2i)(x - 2i)$.
9. (+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.

(+) Vector and Matrix Quantities N-VM

Represent and model with vector quantities.

1. Understand that vector quantities have both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., $\mathbf{v}$, $|\mathbf{v}|$, $||\mathbf{v}||$, v).
2. Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.
3. Solve problems involving velocity and other quantities that can be represented by vectors.*

Perform operations on vectors.

4. Add and subtract vectors.
   a. Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes.
   b. Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum.
   c. Understand that vector subtraction $\mathbf{v} - \mathbf{w}$ is defined as $\mathbf{v} + (-\mathbf{w})$, where $-\mathbf{w}$ is the additive inverse of $\mathbf{w}$, with the same magnitude as $\mathbf{w}$ and pointing in the opposite direction. Represent vector subtraction graphically by connecting the tips in the appropriate order, and perform vector subtraction component-wise.
5. Multiply a vector $\mathbf{v}$ by a scalar.
   a. Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as $c(v_x, v_y) = (cv_x, cv_y)$.
   b. Compute the magnitude of a scalar multiple $c\mathbf{v}$ using $||c\mathbf{v}|| = |c|v$.
   c. Understand that when $|c|v \neq 0$, the direction of $c\mathbf{v}$ is either along $\mathbf{v}$ (for $c > 0$) or against $\mathbf{v}$ (for $c < 0$).

Perform operations on matrices and use matrices in applications.*

6. Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network.
7. Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled.
8. Add, subtract, and multiply matrices of appropriate dimensions.
9. Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties.
10. Understand that 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 square matrix is nonzero if and only if the matrix has a multiplicative inverse.
11. Multiply a vector (regarded as a matrix with one column) by a matrix of suitable dimensions to produce another vector. Understand a matrix as a transformation of vectors.
12. Understand a 2×2 matrix as a transformation of the plane, and interpret the absolute value of the determinant in terms of area.

Expressions. An expression is a record of a computation with numbers and symbols that represent numbers, arithmetic operations, exponentiation, and, at more advanced levels, the operation of evaluating a function. Conventions about the use of parentheses and the order of operations assure that each expression is unambiguous. Creating an expression that describes a computation involving a general quantity requires the ability to express the computation in general terms, abstracting from specific instances.

Reading an expression with comprehension involves analysis of its underlying structure. This may suggest a different but equivalent way of writing the expression 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. Rewriting $p + 0.05p$ as $1.05p$ shows that adding a tax is the same as multiplying the price by a constant factor.

Algebraic manipulations are governed by the properties of operations and exponents, and the conventions of algebraic notation. At times, an expression is the result of applying operations to simpler expressions. For example, $p + 0.05p$ is the sum of the simpler expressions p and $0.05p$. Viewing an expression as the result of operation on simpler expressions can sometimes clarify its underlying structure.

A spreadsheet or a computer algebra system can be used to experiment with algebraic expressions, perform complicated algebraic manipulations, and understand how algebraic manipulations behave.

Equations and inequalities. An equation is a statement of equality between two expressions, often viewed as a question asking for which values of the variables the expressions on either side are in fact equal. These values are the solutions to the equation. An identity is true for all numbers; identities are often developed by rewriting an expression in an equivalent form.

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 of numbers, which can be plotted in the coordinate plane. Two or more equations and/or inequalities form a system. A solution for such a system must satisfy every equation and inequality in the system.

An equation can often be solved by successively deducing from it one or more simpler equations. 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, but have a solution in a larger system. For example, the solution of $x + 1 = 0$ is an integer, not a whole number; the solution of $2x + 1 = 0$ is a rational number, not an integer; the solutions of $x^2 - 2 = 0$ are real numbers, not rational numbers; and the solutions of $x^2 + 2 = 0$ are complex numbers, not real numbers.

The same solution techniques used to solve equations can be used to rearrange formulas. For example, the formula for the area of a trapezoid, $A = ((b_1+b_2)/2)h$, can be solved for h using the same deductive process.

Inequalities can be solved by reasoning about the properties of inequality. Many, but not all, of the properties of equality continue to hold for inequalities and can be useful in solving them.

Connections to Functions and Modeling. Expressions can define functions, and equivalent expressions define the same function. Asking when two functions have the same value for the same input leads to an equation; graphing the two functions allows for finding approximate solutions of the equation. Converting a verbal description to an equation, inequality, or system of these is an essential skill in modeling.

Content Overview

Seeing Structure in Expressions	• Interpret the structure of expressions • Write expressions in equivalent forms to solve problems		1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.	Mathematical Practices
Arithmetic with Polynomials and Rational Functions	• Perform arithmetic operations on polynomials • Understand the relationship between zeros and factors of polynomials • Use polynomial identities to solve problems • Rewrite and graph rational functions			
Creating Equations	• Create equations that describe numbers or relationships			
Reasoning with Equations and Inequalities	• Understand solving equations as a process of reasoning and explain the reasoning • Solve equations and inequalities in one variable • Solve systems of equations • Represent and solve equations and inequalities graphically			

Seeing Structure in Expressions A-SSE

Interpret the structure of expressions

1. Interpret expressions that represent a quantity in terms of its context.*
   a. Interpret parts of an expression, such as terms, factors, and coefficients.
   b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.*
2. Use the structure of an expression to identify ways to rewrite it. *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 $(x^2 - y^2)(x^2 + y^2)$.*

Write expressions in equivalent forms to solve problems

3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*
   a. Factor a quadratic expression to reveal the zeros of the function it defines.
   b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.
   c. Use the properties of exponents to transform expressions for exponential functions. *For example the expression 1.15^t can be rewritten as $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*
4. Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. *For example, calculate mortgage payments.**

Arithmetic with Polynomials and Rational Expressions A-APR

Perform arithmetic operations on polynomials

1. Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

Understand the relationship between zeros and factors of polynomials

2. Understand the Remainder Theorem: For a polynomial $p(x)$ and a number a, the remainder on division by $x - a$ is $p(a)$, so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$.
3. Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.

Use polynomial identities to solve problems

4. Prove polynomial identities and use them to describe numerical relationships. *For example, the polynomial identity* $(x^2 + y^2)^2 = (x^2 - y^2)^2 + (2xy)^2$ *can be used to generate Pythagorean triples.*
5. (+) Understand that the Binomial Theorem gives the expansion of $(x + y)^n$ in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle. The Binomial Theorem can be proved by mathematical induction or by a combinatorial argument.

Rewrite rational expressions

6. Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system.
7. (+) Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.

Creating Equations* A-CED

Create equations that describe numbers or relationships

1. Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*
2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.*
4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law* $V = IR$ *to highlight resistance* R.

Reasoning with Equations and Inequalities A-REI

Understand solving equations as a process of reasoning and explain the reasoning

1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
2. Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

Solve equations and inequalities in one variable

3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. Graph the solution set of an inequality on a number line.
4. Solve quadratic equations in one variable.
   a. Understand that the method of completing the square transforms any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. This leads to the quadratic formula.
   b. Solve by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.

Solve systems of equations

5. Understand that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.
6. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
7. Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. *For example, find the points of intersection between the line* $y = -3x$ *and the circle* $x^2 + y^2 = 3$.
8. (+) Represent a system of linear equations as a single matrix equation in a vector variable.

9. (+) Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3×3 or greater).

Represent and solve equations and inequalities graphically

10. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a straight line).
11. Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.*
12. Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.

Functions describe 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 we continually make theories about dependencies between quantities in nature and society, 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 car to drive 100 miles is a function of the car's speed in miles per hour, v; the rule $T(v) = 100/v$ expresses this relationship algebraically and defines a function whose name is T.

The set of 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.

A function can be described in various ways, such as by a graph (e.g., the trace of a seismograph); by a verbal rule, as in, "I'll give you a state, you give me the capital city;" by an algebraic expression like $f(x) = a + bx$; or by a recursive rule. The graph of a function is often a useful way of visualizing the relationship of the function models, and manipulating a mathematical expression for a function can throw light on the function's properties.

Functions presented as expressions can model many important phenomena. 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 a constant term of zero describe proportional relationships.

A graphing utility or a computer algebra system can be used to experiment with properties of these functions and their graphs and to build computational models of functions, including recursively defined functions.

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. Questions about when two functions have the same value for the same input lead to equations, whose solutions can be visualized from the intersection of their graphs. Because functions describe relationships between quantities, they are frequently used in modeling. Sometimes functions are defined by a recursive process, which can be displayed effectively using a spreadsheet or other technology.

Content Overview

Interpreting Functions	• Understand the concept of a function and use function notation • Interpret functions that arise in applications in terms of the context • Analyze functions using different representations		1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.	Mathematical Practices
Building Functions	• Build a function that models a relationship between two quantities • Build new functions from existing functions			
Linear, Quadratic, and Exponential Models	• Construct and compare linear and exponential models and solve problems • Interpret expressions for functions in terms of the situation they model			
Trigonometric Functions	• Extend the domain of trigonometric functions using the unit circle • Model periodic phenomena with trigonometric functions • Prove and apply trigonometric identities			

Interpreting Functions

Understand the concept of a function and use function notation

1. Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.
2. Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
3. Understand that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. *For example, the Fibonacci sequence is defined recursively by $f(0) = f(1) = 1$, $f(n+1) = f(n) + f(n-1)$ for $n \geq 1$.*

Interpret functions that arise in applications in terms of the context

4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.**
5. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function $h(n)$ gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.**
6. 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.*

Analyze functions using different representations

7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*
   a. Graph linear and quadratic functions and show intercepts, maxima, and minima.
   b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.
   c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.
   d. (+) Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.
   e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.
8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.
   a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.
   b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as* $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, *and classify them as representing exponential growth or decay.*
9. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*

Building Functions F.BF

Build a function that models a relationship between two quantities

1. Write a function that describes a relationship between two quantities.*
   a. Determine an explicit expression, a recursive process, or steps for calculation from a context.
   b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.*
   c. (+) Compose functions. *For example, if* $f(t)$ *is the height of a falling body after* t *seconds,* $f(t - 12)$ *is the height of the same body dropped 12 seconds later.*
2. Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.*

Build new functions from existing functions

3. Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $kf(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*
4. Find inverse functions.
   a. Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse. *For example,* $f(x) = 2x^3$ *or* $f(x) = (x+1)/(x-1)$ *for* $x \neq 1$.
   b. (+) Verify by composition that one function is the inverse of another.
   c. (+) Read values of an inverse function from a graph or a table, given that the function has an inverse.
   d. (+) Produce an invertible function from a non-invertible function by restricting the domain.

Linear, Quadratic, and Exponential Models* F.LQE

Construct and compare linear, quadratic, and exponential models and solve problems

1. Distinguish between situations that can be modeled with linear functions and with exponential functions.
   a. Understand that linear functions grow by equal differences over equal intervals; exponential functions grow by equal factors over equal intervals.
   b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.
   c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.
2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).

3. Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.
4. For exponential models, express as a logarithm the solution to $a\,b^c = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology.

Interpret expressions for functions in terms of the situation they model

5. Interpret the parameters in a linear, quadratic, or exponential function in terms of a context.

Trigonometric Functions F-TF

Extend the domain of trigonometric functions using the unit circle

1. Understand that the radian measure of an angle is the length of the arc on the unit circle subtended by the angle.
2. Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.
3. (+) Use special triangles to determine geometrically the values of sine, cosine, tangent for $\pi/3$, $\pi/4$ and $\pi/6$, and use the unit circle to express the values of sine, cosine, and tangent for $\pi-x$, $\pi+x$, and $2\pi-x$ in terms of their values for x, where x is any real number.
4. (+) Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.

Model periodic phenomena with trigonometric functions

5. Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.*
6. (+) Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.
7. (+) Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.*

Prove and apply trigonometric identities

8. Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to calculate trigonometric ratios.
9. (+) Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.

Mathematics | High School—Modeling

Modeling links classroom mathematics and statistics to everyday life, work, and decision-making. Modeling is the process of choosing and using appropriate mathematics and statistics to analyze empirical situations, to understand them better, and to improve decisions. Quantities and their relationships in physical, economic, public policy, social, and everyday situations can be modeled using mathematical and statistical methods. When making mathematical models, technology is valuable for varying assumptions, exploring consequences, and comparing predictions with data.

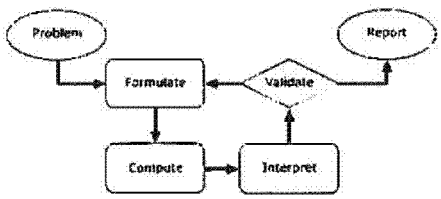
A model can be very simple, such as writing total cost as a product of unit price and number bought, or using a geometric shape to describe a physical object like a coin. Even such simple models involve making choices. It is up to us whether to model a coin as a three-dimensional cylinder, or whether a two-dimensional disk works well enough for our purposes. Other situations—modeling a delivery route, a production schedule, or a comparison of loan amortizations—need more elaborate models that use other tools from the mathematical sciences. Real-world situations are not organized and labeled for analysis; formulating tractable models, representing such models, and analyzing them is appropriately a creative process. Like every such process, this depends on acquired expertise as well as creativity.

Some examples of such situations might include:

- Estimating how much water and food is needed for emergency relief in a devastated city of 3 million people, and how it might be distributed.
- Planning a table tennis tournament for 7 players at a club with 4 tables, where each player plays against each other player.
- Designing the layout of the stalls in a school fair so as to raise as much money as possible.
- Analyzing stopping distance for a car.
- Modeling savings account balance, bacterial colony growth, or investment growth.
- Critical path analysis, e.g., applied to turnaround of an aircraft at an airport.
- Risk situations, such as extreme sports, pandemics, and terrorism.
- Relating population statistics to individual predictions.

In situations like these, the models devised depend 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 that we can create and analyze is also constrained by the limitations of our mathematical, statistical, and technical skills, and our ability to recognize significant variables and relationships among them. Diagrams of various kinds, spreadsheets and other technology, 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 or statistical structure can sometimes model seemingly different situations. Models can also shed light on the mathematical structures themselves, for example, as when a model of bacterial growth makes more vivid the explosive growth of the exponential function.



The basic modeling cycle is summarized in the diagram. It involves (1) identifying variables in the situation and selecting those that represent essential features, (2) formulating a model by creating and selecting geometric, graphical, tabular, algebraic, or statistical representations that describe relationships between the variables, (3) analyzing and performing operations on these relationships to draw conclusions, (4) interpreting the results of the mathematics in terms of the original situation, (5) validating the conclusions by comparing them with the situation, and then either improving the model or, if it is acceptable, (6) reporting on the conclusions and the reasoning behind them. Choices, assumptions, and approximations are present throughout this cycle.

In descriptive modeling, a model simply describes the phenomena or summarizes them in a compact form. Graphs of observations are a familiar descriptive model—for example, graphs of global temperature and atmospheric CO_2 over time.

Analytic modeling seeks to explain data on the basis of deeper theoretical ideas, albeit with parameters that are empirically based; for example, exponential growth of bacterial colonies (until cut-off mechanisms such as pollution or starvation intervene) follows from a constant reproduction rate. Functions are an important tool for analyzing such problems.

Graphing utilities, spreadsheets, computer algebra systems, and dynamic geometry software are powerful tools that can be used to model purely mathematical phenomena (e.g., the behavior of polynomials) as well as physical phenomena.

Modeling Standards

Modeling is best interpreted not as a collection of isolated topics but rather in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards indicated by a star symbol (*).

An understanding of the attributes and relationships of geometric objects can be applied in diverse contexts—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.

Although there are many types of geometry, school mathematics is devoted primarily to plane Euclidean geometry, studied both synthetically (without coordinates) and analytically (with coordinates). Euclidean geometry is characterized most importantly by the Parallel Postulate, that through a point not on a given line there is exactly one parallel line. (Spherical geometry, in contrast, has no parallel lines.)

During high school, students begin to formalize their geometry experiences from elementary and middle school, using more precise definitions and developing careful proofs. Later in college some students develop Euclidean and other geometries carefully from a small set of axioms.

The concepts of congruence, similarity, and symmetry can be understood from the perspective of geometric transformation. Fundamental are the rigid motions: translations, rotations, reflections, and combinations of these, all of which are here assumed to preserve distance and angles (and therefore shapes generally). 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.

In the approach taken here, two geometric figures are defined to be congruent if there is a sequence of rigid motions that carries one onto the other. This is the principle of superposition. For triangles, congruence means the equality of all corresponding pairs of sides and all corresponding pairs of angles. During Grade 8, through experiences with geometric constructions and drawing triangles from given conditions, some students notice ways to specify enough measures in a triangle to ensure that all triangles drawn with those measures are congruent. Once these triangle congruence criteria (ASA, SAS, and SSS) are established using rigid motions, they can be used to prove theorems about triangles, quadrilaterals, and other geometric figures.

Similarity transformations (rigid motions followed by dilations) define similarity in the same way that rigid motions define congruence, and lead to the criterion for triangle similarity that two pairs of corresponding angles are congruent.

The definitions of sine, cosine, and tangent for acute angles are founded on right triangles and similarity, and, with the Pythagorean Theorem, are fundamental in many real-world and theoretical situations. The Pythagorean Theorem is generalized to non-right triangles by the Law of Cosines. Together, the Laws of Sines and Cosines embody the triangle congruence criteria for the cases where three pieces of information suffice 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.

Analytic geometry 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. Geometric transformations of the graphs of equations correspond to algebraic changes in their equations.

Dynamic geometry environments provide students with experimental and modeling tools that allow them to investigate geometric phenomena in much the same way as computer algebra systems allow them to experiment with algebraic phenomena.

Connections to Equations. The 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.

Content Overview

Congruence	• Experiment with transformations in the plane • Understand congruence in terms of rigid motions • Prove geometric theorems • Make geometric constructions		1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.	Mathematical Practices
Similarity, Right Triangles, and Trigonometry	• Understand similarity in terms of similarity transformations • Prove theorems involving similarity • Define trigonometric ratios and solve problems involving right triangles • Apply trigonometry to general triangles			
Circles	• Understand and apply theorems about circles • Find arc lengths and areas of sectors of circles			
Expressing Geometric Properties with Equations	• Translate between the geometric description and the equation for a conic section • Use coordinates to prove simple geometric theorems algebraically			
Geometric Measurement and Dimension	• Explain volume formulas and use them to solve problems • Visualize relationships between two-dimensional and three-dimensional objects			
Modeling with Geometry	• Apply geometric concepts in modeling situations			

Congruence G-CO

Experiment with transformations in the plane

1. Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
2. Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).
3. Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
4. Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
5. Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.

Understand congruence in terms of rigid motions

6. Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.
7. Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
8. Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.

Prove geometric theorems

9. Prove theorems about lines and angles. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.*
10. Prove theorems about triangles. *Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.*
11. Prove theorems about parallelograms. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.*

Make geometric constructions

12. 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.*
13. Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.

Similarity, Right Triangles, and Trigonometry G-SRT

Understand similarity in terms of similarity transformations

1. Verify experimentally the properties of dilations:
   a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.
   b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.
2. Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.
3. Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.

Prove theorems involving similarity

4. Prove theorems about triangles using similarity transformations. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.*
5. Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.

Define trigonometric ratios and solve problems involving right triangles

6. Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.
7. Explain and use the relationship between the sine and cosine of complementary angles.
8. Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.*

(+) Apply trigonometry to general triangles

9. Derive the formula $A = \frac{1}{2} ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.
10. Prove the Laws of Sines and Cosines and use them to solve problems.
11. Understand and apply 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).

Circles G-C

Understand and apply theorems about circles

1. Prove that all circles are similar.

2. Identify and describe relationships among inscribed 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.*
3. Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.
4. (+) Construct a tangent line from a point outside a given circle to the circle.

Find arc lengths and areas of sectors of circles

5. Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.

Expressing Geometric Properties with Equations G-GPE

Translate between the geometric description and the equation for a conic section

1. Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.
2. Derive the equation of a parabola given a focus and directrix.
3. (+) Derive the equations of ellipses and hyperbolas given two foci for the ellipse, and two directrices of a hyperbola.

Use coordinates to prove simple geometric theorems algebraically

4. Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point $(1, \sqrt{3})$ lies on the circle centered at the origin and containing the point $(0, 2)$.*
5. Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).
6. Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
7. Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.*

Geometric Measurement and Dimension G-GMD

Explain volume formulas and use them to solve problems

1. Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.*
2. (+) Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.
3. Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.*

Visualize relationships between two-dimensional and three-dimensional objects

4. Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.

Modeling with Geometry G-MG

Apply geometric concepts in modeling situations

1. Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).*
2. Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).*
3. Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).*

Mathematics | High School—Statistics and Probability*

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. Statistics provides tools for describing variability in data and for making informed decisions that take it into account.

Data are gathered, displayed, summarized, examined, and interpreted to discover patterns and deviations from patterns. Quantitative data can be described in terms of key characteristics: measures of shape, center, and spread. The shape of a data distribution might be described as symmetric, skewed, flat, or bell shaped, and it might be summarized by a statistic measuring center (such as mean or median) and a statistic measuring spread (such as standard deviation or interquartile range). Different distributions can be compared numerically using these statistics or compared visually using plots. Knowledge of center and spread are not enough to describe a distribution. Which statistics to compare, which plots to use, 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 alone, and this can be evaluated only under the condition of randomness. The conditions under which data are collected are important in drawing conclusions from the data; in critically reviewing uses of statistics in public media and other reports, it is important to consider the study design, how the data were gathered, and the analyses employed as well as the data summaries and the conclusions drawn.

Random processes can be described mathematically by using a probability model: a list or description of the possible outcomes (the sample space), each of which is assigned a probability. In situations such as flipping a coin, rolling a number cube, or drawing a card, it might be reasonable to assume various outcomes are equally likely. In a probability model, sample points represent outcomes and combine to make up events; probabilities of events can be computed by applying the Addition and Multiplication Rules. Interpreting these probabilities relies on an understanding of independence and conditional probability, which can be approached through the analysis of two-way tables.

Technology plays an important role in statistics and probability by making it possible to generate plots, regression functions, and correlation coefficients, and to simulate many possible outcomes in a short amount of time.

Connections to Functions and Modeling. Functions may be used to describe data; if the data suggest a linear relationship, the relationship can be modeled with a regression line, and its strength and direction can be expressed through a correlation coefficient.

Content Overview

Interpreting Categorical and Quantitative Data Making Inferences and Justifying Conclusions Conditional Probability and the Rules of Probability Using Probability to Make Decisions	• Summarize, represent, and interpret data on a single count or measurement variable • Summarize, represent, and interpret data on two categorical and quantitative variables • Interpret linear models • Understand and evaluate random processes underlying statistical experiments • Make inferences and justify conclusions from sample surveys, experiments and observational studies • Use the concepts of independence and conditional probability to interpret data • Use the rules of probability to compute probabilities of compound events in a uniform probability model • Calculate expected values and use them to solve problems • Use probability to evaluate outcomes of decisions		1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.	Mathematical Practices

Interpreting Categorical and Quantitative Data S.ID

Summarize, represent, and interpret data on a single count or measurement variable

1. Represent data with plots on the real number line (dot plots, histograms, and box plots).
2. Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.
3. Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
4. Use the mean and standard deviation of a data set to fit it to a normal distribution 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.

Summarize, represent, and interpret data on two categorical and quantitative variables

5. Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.
6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.
   a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear and exponential models.*
   b. Informally assess the fit of a function by plotting and analyzing residuals.
   c. Fit a linear function for scatter plots that suggest a linear association.

Interpret linear models

7. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.

8. Compute (using technology) and interpret the correlation coefficient of a linear fit.
9. Distinguish between correlation and causation.

Making Inferences and Justifying Conclusions S-IC

Understand and evaluate random processes underlying statistical experiments

1. Understand that statistics allows inferences to be made about population parameters based on a random sample from that population.
2. Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. *For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?*

Make inferences and justify conclusions from sample surveys, experiments, and observational studies

3. Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.
4. Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.
5. Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.
6. Evaluate reports based on data.

Conditional Probability and the Rules of Probability S-CP

Understand independence and conditional probability and use them to interpret data

1. Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not").
2. Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.
3. Understand the conditional probability of A given B as P(A and B)/P(B), and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B.
4. Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. *For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.*
5. Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. *For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.*

Use the rules of probability to compute probabilities of compound events in a uniform probability model

6. Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model.
7. Apply the Addition Rule, P(A or B) = P(A) + P(B) − P(A and B), and interpret the answer in terms of the model.
8. (+) Apply the general Multiplication Rule in a uniform probability model, P(A and B) = P(A)P(B|A) = P(B)P(A|B), and interpret the answer in terms of the model.
9. (+) Use permutations and combinations to compute probabilities of compound events and solve problems.

(+) Using Probability to Make Decisions S-MD

Calculate expected values and use them to solve problems

1. Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions.
2. Calculate the expected value of a random variable; interpret it as the mean of the probability distribution.
3. Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value. *For example, find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.*
4. Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value. *For example, find a current data distribution on the number of TV sets per household in the*

United States, and calculate the expected number of sets per household. How many TV sets would you expect to find in 100 randomly selected households?

Use probability to evaluate outcomes of decisions

5. Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values.
   a. Find the expected payoff for a game of chance. *For example, find the expected winnings from a state lottery ticket or a game at a fast-food restaurant.*
   b. Evaluate and compare strategies on the basis of expected values. *For example, compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.*
6. Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).
7. Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).

Postscript: A Note on High School Courses

The high school standards in this document do not specify how content should be organized into a sequence of high school courses.

However, it is expected that model course sequences based on these standards will become available in both a traditional sequence (Algebra 1, Geometry, and Algebra 2) as well as an integrated sequence (Integrated 1, Integrated 2, Integrated 3).

Glossary

Addition and subtraction within 5, 10, 20, 100, or 1000. Addition or subtraction of two whole numbers with whole number answers, and with sum or minuend in the range 0-5, 0-10, 0-20, or 0-100, respectively. Example: $8 + 2 = 10$ is an addition within 10, $14 - 5 = 9$ is a subtraction within 20, and $55 - 18 = 37$ is a subtraction within 100.

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 $3/4 + (-3/4) = (-3/4) + 3/4 = 0$.

Associative property of addition. See Table 3 in this Glossary.

Associative property of multiplication. See Table 3 in this Glossary.

Bivariate data. Pairs of linked numerical observations. Example: a list of heights and weights for each player on a football team.

Box plot. A method of visually displaying a distribution of data values by using the median, quartiles, and extremes of the data set. A box shows the middle 50% of the data.[1]

Commutative property. See Table 3 in this Glossary.

Complex fraction. A fraction A/B where A and/or B are fractions (B nonzero).

Computation algorithm. A set of predefined steps applicable to a class of problems that gives the correct result in every case when the steps are carried out correctly. See also: *computation strategy*.

Computation strategy. Purposeful manipulations that may be chosen for specific problems, may not have a fixed order, and may be aimed at converting one problem into another. See also: *computation algorithm*.

Congruent. Two plane or solid figures are congruent if one can be obtained from the other by rigid motion (a sequence of rotations, reflections, and translations).

Counting on. A strategy for finding the number of objects in a group without having to count every member of the group. For example, if a stack of books is known to have 8 books and 3 more books are added to the top, it is not necessary to count the stack all over again; one can find the total by *counting on* — pointing to the top book and saying "eight," following this with "nine, ten, eleven. There are eleven books now."

Dot plot. *See line plot.*

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.

Expanded form. A multidigit number is expressed in expanded form when it is written as a sum of single-digit multiples of powers of ten. For example, $643 = 600 + 40 + 3$.

Expected value. For a random variable, the weighted average of its possible values, with weights given by their respective probabilities.

First quartile. For a data set with median M, the first quartile is the median of the data values less than M. Example: For the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the first quartile is 6.[2] *See also* median, third quartile, interquartile range.

Fraction. A number expressible in the form a/b where a is a whole number and b is a positive whole number. (The word *fraction* in these standards always refers to a nonnegative number.) *See also* rational number.

Identity property of 0. See Table 3 in this Glossary.

Independently combined probability models. Two probability models are said to be combined independently if the probability of each ordered pair in the combined model equals the product of the original probabilities of the two individual outcomes in the ordered pair.

Integer. A number expressible in the form a or $-a$ for some whole number a.

Interquartile Range. A measure of variation in a set of numerical data, the interquartile range is the distance between the first and third quartiles of the data set. Example: For the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the interquartile range is $15 - 6 = 9$. *See also* first quartile, third quartile.

Line plot. A method of visually displaying a distribution of data values where each data value is shown as a dot or mark above a number line. Also known as a dot plot.[3]

Mean. A measure of center in a set of numerical data, computed by adding the values in a list and then dividing by the number of values in the list.[4] Example: For the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the mean is 21.

Mean absolute deviation. A measure of variation in a set of numerical data, computed by adding the distances between each data value and the mean, then dividing by the number of data values. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the mean absolute deviation is 20.

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[1] Adapted from Wisconsin Department of Public Instruction, http://dpi.wi.gov/standards/mathglos.html, accessed March 2, 2010.

[2] Many different methods for computing quartiles are in use. The method defined here is sometimes called the Moore and McCabe method. See Langford, E., "Quartiles in Elementary Statistics," *Journal of Statistics Education* Volume 14, Number 3 (2006).

[3] Adapted from Wisconsin Department of Public Instruction, *op. cit.*

[4] To be more precise, this defines the *arithmetic mean*.

Median. A measure of center in a set of numerical data. The median of a list of values is 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. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 90}, the median is 11.
Midline. In the graph of a trigonometric function, the horizontal line half-way between its maximum and minimum values.
Multiplication and division within 100. Multiplication or division of two whole numbers with whole number answers, and with product or dividend in the range 0-100. Example: 72 ÷ 8 = 9.
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 $^3/_4 \times {}^4/_3 = {}^4/_3 \times {}^3/_4 = 1$.
Number line diagram. A diagram of the number line used to represent numbers and support reasoning about them. In a number line diagram for measurement quantities, the interval from 0 to 1 on the diagram represents the unit of measure for the quantity.
Percent rate of change. A rate of change expressed as a percent. Example: if a population grows from 50 to 55 in a year, it grows by 5/50 = 10% per year.
Probability distribution. The set of possible values of a random variable with a probability assigned to each.
Properties of operations. See Table 3 in this Glossary.
Properties of equality. See Table 4 in this Glossary.
Properties of inequality. See Table 5 in this Glossary.
Properties of operations. See Table 3 in this Glossary.
Probability. A number between 0 and 1 used to quantify likelihood for processes that have uncertain outcomes (such as tossing a coin, selecting a person at random from a group of people, tossing a ball at a target, testing for a medical condition).
Probability model. A probability model is used to assign probabilities to outcomes of a chance process by examining the nature of the process. The set of all outcomes is called the sample space, and their probabilities sum to 1. See also *uniform probability model*.
Random variable. An assignment of a numerical value to each outcome in a sample space.
Rational expression. A quotient of two polynomials with non-zero denomiator.
Rational number. A number expressible in the form $^a/_b$ or $-{}^a/_b$ for some fraction $^a/_b$. The rational numbers include the integers.
Rectilinear figure. A polygon all angles of which are right angles.
Rigid motion. A transformation of points in space consisting of a sequence of one or more translations, reflections, and/or rotations. Rigid motions are here assumed to preserve distances and angle measures.
Repeating decimal. The decimal form of a rational number. See *terminating decimal*.
Sample space. In a probability model for a random process, a list of the individual outcomes that are to be considered.
Scatter plot. A graph in the coordinate plane representing a set of bivariate data. For example, the heights and weights of a group of people could be displayed on a scatter plot.[5]
Similarity transformation. A rigid motion followed by a dilation.
Tape diagram. A drawing that looks like a segment of tape, used to illustrate number relationships. Also known as a strip diagram, bar model, fraction strip, or length model.
Terminating decimal. A decimal is called terminating if its repeating digit is 0.
Third quartile. For a data set with median M, the third quartile is the median of the data values greater than M. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the third quartile is 15. *See also* median, first quartile, interquartile range.
Transitivity principle for indirect measurement. If the length of object A is greater than the length of object B, and the length of object B is greater than the length of object C, then the length of object A is greater than the length of object C. This principle applies to measurement of other quantities as well.
Uniform probability model. A probability model which assigns equal probability to all outcomes. See also *probability model*.
Vector. A quantity with magnitude and direction in the plane or in space, defined by an ordered pair or triple of real numbers.
Visual fraction model. A tape diagram, number line diagram, or area model.
Whole numbers. The numbers 0, 1, 2, 3, ...

[5] Adapted from Wisconsin Department of Public Instruction, *op. cit.*

TABLE 1. Common addition and subtraction situations.[6]

	Result Unknown	Change Unknown	Start Unknown
Add to	Two bunnies sat on the grass. Three more bunnies hopped there. How many bunnies are on the grass now? $2 + 3 = ?$	Two bunnies were sitting on the grass. Some more bunnies hopped there. Then there were five bunnies. How many bunnies hopped over to the first two? $2 + ? = 5$	Some bunnies were sitting on the grass. Three more bunnies hopped there. Then there were five bunnies. How many bunnies were on the grass before? $? + 3 = 5$
Take from	Five apples were on the table. I ate two apples. How many apples are on the table now? $5 - 2 = ?$	Five apples were on the table. I ate some apples. Then there were three apples. How many apples did I eat? $5 - ? = 3$	Some apples were on the table. I ate two apples. Then there were three apples. How many apples were on the table before? $? - 2 = 3$

	Total Unknown	Addend Unknown	Both Addends Unknown[7]
Put Together/ Take Apart[8]	Three red apples and two green apples are on the table. How many apples are on the table? $3 + 2 = ?$	Five apples are on the table. Three are red and the rest are green. How many apples are green? $3 + ? = 5,\ 5 - 3 = ?$	Grandma has five flowers. How many can she put in her red vase and how many in her blue vase? $5 = 0 + 5,\ 5 = 5 + 0$ $5 = 1 + 4,\ 5 = 4 + 1$ $5 = 2 + 3,\ 5 = 3 + 2$

	Difference Unknown	Bigger Unknown	Smaller Unknown
Compare[9]	("How many more?" version): Lucy has two apples. Julie has five apples. How many more apples does Julie have than Lucy? ("How many fewer?" version): Lucy has two apples. Julie has five apples. How many fewer apples does Lucy have than Julie? $2 + ? = 5,\ 5 - 2 = ?$	(Version with "more"): Julie has three more apples than Lucy. Lucy has two apples. How many apples does Julie have? (Version with "fewer"): Lucy has 3 fewer apples than Julie. Lucy has two apples. How many apples does Julie have? $2 + 3 = ?,\ 3 + 2 = ?$	(Version with "more"): Julie has three more apples than Lucy. Julie has five apples. How many apples does Lucy have? (Version with "fewer"): Lucy has 3 fewer apples than Julie. Julie has five apples. How many apples does Lucy have? $5 - 3 = ?,\ ? + 3 = 5$

[6] Adapted from Box 2-4 of National Research Council (2009, op. cit., pp. 32, 33).

[7] These *take apart* situations can be used to show all the decompositions of a given number. The associated equations, which have the total on the left of the equal sign, help children understand that the = sign does not always mean *makes* or *results in* but always does mean *is the same number as*.

[8] Either addend can be unknown, so there are three variations of these problem situations. Both Addends Unknown is a productive extension of this basic situation especially for small numbers less than or equal to 10.

[9] For the Bigger Unknown or Smaller Unknown situations, one version directs the correct operation (the version using *more* for the bigger unknown and using *less* for the smaller unknown). The other versions are more difficult.

TABLE 2. Common multiplication and division situations.[10]

	Unknown Product	**Group Size Unknown** ("How many in each group?" Division)	**Number of Groups Unknown** ("How many groups?" Division)
	$3 \times 6 = ?$	$3 \times ? = 18$ and $18 \div 3 = ?$	$? \times 6 = 18$ and $18 \div 6 = ?$
Equal Groups	There are 3 bags with 6 plums in each bag. How many plums are there in all? *Measurement example.* You need 3 lengths of string, each 6 inches long. How much string will you need altogether?	If 18 plums are shared equally into 3 bags, then how many plums will be in each bag? *Measurement example.* You have 18 inches of string, which you will cut into 3 equal pieces. How long will each piece of string be?	If 18 plums are to be packed 6 to a bag, then how many bags are needed? *Measurement example.* You have 18 inches of string, which you will cut into pieces that are 6 inches long. How many pieces of string will you have?
Arrays,[11] Area[12]	There are 3 rows of apples with 6 apples in each row. How many apples are there? *Area example.* What is the area of a 3 cm by 6 cm rectangle?	If 18 apples are arranged into 3 equal rows, how many apples will be in each row? *Area example.* A rectangle has area 18 square centimeters. If one side is 3 cm long, how long is a side next to it?	If 18 apples are arranged into equal rows of 6 apples, how many rows will there be? *Area example.* A rectangle has area 18 square centimeters. If one side is 6 cm long, how long is a side next to it?
Compare	A blue hat costs $6. A red hat costs 3 times as much as the blue hat. How much does the red hat cost? *Measurement example.* A rubber band is 6 cm long. How long will the rubber band be when it is stretched to be 3 times as long?	A red hat costs $18 and that is 3 times as much as a blue hat costs. How much does a blue hat cost? *Measurement example.* A rubber band is stretched to be 18 cm long and that is 3 times as long as it was at first. How long was the rubber band at first?	A red hat costs $18 and a blue hat costs $6. How many times as much does the red hat cost as the blue hat? *Measurement example.* A rubber band was 6 cm long at first. Now it is stretched to be 18 cm long. How many times as long is the rubber band now as it was at first?
General	$a \times b = ?$	$a \times ? = p$ and $p \div a = ?$	$? \times b = p$ and $p \div b = ?$

[10] The first examples in each cell are examples of discrete things. These are easier for students and should be given before the measurement examples.

[11] The language in the array examples shows the easiest form of array problems. A harder form is to use the terms rows and columns: The apples in the grocery window are in 3 rows and 6 columns. How many apples are in there? Both forms are valuable.

[12] Area involves arrays of squares that have been pushed together so that there are no gaps or overlaps, so array problems include these especially important measurement situations.

TABLE 3. The properties of operations. Here a, b and c stand for arbitrary numbers in a given number system. The properties of operations apply to the rational number system, the real number system, and the complex number system.

Associative property of addition	$(a + b) + c = a + (b + c)$
Commutative property of addition	$a + b = b + a$
Additive identity property of 0	$a + 0 = 0 + a = a$
Existence of additive inverses	For every a there exists $-a$ so that $a + (-a) = (-a) + a = 0$.
Associative property of multiplication	$(a \times b) \times c = a \times (b \times c)$
Commutative property of multiplication	$a \times b = b \times a$
Multiplicative identity property of 1	$a \times 1 = 1 \times a = a$
Existence of multiplicative inverses	For every $a \neq 0$ there exists $1/a$ so that $a \times 1/a = 1/a \times a = 1$.
Distributive property of multiplication over addition	$a \times (b + c) = a \times b + a \times c$

TABLE 4. The properties of equality. Here a, b and c stand for arbitrary numbers in the rational, real, or complex number systems.

Reflexive property of equality	$a = a$
Symmetric property of equality	If $a = b$, then $b = a$.
Transitive property of equality	If $a = b$ and $b = c$, then $a = c$.
Addition property of equality	If $a = b$, then $a + c = b + c$.
Subtraction property of equality	If $a = b$, then $a - c = b - c$.
Multiplication property of equality	If $a = b$, then $a \times c = b \times c$.
Division property of equality	If $a = b$ and $c \neq 0$, then $a \div c = b \div c$.
Substitution property of equality	If $a = b$, then b may be substituted for a in any expression containing a.

TABLE 5. The properties of inequality. Here a, b and c stand for arbitrary numbers in the rational or real number systems.

Exactly one of the following is true: $a < b$, $a = b$, $a > b$.
If $a > b$ and $b > c$ then $a > c$.
If $a > b$, then $b < a$.
If $a > b$, then $-a < -b$.
If $a > b$, then $a \pm c > b \pm c$.
If $a > b$ and $c > 0$, then $a \times c > b \times c$.
If $a > b$ and $c < 0$, then $a \times c < b \times c$.
If $a > b$ and $c > 0$, then $a \div c > b \div c$.
If $a > b$ and $c < 0$, then $a \div c < b \div c$.

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Exhibit B-4: Colorado State Board of Education Procedures for Adopting Standards

The Colorado State Board of Education was created pursuant to section 1 of article IX of the State constitution, and is charged with "exercising general supervision over the public schools of the State and the educational programs maintained and operated by all State governmental agencies for persons who have not completed the twelfth-grade level of instruction" in the State of Colorado. *See* 22-2-106(1)(a), Colorado Revised Statutes, ("C.R.S."). It is comprised of seven elected officials representing the seven congressional districts of the State. It is required to meet at least quarterly by statute, 22-2-105(4), C.R.S. to hold a minimum of four meetings yearly. In practice, given the workload of the Department of Education, it routinely meets each month of the year for two days. Pursuant to 22-2-106(1)(a.5)(V), C.R.S., the State Board is required to "[u]tilize standards-based education . . . as the framework for the development of the guidelines for high school graduation and consider how high school graduation requirements can be articulated in a standards-based education system. The State Board is required to ensure that the standards "are sufficiently rigorous, particularly in the core academic subject areas of mathematics, science, reading and writing." The State Board is further required to "[r]ecognize and acknowledge the importance of obtaining the core competency skill and standards to succeed in the twenty-first century, including but not limited to proficiency in math, science, and written and verbal communication skills, *see* 22-2-106(1)(a.5)(VI), C.R.S.; and "[t]ake into account the importance of pre-high school and postsecondary career planning that provides middle school and junior high students and parents with awareness of the school district's high school graduation requirements, the multiple pathways a student can follow, and other pertinent information that will help prepare a student for a successful high school experience. *See* 22-2-106(1)(a.5)(VII), C.R.S.

The State Board's governing documents, which are legally binding on the board, include the Board's Legislative Priorities. The 2010 Legislative Priorities contain the following relevant language:

Standards and Assessments

Continue Statewide transition to and implementation of internationally benchmarked standards and aligned assessments that provide a clear path to postsecondary and workforce readiness.

a. Support changes in legislation related to CAP4K that promote the idea that competency matters more than seat time.

b. Support legislation that aligns the standards-based system so that students are postsecondary and workforce ready (including, but not limited to, development of formative assessment tools, model curricula, high-quality professional development, etc.).

Support legislation to change the date for State Board adoption of graduation guidelines to follow State Board adoption of academic standards and assessments.

The State Board's governing documents include the Board's Operating Procedures. Article IV(B) provides: Having sworn to support the constitution of the United States and of the State of Colorado, the State Board of Education recognizes both the constitutional and legislative educational mandates. Therefore, the Board shall fulfill these directives and shall provide services and leadership for implementation of such enactments.

Article V(A)(5) sets forth the requirements of voting, which must follow Robert's Rules of Order (10th Ed.). Colorado has one of the most rigorous open meetings acts in the country, *see* 24-6-401 C.R.S. *et seq.*, and all State Board meetings adhere to the notice and timing requirements of the Colorado Open Meetings Act.

The State Board would therefore vote on the standards in a regularly scheduled open meeting, with full notice and disclosure of the standards they have posted as a vote. All matters are posted one week in advance on an electronic agenda, accessible on the internet, and are audio streamed. No formal action may be taken by the State Board in executive session, pursuant to 24-6-402(3)(a), C.R.S.

Colorado will review the final version of the Common Core Standards and compare the material in depth and breadth to the new Colorado Academic Standards. The determination of similarities and differences will be conducted by content specialists, assessment staff, K-12 content committee members and higher education and early school readiness members of the recently-concluded standards adoption process.

The final review and determination will be delivered to the Commissioner of Education for his review. The Commissioner will forward to the State Board of Education any changes recommended in order to better align to the

Common Core Standards.

The State Board of Education will afford an opportunity for the public to provide oral or written testimony prior to the adoption of the standards, and will consider any testimony prior to a vote of the seven-member board.

Adoption of the Math and English Language Arts Common Core Standards would be discussed in one State Board meeting and then voted on in the next monthly meeting. All documents would be posted on the State Board's electronic agenda, accessible on the internet. The interim time would provide constituents in Colorado in the education, public and business sectors to be made aware of any substantive recommended changes. The same extensive public networks would be used to reach out and invite feedback, recommendations and advice.

Exhibit B-5: Colorado's MOU with the Summative Multi-State Assessment Resources for Teachers and Educational Researchers (SMARTER)

COLORADO DEPARTMENT OF EDUCATION

201 East Colfax Avenue • Denver, Colorado 80203-1799
303.866.6600 • www.cde.state.co.us

Dwight D. Jones
Commissioner of Education

Robert K. Hammond
Deputy Commissioner

Tony Alpert
Director of Assessment
Oregon Department of Education
255 Capitol Street NE
Salem, OR. 97310-0203

Dear Tony,

On behalf of the Colorado Department of Education, I would like to submit the attached Document of Commitment to participate as a Member State with the Smarter Balanced Assessment Consortium.

Colorado will also be participating as a Member State with the Partnership for Assessment of Readiness for College and Career. Colorado is engaged in and committed to a constituency-driven standards and assessment revision process, and intends to represent the vision of our stakeholders through our participation in the consortia.

Colorado highly values the use of data to measure student growth and is hopeful that the Smarter Balanced Assessment Consortium is interested in utilizing the Colorado Growth Model.

We intend to execute the MOU in time for inclusion in the Race to the Top Assessment Program Category A proposal. And, we look forward to working with you and the members of the Smarter Balanced Assessment Consortium.

Sincerely,

Dwight D. Jones
Commissioner of Education

Smarter Balance Assessment Consortium
Document of Commitment

Please sign and return by April 15, 2010 to
Tony Alpert, Director of Assessment, Oregon Department of Education

Email as PDF attachment to: Tony.Alpert@ode.state.or.us , or
Fax: 503-378-5156

The Document of Commitment may be returned after April 15, allowing a state to begin to participate as a voting Member State from the date of commitment. Signature on this document indicates support of decisions made prior to Consortia receipt of this document.

Complete descriptions of the responsibilities and time commitments of various levels of consortium governance are provided in the Governance Structure document. This initial governance structure refers to the *proposal process only.* Governance structure will be revised after proposal acceptance to reflect long-term needs during the grant implementation period.

State Name: **Colorado**

Please indicate which governance levels are of interest to your state at this time.

☑ **Member State** – May also sign as member state for other consortia, may participate in setting general direction, may vote on selected issues.

☐ **Governing State** – May only sign with one consortia per competition category; has an active role in policy decisions, is committed to using the assessment system or program developed.

☐ Please consider my state for representation on the **steering committee**. (10 hr/wk)

☐ Please consider my state for representation on the **proposal design team** (20 hr/wk)

☑ We are interested in participating in the following **work groups** (variable hr/wk)

- ☐ Item Specs/Quality Control, Writing/Constructed Response Scoring/Validity
- ☐ Psychometrics, Reliability, Standard Setting, Reporting
- ☐ Universal Design, Test Administration, Accommodations, Special Populations
- ☑ Technical Specifications/Requirements
- ☐ Communications and Documentation
- ☐ External Validation, Research and Innovations
- ☐ Professional Development and Capacity Building (IT and Human)
- ☐ Formative and Benchmark Assessment
- ☐ Performance-Based, Curriculum-Embedded Assessments
- ☑ High School and Higher Education

Chief State School Officer Signature — Date: May 12, 2010

Exhibit B-6: MOU for Partnership for Assessment of Readiness for College and Career

COLORADO DEPARTMENT OF EDUCATION

201 East Colfax Avenue • Denver, Colorado 80203-1799
303.866.6600 • www.cde.state.co.us

Dwight D. Jones
Commissioner of Education

Robert K. Hammond
Deputy Commissioner

Lesley Muldoon
Policy Analyst
Achieve
1775 Eye St NW, Suite 410
Washington, DC 20006

Dear Lesley,

On behalf of the Colorado Department of Education, I would like to submit the attached Non-Binding Memorandum of Understanding to participate as a Member State with the Partnership for Assessment of Readiness for College and Career.

Colorado will also be participating as a Member State with the Smarter Balanced Assessment Consortium. Colorado is engaged in and committed to a constituency-driven standards and assessment revision process, and intends to represent the vision of our stakeholders through our participation in the consortia.

Colorado highly values the use of data to measure student growth and is hopeful that the Partnership for Assessment of Readiness for College and Career is interested in utilizing the Colorado Growth Model.

We intend to execute the formal MOU with the required signatures in time for inclusion in the Race to the Top Assessment Program Category A proposal. And, we look forward to working with you and the members of the Partnership for Assessment of Readiness for College and Career.

Sincerely,

Dwight D. Jones
Commissioner of Education

Partnership for Assessment of Readiness for College and Careers
Memorandum of Understanding

Colorado Race to the Top Phase 2 Appendix

Purpose. This document commits states to participate in the Partnership for Assessment of Readiness for College and Career, a state-led consortium that will collaborate on the development of common, high-quality assessments aligned to the Common Core State Standards (CCSS) in English language arts and mathematics for grades 3-8 and high school. The primary goal of the Partnership's work is to measure and document students' college and career readiness against common academic standards and to measure students' progress toward this target throughout the rest of the system.

While participating in the Partnership demonstrates the state's commitment to pursue a common assessment system that enables comparisons against the CCSS across all Partnership states, it does not commit the state to a specific assessment design at this point. Partnership states are still considering several options for the design of a common assessment system in pursuit of the Race to the Top (RTTT) Comprehensive Assessments Grant and will not be asked to commit to the Partnership's application until a later date. Until that time, all participating states will have the opportunity to contribute to and shape the Partnership's proposal.

Preliminary Design Principles. Partnership states have identified the following major purposes and uses for the assessment system. As the Partnership collaborates to develop its application for the RTTT assessment competition, these purposes will guide its work.

- The primary purpose is to measure and document students' **college and career readiness** and to measure students' progress toward this target throughout the rest of the system. Students meeting the college and career readiness standards will be eligible for placement into entry-level credit-bearing, rather than remedial, courses in public 2- and 4-year postsecondary institutions in participating states.

- Additionally, the partnership is committed to ensuring that the assessment results:
    - Are **comparable across states** at the student level;
    - Meet **internationally rigorous benchmarks**;
    - Support valid assessment of **student longitudinal growth**; and
    - Serve as a **signal for good instructional practices**.

- The results must be able to support multiple levels and forms of accountability including:
    - Decisions about **promotion and graduation for individual students**,
    - **Teacher and leader evaluations**, and
    - **School accountability** determinations.

Roles and Responsibilities of Partnership States. The Partnership will employ a multi-level governance and management structure designed to guide the partnership through the submission of the proposal.

- The **Governing States** are comprised of a representative group of leaders from Partnership states that are committed to implementing the assessment system developed by the partnership, should it win a grant from the Race to the Top Comprehensive Assessment System competition, and are responsible for guiding the proposal development process. Each Governing State will commit a team comprised of the chief, assessment director, and other key officials from the SEA, Governor's office, and higher education as appropriate.
- The **Proposal Design Team** will include officials from partnership states who will work with an advisory group of national and international experts to create an assessment system design for the Partnership's proposal. The design team will include as many states as are interested in and capable of contributing to and shaping the design of the proposed next generation assessment system.
- **Participating States** will include other partnership states that are unable to provide staff time to the design team but will provide rapid feedback on drafts of the proposal through the development phase.

State Commitment. This memorandum of understanding is voluntary and non-binding for states. States signing this MOU should do so with the intent of continuing in the Partnership through the proposal development, assessment development, and implementation phases. However, there will be an opportunity for states re-assess their participation in the Partnership before it submits its application for a Race to the Top Comprehensive Assessment Systems Grant by June 23, 2010.

Agreement. The undersigned state leader agrees to the process and structure as described above and attests accordingly by his/her signature below.

Signature(s) for the State of:	
Authorized State Signature:	
Name: Dwight D. Jones	Date: May 12, 2010
Title: Commissioner of Education	

Exhibit B-7: Description of the Center for Transforming Learning and Teaching (CTLT)

CENTER FOR TRANSFORMING LEARNING AND TEACHING (CTLT)

The Center for Transforming Learning and Teaching (CTLT) was established within the School of Education and Human Development (SEHD) at the University of Colorado Denver (UCD) in 2003 and serves as the professional development arm of the Laboratory for Educational Assessment Research and InnovatioN (LEARN), also within the SEHD. CTLT works to catalyze and co-create the transformation of learning environments through the use of assessment so that all are engaged in learning and empowered to positively contribute in a global society. CTLT pursues this mission by creating and providing learning experiences to educators that promote immediate use of strategies and tools, as well as long term development of educational practice; coaching and embedding the use of assessment as a support for learning within classroom settings; planning, developing and facilitating professional learning communities; developing, supporting and bringing forward models of practice; convening practitioners to bring out the best thinking, and engaging educators at the intersection of theory and practice.

CTLT has been the organizational home for several large educational change and professional learning initiatives, including:

- The Colorado Consortium for Data Driven Decisions (2003 – 2008), a $4.5 million, five-year project with over 50 participating districts, focused on supporting educator use of information-based educational practices, standards-based education, and formative assessment.
- Preparing Tomorrow's Teachers for Data-Driven Decisions (2003-2006), a $1.45 million-dollar four-year project which included four teacher-preparation institutions and focused on bringing data-driven practices into teacher preparation courses.
- Intel Teach to the Future (2003-2005) $500,000 which provided professional learning to over 5000 Colorado educators on integrating technology into instructional practice over the course of the $500,000 project.

CTLT also serves as the professional development partner with the CDE(CDE) in the roll out of the Colorado Growth Model, providing professional learning for educators and educational leaders on interpreting and using data on student growth. CTLT has also assisted CDE in the first implementation of a Unified Improvement Planning Template and Process.

As an initiative within the School of Education and Human Development (SEHD), CTLT is supported by the infrastructure of UCD. The SEHD at UCD offers personnel preparation in 11 certification/licensure areas and has 49 full-time faculty housed in 13 program areas, including teacher initial licensure, master's degrees, and two doctoral programs; an EdD, and a PhD. The SEHD enrolls about 300 undergraduate students and 2268 graduate students, including 70 doctoral students. The SEHD has a record of exemplary management of externally funded projects and provides pre-award and post-award services. CTLT is also supported by the administrative systems at UCD, including the policies, procedures, and controls for personnel, fiscal matters, and human subjects for all projects. The SEHD currently houses 40 active projects, with multi-year total grants and contracts of $35 million dollars.

Exhibit B-8: Members of State Assessment Stakeholders Committee

Assessment Stakeholders Committee		
Name	**Region**	**Profession**
Tim Albers	Western	Director of Admissions , Associate Vice President for Enrollment Services, Western State
Geri Anderson	Denver Metro	Assistant Vice President & Provost, Colorado Community College System
Jane Barnes	Denver Metro	School Board of Education , Jefferson County Public Schools
Carole Basile	Denver Metro	Associate Professor, University of Colorado at Denver, School of Education and Human Development
Seth Berg	Southwest	District Assessment Coordinator, High School Teacher MS Enrichment and Curriculum Coordinator, Telluride School District R-1
Charlotte Brantley	Denver Metro	President/CEO, Clayton Early Learning
Eric Briggs	Denver Metro	Amgen
Dewey F. Brigham, Jr.	Denver Metro	President, Colorado Association of Black Professional Engineers & Scientists
Harry Butler	Western	School Board of Education , Mesa County Valley School District 51
Mary Chesley	Denver Metro	Superintendent, Cherry Creek School District
Tammy Clementi-Watson	Pikes Peak	Chief Academic Officer , Instructional Support & Educational Accountability , Pueblo City Schools
Lindy Crawford	Pikes Peak	Associate Dean College of Education , University of Colorado at Colorado Springs
Willie Daniels	Denver Metro	President/CEO , Shades of Blue
Judi Diaz Bonacquisti	Denver Metro	Associate Vice President, Enrollment Services, Denver Metro State College
Carol Eaton	Denver Metro	Assessment Director, Executive Director Instructional Data Services, Jefferson County District R-1
Lisa Escarcega	Denver Metro	District Assessment Coordinator, Aurora Chief Accountability & Research Officer, Aurora Public Schools
Bill Esterbrook	Southwest	Board of Cooperative Educational Services (BOCES), Former Superintendent at Pagosa Springs Schools
Booker Graves	Denver Metro	Executive Director, Colorado Workforce Development
Oliver Grenham	Denver Metro	Executive Director of Learning Services, Adams County School District
Dan Lere	Southeast	Superintendent, Pueblo School District 70
Maggie Lopez	Pikes Peak	Assistant Superintendent Of Learning Services , Academy School District
Lidoro Maestas	Denver Metro	Armed Services Vocational Aptitude Battery (ASVAB)

Assessment Stakeholders Committee		
Name	**Region**	**Profession**
Pat Meade	Denver Metro	Director of Institutional Research, Front Range Community College
Mike Miles	Pikes Peak	Superintendent Harrison School District
Christina Narayan	Pikes Peak	Elementary Teacher Branson School Online Online Teacher of the Year
Keith Owen	Southwest	Superintendent Durango School District 9-R
Jesus Salazar	Denver Metro	Senior Manager Credera
Lorrie Shepard	Denver Metro	Professor of Education Chair of the Research and Evaluation Methodology, CU at Boulder
Dianna Sirko	Mountain Central	Superintendent Aspen School District
Tim Taylor	Denver Metro	President Colorado Succeeds
Paul Thayer	Northeast	Associate Vice President for Student Affairs Special Assistant to the Provost for Retention Colorado State University
Ana Tilton	Denver Metro	Chief Academic Officer Denver Public Schools
Mary Valerio	San Luis Valley	Professor Adams State, Migrant Education Program Director
Ed Vandertook	Northwest	Superintendent Holyoke School District RE-1J
Cindy Wenzel	Pikes Peak	District Assessment Coordinator Director of Curriculum and Student Achievement Fountain-Fort Carson School District 8

Exhibit C-1: SLDS Grant Abstract

The Colorado Department of Education (CDE), working in collaboration with the Governor's Office of Information Technology (OIT), the Governor's Office of Policy and Initiatives, and the Colorado Departments of Higher Education, Human Services and Labor End employment, proposes to build a state longitudinal data system that meets the required system elements and capabilities set out in the Request for Applications and the demands of its ground-breaking P-20 education reform agenda. This agenda, which has been underway for several years, implements true P-20 education alignment across the state's education systems and is anchored by a common definition of postsecondary and workforce readiness to ensure students exit prepared for postsecondary education and workforce success. Moreover, the Colorado General Assembly and the Office of Governor Ritter have made inter-departmental data sharing a state priority by way of legislation that authorizes the development of interdepartmental data sharing and the creation of a state-level data sharing advisory council. The Colorado approach to educational alignment seeks to produce meaningful information on educator and principal effectiveness through the development of the state's first educator identifier system, which will be used to link all Colorado educators, students, and educator preparation programs for the purposes of individual and program evaluation. Colorado also seeks to expand its breakthrough analytical and data visualization tools to support meaningful accountability, transparency and strategic investment. In short, Colorado is among the national leaders in education reform and cross-system alignment. However, in spite of its impressive reform-oriented agenda, in the absence of SLDS grant funds to implement proposed data capture and interoperability solutions, the potential of the state's agenda will not be fully realized.

Project SchoolView ™ envisions a flexible enterprise P-20 information and knowledge management system that will equip users to manage and use information for informed decision-making ensuring all students in Colorado are ready for postsecondary or workforce success. It addresses the following strategic priorities:

- CAPTURE: P-20 student-focused data are effectively and efficiently collected across multiple data sources including student information, programmatic classifications and educator quality.
- LINK: Data is effectively shared and exchanged across multiple agencies (human services, K-12, higher education, labor, corrections) and levels (district, state, federal) to promote accountability, inform policy and ensure a holistic view of student success.
- PROVIDE: Stakeholders (parents/guardians, students, educators, policymakers and researchers) have access via interactive portals to understandable, timely and reliable information, online content and collaboration tools to inform and improve student performance.

Colorado's Race to the Top application will build on this foundation by focusing on building the performance capacity of stakeholders to leverage information to inform development, policy, programs and practice to drive increased student performance through professional development, innovative programs and improved instructional practices. Project SchoolView™ holds the potential to transform the delivery and evaluation of education in Colorado, offering a national model that advances the use of more robust and timely performance data throughout the P-20 education system and capitalizes on the state's impressive student-centered education reforms.

Exhibit D-1: Designated Agencies for Alternative Teacher and Principal Preparation Programs

CDE Designated Agencies, Alternative Teacher and Principal Preparation Programsm, 2010

Designated Agencies

Alternative teacher and principal preparation programs are approved by the Colorado Board of Education. These programs are offered by authorized Designated Agencies. A Designated Agency means a school district or districts, an accredited independent nonpublic school, or a Board of Cooperative Services, an accepted institution of higher education, or a nonprofit organization, or any combination thereof, which is responsible for the organization, management, and operation of an approved alternative teacher program. For Alternative Principal Preparation Programs school districts design and implement individualized alternative principal programs. The school district may work with a governmental, nonprofit, or for-profit entity in designing and implementing the individualized alternative principal program. In 2009, Senate Bill 09-160 streamlined and aligned programs previously referred to as 1-year and Teacher in Residence Programs (TIR). Alternative Teacher Preparation Programs are referred to as 1-Year and 2-year programs. .

Designated Agencies: 1-Year Alternative Teacher Preparation Programs

Programs offer preparation for licensure in Elementary, Secondary and K-12 endorsement areas (check with Designated Agency for specific programs and endorsements. In addition, the following Designated Agencies are approved to offer preparation for:
Special Education Generalist (SPED):

- Colorado Christian University
- Teacher Institute at La Academia
- Western State College—Teach Now

Linguistically Diverse Educator:

- Western State College—Teach Now

Agency
Archdiocese of Denver
Boulder Journey School
Centennial Board of Cooperative Educational Services
Cherry Creek School District
Colorado Academy
Colorado Christian University
Denver Academy
Eagle Rock School of Professional Development Ctr.
East Central Board of Cooperative Educational Services
Englewood Schools
Friends' School
Mapleton Public Schools:
Boettcher Teachers Program
Metropolitan State College of Denver
Mountain Board of Cooperative Educational Services
Naropa University
Northeast Colorado Board of Cooperative Educational Services
Northwest Board of Cooperative Educational Services
Peak To Peak Charter School
San Luis Valley BOCES
South Central BOCES
Southeastern CO BOCES
Stanley British Primary School
Teacher Institute at La Academia
Teach For America
UCCS

Weld County RE-3 (J) School District
West Central Licensing Program
Western State College—Teach Now

Designated Agencies Approved To Offer The Special Education: Generalist Program:
Colorado Christian University, Teacher Institute at La Academia, Western State College—Teach Now
Designated Agencies Approved To Offer The Linguistically Diverse Education Program:
Western State College—Teach Now
Designated Agencies whose programs can lead to Master's degree
The Archdiocese of Denver, Boulder Journey School, Centennial BOCES, Colorado Christian University, Friends' School, Mapleton Public Schools: Boettcher Teacher's Program, Naropa University, Northeast BOCES, Northwest BOCES, South Central BOCES, Stanley British Primary School, Teacher Institute at La Academia and the University of Colorado at Colorado Springs

Designated Agencies: 2-Year Alternative Teacher Preparation Programs

Programs offer preparation for licensure in Elementary, Secondary and K-12 endorsement areas (check with Designated Agency for specific programs and endorsements).
In addition, the following Designated Agencies are approved to offer preparation for:
Special Education Generalist (SPED):

- Metropolitan State College of Denver
- Pikes Peak BOCES

Linguistically Diverse Educator:

- Colorado State University-Pueblo

Agency
Adams 12 Five Star Schools
Adams County School #50
Adams-Arapahoe 28J (Aurora Public Schools)
Brighton 27-J
Clear Creek School District RE-1
Denver District 1
Douglas County School
District RE-1
Littleton Public Schools
Pikes Peak Board of Cooperative Educational Services
Pueblo School District No. 60
Pueblo School District No. 70
Sheridan School District 2
Metropolitan State College of Denver

Designated Agencies: Alternative Principal Preparation Programs

Agency
Archdiocese of Denver
Office of Catholic Schools
Centennial BOCES
East Central BOCES
MHM Educational Services, LLC
Mountain BOCES
Northeast BOCES
Northwest BOCES
Southeast BOCES
Western State College

Alternative Certification Program Completers, 2007-2008

DESIGNATED AGENCIES	WHICH PROGRAM OFFERED	TYPE AGENCY SET UP	TIR CANDIDATES SECOND YEAR	ALT CANDIDATES
Adams 12 Five Star Schools	TIR	School District	5	0
Adams School District 50	TIR	School District	0	0
Adams-Arapahoe (Aurora 28J)	TIR	School District	11	0
Archdiocese of Denver	ALT	Private Organization	0	21
Boulder Journey School	ALT	Private School	0	7
Brighton 27-J	TIR	School District	9	0
Centennial BOCES	ALT	BOCES	0	46
Cherry Creek School District	ALT	School District	0	1
Clear Creek District RE-1	TIR	School District	0	0
Colorado Academy	ALT	Private School	0	2
Colorado Christian University	ALT	Inst. of Higher Ed.	0	37
Denver Academy	ALT	Private School	0	0
Denver Arts and Technology Academy	ALT	Charter School	0	6
Denver Public Schools	TIR	School District	32	0
Douglas County	ALT/TIR	School District	4	4
Eaglerock School of Prof Development	ALT	Private School	0	2
East Central BOCES	ALT	BOCES	0	19
Englewood Schools	ALT	School District	0	3
Friends' School	ALT	Private School	0	27
Jefferson County R-1	TIR	School District	3	0
Littleton Public Schools	TIR	School District	4	0
Mapleton/Boettcher Teacher's Program	ALT	Co-operative	0	20
Metro State College	ALT	Inst. Of Higher Ed.	0	10
Mountain BOCES	ALT	BOCES	0	18
Naropa University	ALT	Inst. Of Higher Ed.	0	2
Northeast BOCES	ALT	BOCES	0	8
Northwest BOCES	ALT	BOCES	0	10
Peak To Peak Charter School	ALT	Charter School	0	0
Pikes Peak BOCES	TIR	BOCES	47	0
Pueblo District 60	TIR	School District	4	0
Pueblo District 70	TIR	School District	7	0
San Luis Valley BOCES	ALT	BOCES	0	9
Sheridan School District	TIR	School District	1	0
South Central BOCES	ALT	BOCES	0	9
Southeastern BOCES	ALT	BOCES	0	6

Colorado Race to the Top Phase 2 Appendix

DESIGNATED AGENCIES	WHICH PROGRAM OFFERED	TYPE AGENCY SET UP	TIR CANDIDATES SECOND YEAR	ALT CANDIDATES
Stanley British Primary School	ALT	Private School	0	31
Teacher Institute at La Academia	ALT	Private Organization	0	62
Teach For America	ALT	Non-Profit	0	16
Univ. of Colo., at Colo. Springs	ALT	Inst. Of Higher Ed.	0	9
Weld County RE-3	ALT	School District	0	0
West Central Licensing Program	ALT	BOCES	0	4
Western State College	ALT	Inst. Of Higher Ed.	0	47
TOTAL BY PROGRAM			**161**	**436**
GRAND TOTAL				**597**

PRINCIPAL DESIGNATED AGENCIES	TYPE AGENCY SET UP	PRINCIPAL CANDIDATES
Alternative Principal-La Academia	Private Organization	
Alternative Principal-Archdiocese	Private Organization	
Alternative Principal-School Leaders	Co-operative	4
Alternative Principal-Western State	Inst. Of Higher Ed.	1
Alternative Principal-Mtn. BOCES	BOCES	2
Alternative Principal-Cent. BOCES	BOCES	
Alternative Principal-E Central BOCES	BOCES	1
Alternative Principal-NE BOCES	BOCES	1
Alternative Principal-NW BOCES	BOCES	
Alternative Principal-SE BOCES	BOCES	
PRINCIPAL CANDIDATE TOTAL		**9**

Glossary of acronyms

ALT	One Year Alternative Teacher Licensing Program
BOCES	Board of Cooperative Educational Services, a group of school districts in a regionally connected area that share services.
Designated Agency	A singular entity or group of entities that form a partnership offering an Alternative Teacher or Principal Preparation Program. Entities may include a private school, a charter school, a non-profit organization, a school district, a BOCES, institutions of higher education, governmental agency or for profit corporation, or a combination of the above.
IHE	Institution of Higher Education
TIR	Two Year Teacher in Residence Program, now combined under Alternative Program

Numbers and Letters following the names of specific school districts indicate past reorganizations or geographic boundaries.

Exhibit D-2: Summary of Colorado Law Related to Educator Effectiveness

This summary provides a brief overview of provisions in the Colorado Revised that directly apply to issues of "quality," evaluation, certification, retention, promotion and dismissal. It is not intended to be an exhaustive review nor does it include information about local practices.

Educator Preparation:

- Alternative teacher preparation programs (*§22-60.5-205, C.R.S.*)
    - Initially, Colorado laws authorized only school districts, BOCES and independent schools to be designated agencies for one-year alternative teacher licensure programs.
    - Beginning in 2000, teacher-in-residence programs were added, allowing school districts to design two-year programs to meet hiring needs.
    - In 2009, Senate Bill 09-160 consolidated these programs and expanded the list of eligible providers. Now, Colorado law allows school districts, BOCES, charter or independent schools, institutions of higher education, nonprofit organizations or any combination thereof to apply to become a designated agency offering either a one- or two-year alternative teacher licensure program.
    - Alternative route programs are reviewed and approved by the Colorado State Board of Education and undergo a periodic site-based reauthorization process to ensure compliance with applicable statutory requirements.

- Alternative principal preparation program (*§22-60.5-305.5, C.R.S.*)
    - Legislation passed in 2004 allows local school districts and the Colorado Charter School Institute to apply to create alternative routes to principal licensure.
    - Any LEA offering an alternative principal licensure program may work with a government, nonprofit or for-profit entity to design and implement the program.

- Evaluation of educator preparation programs (*§22-68.5-102.5, C.R.S.*)
    - Pursuant to legislation passed during the most recent legislative session (SB 10-036), the department will prepare an annual report on the effectiveness of educator preparation programs, including (1) the correlation between different educator preparation programs in the state, including alternative educator preparation programs, and student academic growth, (2) educator placement, and (3) educator mobility and retention.
    - Information included in the report will be shared with educator preparation programs to inform curriculum and program improvements.
    - Common credit hour requirements for all approved teacher preparation programs (*§22-60.5-203(5), C.R.S.).*

Licensure:

- Alternative teacher license (*§22-60.5-201(a) , C.R.S.)*
    - Candidates must hold a Bachelors Degree from a fully accredited Institution of Higher Education (IHE) and agree to participate fully in a one- or two-year alternative teacher program provided by a designated agency
        - A designated agency may be a nonprofit organization, a public, charter, or private school, a BOCES, and/or an IHE
    - Pre-SB 160 requirements for all Alternative Teacher Programs (*§22-60.5-20.5, C.R.S.)*
        - Candidates are full-time teachers during program

        - Supervision by support team including a mentor teacher, a principal, and a representative of IHE (if applicable)
        - Performance evaluations
        - Minimum of 225 clock hours of planned instruction and activities, including training in dropout prevention (unless modified by support team based on candidate experience and knowledge)
        - After successful completion of the program, the alternative teacher receives an initial teacher license
        - On-site program evaluation every 5 years by CDE
    - SB 09-160 made the following additions to §*22-60.5 Part 2, C.R.S.)*
        - Expands definition of any agency eligible to organize, manage, or operate an approved alternative teacher program to include non-profits.
        - Renames "Teacher in Residence Program" to "Two-year Alternative Teacher Program." Also renames current alternative teacher program to "One-year Alternative Teacher Program."
        - Requires all alternative teacher programs to meet the Colorado Performance-Based Standards for Teachers.
        - Mandates a 5-year on-site evaluation by the Department of Education of all alternative teacher programs.
        - Mandates State Board of Education to establish minimum credit hour and common content standards for approved preparation programs and provides that candidates may show content knowledge through a major, course taking, or passing a content test.
    - For a detailed list of one-year alternative teacher programs go to: http://www.cde.State.co.us/cdeprof/download/pdf/ALTdesignatedagencies.pdf
    - For a detailed list of two-year alternative teacher programs go to: http://www.cde.State.co.us/cdeprof/download/pdf/TIRdesignatedagencies.pdf

- Initial teacher license (§*22-2-109 and* §*22-60.5-201(b) , C.R.S.)*
    - Completed an approved teacher prep program OR a one- or two-year alternative teacher program.
        - Teacher prep programs and alternative teacher programs are reviewed by the Department of Education and the Department of Higher Education on a 5-year basis.
        -
    - Minimum competency in licensure endorsement area. Minimum coursework standards include:
        - Elementary + Special Education Generalist Teachers: Pass Elementary Content Test
        - Secondary: Degree in endorsement area, passage of content test or 24 hours of coursework in endorsement area (§*22-60.5-203(6) , C.R.S.)*
    - The Department of Education may, at its discretion, issue an initial teachers license to any applicant from another State if:
        - The applicant holds a teachers license from that State that is comparable to a teacher's license in this State and the standards for issuance of that license or certificate meets or exceeds Colorado's standards.
        - The applicant has had at least 3 years of continuous, successful, and evaluated experiences as a teacher in an established elementary or secondary school and can provide documentation of that experience on the forms provided by the Department.

- Professional teacher license (§*22-60.5-201(c) , C.R.S.)*
    - Valid initial teacher license
    - Completion of induction program as described in (§*22-60.5-204, C.R.S.)*

- Master teacher license *(§22-60.5-202, C.R.S.)*
  - Issuance of a Master Teacher Certificate shall extend the validity of the Professional Teacher License to seven years.
  - A Master Teacher Certificate may be issued to an applicant who has met the following requirements:
    - Holds a valid Colorado Professional Teacher License.
    - Has demonstrated advanced teaching competencies or expertise through the attainment of National Board for Professional Teaching Certification.

- Initial principal license *(§22-60.5-301, C.R.S.)*
  - Holds a Bachelors Degree from an accepted IHE
  - Completed approved principal prep program or an individualized alternative principal program (pursuant to *§22-60.5-11(14, C.R.S.*)
  - 3+ years working with students as a licensed or certified professional in a public or nonpublic school in CO or elsewhere
  - Demonstrated competency in:
    - Leadership, ability to respond to needs of students and parents from culturally diverse backgrounds, instruction (curriculum, design, assessment), problem-solving and decision-making, management (planning, organization, administration), personnel administration (staff development, evaluation), child growth and development, and knowledge and application of standards-based education pursuant to CO Law. *(22-60.5-303, C.R.S.)*

- Professional principal license *(§22-60.5-301, C.R.S.)*
  - Master's Degree
  - Initial principal license
  - Completed induction program as described in *(§22-60.5-305.5, C.R.S.)*
- A principal who holds an initial or professional principal license does not need an initial or professional teacher's license to be allowed to teach on occasion. *(§22-60.5-305, C.R.S.)*

- Initial administrator license *(§22-60.5-306, C.R.S.)*
  - Bachelors Degree from approved IHE
  - Completed approved administrators preparation program
  - Demonstrated professional competencies in:
    - Basic management, leadership, decision-making and problem-solving, ability to respond to needs of students and parents from culturally diverse backgrounds, personnel administration, resource utilization, child growth and development, and knowledge and application of standards-based education pursuant to CO Law. *(22-60.5-308, C.R.S.)*

- Professional administrator license *(§22-60.5-306, C.R.S.)*
  - Master's Degree
  - Initial administrators license
  - Completed induction program as described in *(§22-60.5-309, C.R.S.)*
- An administrator who holds an initial or professional administrator's license does not need an initial or professional teacher's license to be allowed to teach on occasion. *(§22-60.5-309.5, C.R.S.)*

- Revocation of license *(§22-60.5-107(2.5) , C.R.S.)*
  - A license, certificate, endorsement or authorization MAY be denied, annulled, suspended, or revoked if the holder has one of the following offenses:

- Misdemeanor sexual assault as described in §*18-3-402, C.R.S.*
- Misdemeanor unlawful sexual conduct as described in §*18-3-404, C.R.S.*
- Misdemeanor sexual assault on a client by a psychotherapist as described in §*18-3-405.5, C.R.S.*
- Misdemeanor child abuse as described in §*18-6-401, C.R.S.*
- Misdemeanor, the underlying factual basis of which has been found by a court to involve domestic violence as defined by §*18-6-300.3(1) , C.R.S.* and the conviction is a second or subsequent conviction for the same offense
- Contributing to the delinquency of a minor as described in §*18-6-701, C.R.S.*
- A misdemeanor committed under the law of the United States, another State, a municipality of another State, or any territory subject to US law, the elements of which are substantially similar to sexual exploitation of children as described in §*18-6-403(3)(b.5), C.R.S.*
- A crime under the law of the United States, another State, a municipality of another State, or any territory subject to US law, the elements of which are substantially similar to the offenses detailed above
- A guilty plea or a plea or nolo contendere to a misdemeanor violation in this State or any other State, any municipality of this or any other State, or the United States, involving the illegal sale of controlled substances as described in §*12-22-303(7)* , C.R.S.

- A license, certificate, endorsement or authorization SHALL be denied, annulled, suspended, or revoked if the holder is has one of the following offenses:
  - Convicted of felony child abuse as described in §*18-1.3-406, C.R.S.*
  - Convicted of crime of violence as described in §*18-1.3-406, C.R.S.*
  - Received a disposition of, an adjudication for, or convicted of a felony offense involving unlawful sexual behavior as described in §*16-22-102(9), C.R.S.*
  - A felony in which the underlying factual basis has been found by the court to include an act of domestic violence as described in §*18-6-800.3, C.R.S.*
  - A felony offense in another State, the United States, or territory, the elements of which are substantially similar to one of the above offenses
  - Indecent Exposure as described in §*18-7-302, C.R.S.*
  - When the applicant fails to submit fingerprints on a timely basis after receipt of a written request from the Department pursuant to §*22-60.5-103(6)(a), C.R.S.*
- A license, certificate, endorsement or authorization will be denied, annulled, suspended, or revoked through the process described in §§*24-4-102 through 24-4-107, C.R.S.*

National Board Certification Stipends:

- For 2009-10, 2010-11, and 2011-12 school years, teachers with a National Board for Professional Teaching Standards Certification receive an annual stipend of $1,600 in addition to normal salary but still subject to retirement and Medicare contributions *(§22-2-504, C.R.S.)*

Professional Development/further education:

- Teachers requesting renewal of professional license must have completed six semester hours (90 clock hours) of professional development related to competence in current or potential content area and teaching literacy or numeracy during the five-year licensing period (§*22-60.5-110, C.R.S.* and §*301-37 2260.5-R-12.02(1) , C.R.S.)*

- Teacher Professional Development Grant Program. *(§22-7-7, C.R.S.)*
  - Two-year grants to school districts with the purpose of providing money for schools for use in providing a teacher development schedule with only research-based activities that have been proven effective in improving teachers' skills, especially in teaching reading, writing, math, and science.

- Program hasn't been funded/used since 2003 although it is still part of Statute 22

- Principal Development Scholarship (§*22-9.5-1, C.R.S.)*
  - Provides stipends to applicant principals seeking professional development programs
  - No 2009 general fund appropriations

Educator Effectiveness:

Evaluation

- Licensed Personnel Evaluations
  - Evaluation Requirements (§*22-9-106(1) , C.R.S.)*
    - Title or position of the evaluator
    - All licensed personnel, all part-time teachers, all administrators, and all principals shall be evaluated
    - Frequency requirements for evaluations (§*22-9-106(1)(c), C.R.S.)*
      - Probationary Teachers: Annually have two documented observations and one evaluation resulting in a written evaluation report
      - Non-probationary Teachers: At least one observation annually, and one evaluation that results in a written evaluation report every three academic years. Beginning with the 2012-13 academic year, non-probationary teachers shall receive a written evaluation report each academic year (pursuant to SB 10-191).
      - Principals: One evaluation that results in a written evaluation report annually
    - Purposes of the evaluation (§*22-9-106(1)(d), C.R.S.)*
      - Provide a basis for the improvement of instruction
      - Enhance the implementation of programs and curriculum
      - Provide the measurement of satisfactory performance for individual licensed personnel and serve as documentation for an unsatisfactory performance dismissal proceeding.
      - Serve as a measurement of the professional growth and development of an individual
      - Currently, to measure the level of performance of all licensed personnel within the district or BOCE. Instead, once the quality standards required by SB 10-191 are put into effect, the evaluation system will serve to measure the level of effectiveness of all licensed personnel within the district or BOCE.
    - Requirements for evaluation (§22-9-106(1)(e), §*22-9-106(3), §22-9-106(3.2), §22-9-106(3.3), and §22-0-106(7) , C.R.S.)*
      - Currently, one of the standards for measuring teacher performance must be directly related to classroom instruction and include multiple measures of student performance. Instead, once the quality standards required by SB 10-191 are put into effect, one of the standards for measuring teacher performance shall be directly related to classroom instruction and shall require that at least fifty percent of the evaluation is determined by the academic growth of the teacher's students.
      - Written evaluations must include a, written improvement plan with specific improvements and recommended additional education and training during license renewal process, specific strengths and weaknesses in performance, when direct observation was made, data sources, discussed and signed by evaluator and person being evaluated, and reviewed and signed by a supervisor of the evaluator.
      - Evaluations may include any peer, parent, or student input from standardized surveys.

- Principal evaluation will include input (defined by the districts) from teachers in their school as well as input from students and parents of school. Once the quality standards required by SB 10-191 are put into effect, at least fifty percent of a principal's evaluation shall be determined by the academic growth of the students enrolled in the principal's school. Quality standards shall include, but need not be limited to, achievement and academic growth for those students enrolled in the principal's school, as measured by the Colorado Growth model, the number and percentage of licensed personnel in the principal's school who are rated as effective or highly effective, and the number and percentage of licensed personnel in the principal's school who are rated as ineffective but are improving in effectiveness.
- Each principal and administrator who evaluates licensed personnel must keep records and documentation of each evaluation conducted. They will also be evaluated on how well they comply with statutory requirements for evaluating licensed personnel and with the district's evaluation system.

Equitable Distribution:

Salary/Compensation

- Salary Schedule/Policy for all teachers in a district (*§22-63-401, C.R.S.)*
  - There are three options for districts: A salary schedule by job description and job definition, a teacher salary policy based on performance demonstrated by the teacher, or a combination of the salary schedule and salary policy for teachers. This must be done prior to or in conjunction with the adoption of the budget for the following calendar year.
  - The Board may not change the schedule or policy within the contract year so as to reduce the salary of any teacher. Pay may be modified for succeeding years, but no classroom teacher's salary may be reduced unless the new schedule or policy provides for a general reduction in salaries of all teachers.
  - School districts MAY develop a salary policy that ties teacher compensation directly to the achievement growth of a teacher's students. Districts may also grant teachers bonuses based on their performance. School boards may not lower an individual teacher's salary, however, for not meeting performance goals.
  - Teachers who have more education and/or experience will be paid more than teachers with less experience and education (*§22-63-401(2), C.R.S.)*

- Alternative teacher compensation plan grant program *(§22-69-101, et. seq. , C.R.S.)*
  - Provides funding to school districts to support the design and implementation of an alternative teacher compensation plan tailored to that particular district.
  - Three requirements
    - Plan must be designed and developed collaboratively with teachers (through school district-adopted procedures for setting compensation), administrators, parents, and the school district board of education.
    - Final plan must be open to all teachers who meet the established performance criteria without regard to grade level, subject area, or assignment
    - The school district seeks a stable, sufficient, and sustainable source of new revenue to fund the alternative compensation plan on an ongoing basis.
  - Amended in 2009 to change $1,000,000 State funding from mandatory to optional

- Loan forgiveness Program (*§23-3.9-1, C.R.S.)*
  - Provides a teacher who (1) initially applied to the program and (2) teaches in a high-poverty elementary school in a rural school district (a school district that does not include within its geographic boundaries a

municipality exceeding 5000 persons and that is characterized by sparse, widespread populations) will receive $4,000 for the first two years and up to $1,000 for each year thereafter in education loan forgiveness.
    - Program continues until 2013. No general fund appropriations in 2009

- Colorado Teacher of the Year (*§22-61.5, C.R.S.)* (Note: Section 61.5 added to Title 22 by HB 09-1240, signed 05/05/2009)
    - Rules for the Teacher of the Year program are to be set by SBE
        - Possible rewards, gifts, or opportunities may include: Sabbatical from teaching (State gives funding to district to pay for substitute teacher), a cash gift, travel and lodging expenses, a computer, supplies and equipment for teacher's classroom or school, and the opportunity to receive additional training or education
    - No General Assembly funding, funded entirely by CDE raising grants, gifts, and donations

- Transfers
    - Allows for teacher exchange program in an effort to achieve the goal of equal educational opportunity within CO. Teachers who participate in this program will be paid their same salary and are still subject to the provisions and benefits of retirement, insurance, and workers' compensation as if performing services within their district of origin (*§22-63-205, C.R.S.)*
    - Allows, at the recommendation of the district's Chief Administrative Officer , for transfer of teachers to different schools, positions, or grade levels within the district so long as they are qualified and salary does not decrease *(§22-63-206, C.R.S.)*
    - Teachers holding administrative positions may be transferred to another position so long as they are qualified and will be paid accordingly, without salary deduction. If there is an adopted salary schedule, the school board may consider the years of accumulated service while in the previous position to determine the teacher's place on the schedule (*§22-63-206(2) , C.R.S.)*
- For 2009-10, 2010-11, and 2011-12 school years, teachers with a National Board for Professional Teaching Standards Certification who is employed as of May 1 in a given school year in a school that received a "low" or "unsatisfactory" rating in the previous year's school accountability report will receive an annual stipend of $3,200, in addition to the $1,600 stipend for National Board for Professional Teaching Standards Certification (above in Teacher Quality Section), in each year that they remain employed at the school AND the school scores a higher rating in a subsequent school accountability report (*§22-2-504, C.R.S.)*
    - No mandated State allocation – Subject to available appropriations as amended by SB 09-214

Recruiting

- Teach Colorado Scholarship Program *(§23-3.3-9, C.R.S.)*
    - Grants given to IHE's from the CDHE for the purpose of providing scholarships to high-ability students seeking a baccalaureate degree who have demonstrated commitment to the teaching profession, and attracting high-ability students in high-need content areas to the teaching profession.
    - Scholarships not to exceed one year of in-State tuition for thirty semester hours of credit

- School Leadership Academy Program (*§23-3.9-1, C.R.S.)*
    - Provides a comprehensive leadership and professional development system that identifies, recruits, trains, and inducts qualified persons for leadership positions in public schools.
    - Creates a Principal Academy to provide training for practicing principals as well as entry-level training for those seeking an initial principal license.

- CDE not allowed to initiate the program until at least $50,000 in gifts, grants, or donations for the program is committed in addition to the General Assembly appropriations

Data:

- On or before Aug 30,2011, two studies should be done regarding teacher stipends *(§22-2-504, C.R.S.)*
  - The CO Department of Education needs to contract an outside source to study:
    1. The effect of National Board Certification on student achievement
    2. The effectiveness of stipends on encouraging teachers to obtain national board certification and encouraging teachers to teach in low-performing schools, the effect of national board certification on teacher retention, and effect of having national board certified teaches on culture of school.

- Educator Identifier System *(§22-68.5, C.R.S.)*
  - Used to study the teacher gap and identifying possible solutions, study educator training and professional development programs, track educator mobility and retention issues, improve teacher and student learning through use of data to recognize, reward, and develop careers of individual educators, match educators to students through pairing with State's longitudinal data system, gather baseline data about distribution of HQT's take action to address inequalities in distribution of number and percent of educators in highest- and lowest-poverty areas, enhance instruction through technological resources including growth model data for their students, and gather information relating to teacher and principal performance rating through LEPs evaluations.

Other Policies:

Retirement

- Article 64 of Title 22, C.R.S., details the Public Schools Teachers Retirement Fund. It provides for the possibility and rules for school districts creating their own Retirement and Benefits system. As of today, with the merger of Denver Public Schools, there are no districts that have an independent system. All education employees are part of the Public Employees Retirement Association (PERA) – SB 09-282 created merger, signed 05/20/2009

Dismissal

- Tenure: "Probationary" vs. "Non-Probationary" Teachers *(§22-63-203, C.R.S.)*
  - Tenure is not explicitly mentioned in Statute; instead the law makes a distinction between "probationary" and "non-probationary" teachers.
  - Currently, a "probationary" teacher is a teacher in their first three years of teaching in any one district. Instead, once the new performance evaluation system required by SB 10-191 is put into effect, a "probationary" teacher will be a teacher who has not yet obtained nonprobationary status or who has had two consecutive performance evaluations with an ineffective rating.
  - A "probationary" teacher's contract is subject to annual renewal and may be not be renewed for "any reason he [a district's Chief Administrative Officer] deems sufficient" that then must be confirmed by the District's Board of Education.
  - Currently, after four years of continuous service in the same district, a teacher becomes a "non-probationary" and afforded the judicial review process outlined below. Instead, once the new performance evaluation system required by SB 10-191 is put into effect, a teacher will be granted nonprobationary status as a result of three consecutive years of demonstrated effectiveness, as determined through his or her performance evaluations and continuous employment.

- Denial of Judicial Review *(§22-63-302(11) , C.R.S.):*

- A teacher can be dismissed by the district board of education without the process of judicial review once the teacher is convicted, pleads nolo contendere, or receives a deferred sentence for any of the following:
  - A violation of any law of this State or any counterpart municipal law of the State involving unlawful behavior pursuant to:
    - Unlawful sexual behavior (*§18-3-Part 4, C.R.S.)*
    - Enticement of a child (*§18-3-305, C.R.S.*
    - Wrongs to children (*§18-6-Part 4, C.R.S.)*
    - Incest (*§18-6-301, C.R.S.)*
    - Aggravated Incest (*§18-6-302, C.R.S.)*
    - Contributing to the delinquency of a minor (*§18-6-701, C.R.S.)*
    - Child Prostitution (*§18-7-Part 4, C.R.S.)*
  - Any violation of any law of this State, any municipality of this State, or of the United States involving the illegal sale of controlled substances as defined in *(§12-22-303(7) , C.R.S.)*

- Due Process Procedures for dismissal *(§22-63-302, C.R.S.)*:
  - The Chief Administrative Officer (CAO) recommends dismissal of a teacher based on one of the grounds in section *C.R.S. 22-63-301* to the District School Board.
  - Within 3 days after the Board meeting where dismissal is recommended, CAO must send a written notice of intent to dismiss as well as all reasons for recommendation, all pertinent documents relating to the circumstances surrounding charges, a copy of *§22-62-302, C.R.S.*, and all exhibits intended to be submitted to support the case (including a list of witnesses with addresses and phone numbers)
  - If the teacher objects to the grounds for dismissal, they must notify CAO in writing within 5 working days of receipt of notice of dismissal. If no notice is filed within 5 working days, it is deemed as a waiver of a right to a hearing and the dismissal shall be final.
    - EXCEPTION: The Board may grant hearing if they find the teacher's reasons for failing to file a request for a hearing on time was due to "good cause." (Note: "Good cause" is used throughout the Statute and is not anywhere defined.)
  - Teacher who requests hearing will receive regular compensation from the time of the recommended dismissal by the CAO until the Board accepts or rejects the dismissal recommendation. This time is not to exceed 100 days, which begins once the CAO recommends dismissal to the District Board of Education.
    - EXCEPTION: Teacher will not receive regular compensation upon being charged criminally with an offense for which a license, certificate, endorsement, or authorization is required to be denied, annulled, suspended, or revoked due to conviction.
  - If a hearing is requested by the teacher, the teacher and CAO will collectively select an impartial hearing officer to oversee the hearing no more than five days following receipt of the teacher's written notice of objection.
    - If no agreement on a hearing officer can be made between the CAO and teacher, they should request an administrative law judge from the department of personnel to act as the hearing officer.
  - Hearing date should be set by the Hearing Officer within three days of selection. Hearing date must be within the following 30 days.
  - Within 10 days of selecting a Hearing Officer, the teacher must give the CAO a copy of all exhibits to be used at the hearing and a list of all witnesses including address and telephone numbers.
  - Within seven days of submittal of teacher's exhibits and witness list, both parties may supplement their exhibits and witness lists. Neither party is allowed to take dispositions of the other parties witnesses or submit interrogatories to the other party.

- Both the teacher and the CAO are allowed one prehearing conference with the Hearing Officer in which their counsel is required to attend. One of the purposes of the prehearing conference is to limit, to the extent possible, the amount of evidence to be presented at the hearing.
- Hearing must be public and must be audio-taped (the cost of transcribing the tape shall be split equally among the parties). Hearings must last no longer than six days unless extended by Hearing Officer on a showing of good cause.
- The Hearing Officer shall review the evidence and testimony from the hearing and shall make written findings of fact thereof.
- Within 20 days of the conclusion of the hearing, the Hearing Officer shall make one of two recommendations: The teacher should be dismissed or the teacher should be retained. The findings shall be forwarded to the teacher and the District Board of Education.
- Within 20 days of receipt of the Hearing Officer's recommendation, the Board shall review the recommendation and issue one of three possible decisions: 1) Teacher is dismissed, 2) Teacher is retained, or 3) Teacher is placed on one-year probation. If dismissal is chosen against the Hearing Officer's recommendation, the Board shall give its reasons, which must be supported by the Hearing Officer's findings of fact, in written form. The secretary of the board shall ensure a copy of the order is given immediately to the teacher and place a copy into the teacher's local file.
- Teacher may appeal the Board's decision to the court of appeals within 20 days of the decision to dismiss. In addition to affirming or overturning the Board's decision, the Court of Appeals may require the non-prevailing party to pay the prevailing party for attorney fees and costs incurred on appeal only if they determine the appeal or defense on appeal lacked substantial justification.
- The Teacher may appeal the decision to the Colorado Supreme Court. If the petition is denied, the dismissal is final. The Court may remand the case back to hearing to clear up any procedural error (in which case the dismissal procedure starts again)
- For an example of the judicial process timeline, please refer to: http://commongood.org/colorado-dismissal.hl

Exhibit D-3: Colorado State Board of Education Resolution in Support of Teacher Effectiveness

COLORADO STATE BOARD OF EDUCATION

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Bob Schaffer
Chairman
4th Congressional District

Randy DeHoff
Vice-Chairman
6th Congressional District

Elaine Gantz Berman
1st Congressional District

Jane Goff
7th Congressional District

Peggy Littleton
5th Congressional District

Marcia Neal
3rd Congressional District

Angelika Schroeder
2nd Congressional District

Resolution in Support of Educator Effectiveness

WHEREAS: Effective teachers and principals in every school are critical to improving student results and eliminating achievement gaps among groups of students statewide; and,

WHEREAS: The State Board of Education has a moral obligation to facilitate access to effective teachers and principals by all students statewide; and,

WHEREAS: Local school districts are in the best position to determine how to implement such access in a manner that is consistent with the local community context and,

WHEREAS: The State Board of Education has a significant interest in ensuring that educator evaluation systems throughout the state are of high-quality and serve to improve student outcomes, and so should provide guidance to districts on the characteristics of high-quality evaluation systems and is authorized to do so under the Licensed Personnel Performance Evaluation Act; and,

WHEREAS: Local school districts understand the needs of their educators and students, and should have the flexibility to decide the specific details of their evaluation systems within the requirements of the Licensed Personnel Performance Evaluation Act; now therefore

BE IT RESOLVED: The State Board of Education hereby encourages districts to adopt the following principles in designing and implementing high-quality local evaluation systems:

cde Improving Academic Achievement

1. The purpose of the education system is to improve student outcomes. Evaluation systems for people working in the education system must be designed with that purpose at the center.

2. Evaluation systems are critical tools for improving educator effectiveness. Evaluations that are fair, transparent, rigorous, and relevant should serve as a key basis for decision making around promotion, pay, professional development, assignments, advancement to non-probationary status, and dismissal.

3. To have the potential to be considered fair, transparent, rigorous, and relevant, an evaluation system should have the following features:

    a. The standards for evaluating performance are clear and relevant to the individual's roles and responsibilities and advance the system's goal of improving student outcomes; and
    b. Multiple valid and reliable measures are used to assess performance against the standards, and multiple objective measures of student growth serve as the predominant factor in assessing performance for those educators with direct responsibility for students; and
    c. Evaluations provide useful information about the performance of the individual to both the individual and the system through the use of multiple overall rating categories and personalized feedback on performance with respect to each standard used; and
    d. Evaluators are well-trained with respect to the standards, appropriate assessment methods, and resources available for improvement; and
    e. The standards used to evaluate performance are widely known, embedded in the culture, and consistently used

to provide frequent informal feedback designed to improve student outcomes; and

f. Sufficient and meaningful resources are available to assist educators seeking to improve their performance; and

g. The evaluation system is consistently monitored for its fairness, transparency, rigor, and relevance, and its design and implementation are adapted as needed.

4. Evaluation systems that have the qualities described above should result in the following outcomes:

   a. Educators who are consistently high performers are recognized and rewarded, and have multiple opportunities to develop their leadership and share their knowledge and skills for the benefit of students in the school, district, and/or state; and
   b. Educators who are solid performers are recognized and rewarded, provided with multiple opportunities to share their knowledge and skills in their areas of strength, and provided with ongoing high-quality professional development targeted to areas in need of improvement as identified by evaluations; and
   c. Educators who are consistently poor performers despite opportunities to improve are removed from their positions in a process that is both quick and fair.

DATED THIS 10th DAY OF DECEMBER, 2009.

Bob Schaffer, Chairman
4th Congressional District

Randy DeHoff, Vice-Chairman
6th Congressional District

Elaine Gantz Berman
1st Congressional District

Jane Goff
7th Congressional District

Peggy Littleton
5th Congressional District

Marcia Neal
4th Congressional District

Angelika Schroeder
2nd Congressional District

Resolution In Support of CDE Efforts to

Improve and Support Colorado Educators

WHEREAS: Effective teachers and principals in every school in Colorado are critical to improving student results and closing or eliminating achievement gaps among groups of students statewide; and,

WHEREAS: The Commissioner of Education has initiated actions to ensure that the Department deploys the resources at its disposal to increase the effectiveness of teachers and principals statewide, including the equitable distribution of them among and within local school districts; and

WHEREAS: Local school districts are in the best position to determine how to implement such resources in a manner that is consistent with the local community context and individual school needs. Now, therefore,

BE IT

RESOLVED: The Colorado State Board of Education unanimously supports each of the following activities initiated by the Commissioner of Education for the purpose of ensuring that every child in Colorado has access to an effective teacher in his or her classroom and an effective principal in his or her school:

1. ***Set annual targets for the number and percentage of effective and highly effective teachers and principals statewide, and their equitable distribution among and within local school districts***;

2. Strategically ***re-align the Department's staff and activities, including the appropriate use of federal funds,*** in a manner that reflects the improvement of educator effectiveness and the working conditions that foster the same, as a critical priority for the Department overall, and directly facilitates the Department's capacity to meet or exceed its annual targets for the effectiveness of all teachers and principals in Colorado's public K-12 schools;

3. Review the ***performance of educator preparation programs*** and include performance indicators in the reports required to be prepared pursuant to C.R.S. 22-68.5-102.5 and in conjunction with the annual survey of superintendents conducted pursuant to 22-60.5-116.5, C.R.S.;

4. Participate in and lead a variety of initiatives in collaboration with educator preparation programs intended ***to align pre-service activities with proven methods of increasing educator effectiveness***, including the use of pre-service performance assessments (TPAC), outcomes-

based measures of performance (UCD and UC Boulder pilot) and clinically-based preparation programs (Blue Ribbon Panel on Clinical Preparation, Partnerships and Student Improvement);

5. Set ***annual targets and develop plans to meet such targets to increase the number of educator preparation programs that demonstrate their ability to prepare teachers and principals to be effective*** and decrease or eliminate those programs that consistently fail to demonstrate that they prepare effective educators;

6. Set ***annual targets for increasing the number of preparation programs whose candidates demonstrate that they are effective and decreasing the number that fail to do so***;

7. Recommend ***improvements to the standards and criteria applicable to the preparation of teachers and principals to increase the effectiveness of preparation program graduates***, which recommendations should be informed by independent national efforts and current preparation program activities throughout Colorado;

8. Direct the School Leadership Academy Board to ***incorporate the results of the TELL Survey*** in meeting the board's duty under C.R.S. 22-13-103(10) to advise the State Board concerning the standards and criteria for the ***approval and review of induction programs for initial principal licenses***;

9. Deliver the ***TELL Survey results to the Governor's Council for Educator Effectiveness*** for its consideration in meeting its duty to recommend guidelines for the adequate implementation of high-quality educator evaluation systems;

10. Establish, monitor and report on the attainment of biennial ***targets for the quality of teaching and learning conditions statewide, as measured by TELL Survey***;

11. Identify within existing Department programs opportunities to make available incentives and/or resources to create ***data-driven plans to improve teaching conditions related to the improvement of student outcomes***;

12. Recommend appropriate amendments to the rules adopted pursuant to C.R.S. 22-2-109 ***for performance-based teacher and principal licensure*** that are informed by the Governor's Council for Educator Effectiveness, and are designed to improve the effectiveness of licensed teachers and principals in Colorado;

13. ***Assess the performance of district and BOCES induction programs and identify opportunities to improve*** their ability to increase the effectiveness of new teachers and principals;

14. Identify opportunities to more effectively ***support local recruitment and retention efforts,*** with a particular emphasis upon efforts to prepare, attract, support and retain highly effective teachers and principals to serve in critical shortage areas, including those that serve in rural, high-poverty and/or high-minority schools, teachers of English language instruction, teachers of

Special Education, and teachers in the Science, Technology, Math and Engineering (STEM) areas;

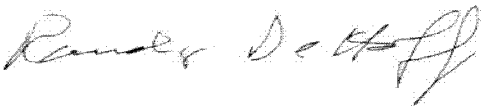
15. Incorporate an assessment of local teaching and learning conditions, including the implementation of high-quality educator evaluations, into the ***school improvement planning process by identifying and addressing root causes of inadequate performance related to the same***; and

16. Consider a structure and process for creating an ***oversight committee of policymakers and practitioners to coordinate the TELL Survey and the design and implementation of strategies to improve teaching and learning conditions***.

DATED THIS ___ DAY OF MAY, 2010

Bob Schaffer, Chairman

4th Congressional District



Randy DeHoff, Vice-Chairman

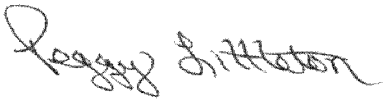
6th Congressional District

Elaine Gantz Berman

1st Congressional District

Jane Goff

7th Congressional District



Peggy Littleton

Marcia Neal

5th Congressional District

4th Congressional District

Angelika Schroeder

2nd Congressional District

Exhibit D-4: Executive Order Creating the Governor's Council for Educator Excellence

B 2010-001
EXECUTIVE ORDER
Creating the Governor's Council for Educator Effectiveness

Pursuant to the authority vested in the Office of the Governor of the State of Colorado, I, Bill Ritter, Jr., Governor of the State of Colorado, hereby issue this Executive Order creating the Governor's Council for Educator Effectiveness.

I. Background, Need, and Purpose

Dramatic improvement in overall student performance is needed in Colorado. The academic achievement of Colorado's K-12 students remains squarely in the middle as compared to other States. Perhaps more urgent is the collision course that our demographic trends and startling achievement gap has set us on. Gaps in achievement between our poor children and their more affluent peers are among the highest in the nation, and the number of Colorado children in poverty is increasing at an alarming rate.

Without dramatic and immediate change directed at eliminating these gaps in achievement and improving achievement overall, Colorado's economic health and quality of life will decline. Colorado, given its strong history of local innovation, its positive momentum in the area of education reform, and its tradition of collaboration, is well positioned to implement this needed change.

Improvements in student achievement ultimately rely upon the expertise and abilities of our educators, the individuals who have devoted their professional careers to ensure that our students are well prepared for adulthood. Every aspect of our public educational system must be focused on ensuring that these valuable professionals who serve our students daily have the knowledge, skills, and support necessary to meet this challenge. It is our collective responsibility to help kids learn despite the deficits and obstacles that may exist in their environment.

High expectations for the personal responsibility and performance of all students are essential, as are the complementary expectations for adult performance. The adults – parents, teachers, principals, and other support staff – are the most important resources of our education system, and their individual and collective effectiveness is the most important factor in improving student results. Colorado needs to attract, develop, and retain the highest quality staff possible by creating school environments that maintain high standards of both professionalism and performance. Judgments about the effectiveness of our educators need to be made in ways that are objective, transparent, timely, fair, and informed by multiple perspectives and sound information.

The shared mission and ongoing professional collaboration within a school are the key factors in the success of the school. Those adults closest to the children are best positioned to know their students and to work together to define ways to help them succeed. The best outcomes will come through the ongoing collaboration of the adults in and around the school system including parents, teachers, administrators, and community leaders along with the students themselves. State resources are essential to support these people in their critical work.

To achieve the dramatic improvements the State seeks, there must be a significant change in behavior and practices in our schools. Although all schools must continue to improve, special attention should be directed to the lowest performing schools. All students deserve to be taught by effective adults. All of our educators deserve to have the support necessary to meet the unique needs of their students. It is our collective responsibility to work with our educators Statewide to ensure that all have the capacity and the resources to achieve excellence for their students. For this reason, I am creating the Governor's Council for Educator Effectiveness (the "Council").

II. Mission

A. The purpose of the Council is to provide a forum for considering options and providing recommendations to ensure that every educator is:

1. Evaluated using multiple fair, transparent, timely, rigorous, and valid methods, at least 50% of which is determined by the academic growth of their students;

2. Afforded a meaningful opportunity to improve their effectiveness; and

3. Provided the means to share effective practices with other educators Statewide.

B. The Council shall have the following charges:

1. The Council shall meet on or before March 1, 2010 to organize its work.

2. No later than December 31, 2010, the Council shall recommend Statewide definitions of principal effectiveness and teacher effectiveness, each of which is centered on an educator's demonstrated ability to achieve and sustain adequate student growth that includes a set of professional skills and competencies related to improved student outcomes.

3. The Council's recommendations shall consist, at a minimum, of recommendations that are applicable to school principals and recommendations that are applicable to classroom teachers.

4. No later than December 31, 2010, the Council shall develop and recommend guidelines for adequate implementation of a high-quality educator evaluation system. Adequate implementation will require, at a minimum, demonstrating that:

a. Ongoing training on the use of the system is sufficient to ensure that all evaluators and educators have a full understanding of the evaluation system and its implementation by, for example, conducting joint trainings for evaluators and educators;

b. Evaluation results are normed to assure consistency and fairness;

c. Evaluation rubrics and tools are deemed fair, transparent, rigorous, and valid by the local Transformation Council using a process that assures they meet or exceed rubrics created by the Colorado Center for Educator Excellence;

d. Evaluations are conducted consistently and thoroughly;

e. Evaluations are conducted using sufficient time and frequency, at least annually, to gather sufficient data upon which to base the ratings contained in an evaluation;

f. Adequate training and collaborative time is provided to ensure that educators fully understand and have resources to respond to student growth data; and

g. Student data is monitored at least annually to ensure the correlation between student growth and outcomes with educator effectiveness ratings.

5. In making its recommendations, the Council shall include the impact and effect of district and school-level conditions, as measured by the nine performance standards set forth in the Comprehensive Appraisal for District Improvement ("CADI") rubric and bi-annual Teaching, Empowering, Leading and Learning Initiative ("TELL") survey of school working conditions, as well as any additional methods of assessing such conditions identified by the Council as valid, transparent, and reliable.

6. On or before December 31, 2010, the Council shall adopt a rubric for identifying multiple additional measures of teacher effectiveness (in addition to student growth) that are rigorous, transparent, and fair.

7. On or before September 30, 2011, the Council shall make recommendations to the Governor, General Assembly, and State Board of Education for policy changes, as appropriate, that will (i) support districts' use of evaluation data for decisions in areas such as compensation, promotion, retention, and removal, as well as the criteria for earning and retaining non-probationary status and (ii) ensure that the standards and criteria applicable to teacher and principal licensure and the accreditation of preparation programs are directly aligned with and support the preparation and licensure of effective educators.

C. The Council's recommendations may include changes to existing statutes or rules, as well as recommendations for local implementation.

D. All recommendations from the Council shall reflect the consensus of its members.

E. The Council shall meet as needed to complete the tasks set forth in this Executive Order.

III. Membership

A. The Council shall consist of the following fifteen members, appointed as follows:

1. The Commissioner of Education, or his or her designee;

2. The Executive Director of the Department of Higher Education, or his or her designee;

3. Four teachers, selected with the advice of the Colorado Education Association;

4. Two public school administrators and one local school district superintendent, each selected with the advice of the Colorado Association of School Executives;

5. Two members of local school boards, selected with the advice of the Colorado Association of School Boards;

6. One charter school administrator or teacher, selected with the advice of the Colorado League of Charter Schools;

7. One parent of a public school student, selected with the advice of Colorado Parent Teachers Association;

8. A current student or recent graduate of a Colorado public school, selected with the advice of a Statewide student coalition; and

9. One at-large member with expertise in education policy.

B. The Governor shall appoint a chair and vice-chair from among the members of the Council.

C. Other than the designees of the Commissioner of Education and the Executive Director of the Department of Higher Education, the members of the Council shall be appointed by and serve at the pleasure of the Governor.

D. The Council may establish working groups, task forces, or other structures from within its membership or outside its membership as needed to address specific issues or to assist it in its work.

IV. Funding and Staffing

A. The Colorado Center for Educator Excellence ("CCEE"), an independent research and data analysis entity to be created using funds from a successful Race to the Top proposal, shall provide the Council with necessary support, information, data, analytical information, and administrative support. Prior to the creation of the CCEE, the Office of the Governor and the Department of Education shall provide the Council with support, information, data, analytical information, and administrative support necessary to do its work.

B.

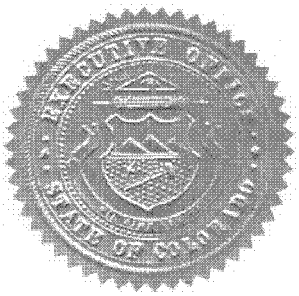
C. The Council shall have the power to accept money and in-kind contributions from private entities and persons only to the extent such donations are necessary to cover its expenses. Any money contributed to the Council shall be directed to the Office of the Governor and deposited with the Treasurer of the State of Colorado in an account within the Office of the Governor's budget. Members of the Council shall serve without compensation, but may, at the discretion of the chair and approval of the Office of the Governor, be reimbursed for any actual expenses incurred.

V. Directive

The Governor's Council for Educator Effectiveness is hereby created.

VI. Duration

This Executive Order shall remain in effect until modified or rescinded by the Governor.



GIVEN under my hand and the Executive Seal of the State of Colorado this thirteenth of January, 2010.

Bill Ritter, Jr.
Governor

Exhibit D-5: The CDE HQT State Plan

Moving from HQ to TQ
The CDE HQT State Plan
Amendments (November 2008)

As of November 2008, Colorado's State plan is on track and few changes need to be made to the overall structure. This document provides updates and additional detail to the original plan. Only the activities that had significant alterations in timelines, procedures or level of detail have been included. Due to the complexity of implementing the State HQT and equity plan, CDE has had to slow down and examine the issues in more depth. Before any initiatives could be fully launched at the local level, CDE recognized the need for further analysis at the State level The State has tried to build a more cohesive approach to improving teacher quality, and this has meant interweaving established and new State-level initiatives - which takes considerable coordination.

Research on Teacher Quality and Statewide Initiatives
State Reports on the Teacher Gap. In 2007-08, CDE partnered with the Alliance for Quality Teaching's research committee to develop a Statewide report. The report provided information and data on Colorado's teacher gap and included recommendations to stakeholders to address these issues. As a follow-up to this report, CDE sponsored an attrition study that focused on teacher gaps in areas of concern, including Title I schools, rural districts, and special education teachers. A more in-depth analysis of the data was performed on these special populations and interviews were conducted. The interviews were especially important in telling the rural "stories" since data analysis and reporting in those districts is restricted by the small numbers of teachers. This study will be released at the beginning of 2009. A communication plan has been created to share the results with districts and engage in further discussions on these issues.

Quality Teacher Commission and the Educator Identifier. In 2007-08, the State Legislature called for a Quality Teachers Commission to examine the existing teacher gap in the State and to make recommendations on creating a education identifier. CDE is staffing this Commission. To date, the commission has made recommendations to pilot the educator identifier (for teachers and principals) in select districts. This pilot should be launched in the next year (upon available funding). The State will partner with researchers and a few selected districts to demonstrate how the identifier will link various data sets together to provide a more complete picture on the State of teaching in Colorado – including Human Resource data, student data (including longitudinal growth data), teacher preparation data, professional development data and other data sets. Once the pilot is underway, the commission will continue to examine the teacher gap and begin to explore a potential principal gap.

Teacher and Principal Working Conditions Survey. A component that has been historically missing from Colorado's teacher analysis has been a mechanism to examine teacher and principal perceptions of their working conditions (e.g., access to resources, strength of leadership) and the relationship between educator satisfaction and student performance. CDE has recently posted a documented quote to hire a research vendor to survey teachers on their present conditions, including such factors as access to resources and time, leadership, and other supports. CDE then plans to match this data .with student results to gain a better sense of how supports for teachers also impacts student success. The first annual survey will be launched in spring 2009.

P-20 Council and Alternative Compensation. Another noteworthy development in Colorado is the formation of a P-20 Education Council. Council membership encompasses a broad array of stakeholders, including representatives from the governor's office, CDE, the Department of Higher Education, early childhood, districts, higher education, businesses, parent groups, researchers and others. There are several subcommittees, including one dedicated to educator issues. In their first year of meeting (2007-08), this committee focused their discussions and resulting recommendations on alternative compensation. Based on this work, the State

legislature created an alternative teacher compensation package. CDE is in the process of developing an RFP to distribute these dollars. The State is also examining ways to provide districts with technical assistance (e.g., panels with districts that have begun work on altering their systems, offering experts in the field) as they re-examine their compensation systems. With these initiatives underway, the State is better positioned to continue working with districts on identifying models of success, lessons learned and other initiatives to stimulate best practices. These initiatives support and are woven throughout the State's HQT and equity plan.

Section 1: Data Analysis
CDE continues to run data in a way consistent with the original plan. Analysis of Colorado's HQT data is available on CDE's website. CDE will continue to perform this function in the future. Building on the research initiatives discussed above, CDE will also continue to dig deeper to determine what variables are associated with an effective teacher. This will include new and continued studies of other factors that lead to instability in the State's teaching workforce. Previously referenced activities such as the attrition study, educator identifier and its pilot, and the TELL survey will inform this process.

Section 2: LEA HQT Status
CDE continues to identify LEAs' HQT status through the annual HR collection. CDE also identifies district that meet the 2141a and 2141c criteria. Support for LEAs is discussed in section 4.

Section 3: Technical Assistance
Colorado continues to offer an extensive system of professional development and technical assistance. Additional opportunities were discussed above and are embedded in the other sections.

Section 4: Failure to Reach 100% Goal
CDE has taken a multi-pronged approach to working with districts that have not met the 100% Highly Qualified teacher goal. This has included extensive Statewide training, required teacher plans, funding restrictions, and implementation of NCLB's section 2141.
Training. CDE has done extensive work to provide clearer guidelines on the HQ requirements. This has included resources on the HQ website (e.g., HQ Handbook), periodic communications (e.g., emails, newsletter articles) and numerous trainings throughout the State (e.g., face-to-face trainings, webinars). Beginning in 2007, several offices (federal programs, special education, licensing, data and research) within CDE teamed up to provide integrated trainings. This has helped to draw the necessary links for LEAs between the very complicated system of HQ, licensing, special education, and the associated data collection requirements. These trainings have helped to greatly reduce anxiety among LEAs because they now understand the rules and are able to appropriately hire and reassign staff to ensure they remain in compliance. CDE will continue with this training format to reinforce LEAs knowledge on these topics.

Individual Teacher HQ Plans. Beginning in fall 2006, CDE required that an individual plan for any non-HQ teachers are submitted to CDE through an online planning system. This system built on the annual HR collection results by pulling core content teachers that were not HQ. LEAs were then required to enter a reasonable plan (e.g., timeline to prepare for and pass a content test, timeline that lists a few courses to obtain 24 semester hours in the assigned content area) to get the teacher to HQ status. CDE staff reviewed each case and provided feedback. Release of NCLB funds were leveraged to ensure full participation in the process:

- All plans had to be received and approved by CDE before funds would be released.
- Any teacher funded through NCLB (e.g., Title I teacher, class size reduction through Title IIA) had to be HQ – without exception. CDE consulted final HQ determinations and then altered the consolidated application to check the HQ status of staff funded through NCLB funds.

CDE will continue with this same model of follow-up on any non-HQ staff. Strides are being made to improve the system by making the data available sooner and making changes to increase the accuracy of the collection. Historically, the data has not been available until August – after the school year is over. However, CDE is now in the process of developing a new online HQ system that is built into the ADE system – rather than a separate stand-alone system. This means that the two data systems can work in tandem and communicate. With these changes, the final HR and HQ data will be available in the spring. CDE is also anticipating that the data will be more accurate as it streamlines the reporting for LEAs. CDE will continuously monitor and
adjust the data systems to increase turnaround time and improve reporting accuracy.

2141a Identification and Activities. With clarification on the requirements from the USDE in spring 2007, CDE designed a system to meet the requirements of 2141a and began implementation immediately. In addition to providing individual teacher plans, identified districts were expected to complete a district wide plan that identified the barriers to meeting the 100% HQ goal. These plans were submitted as a part of their consolidated application (beginning in spring 2007). Districts encountered a number of barriers that ranged from unclear hiring and/or reassignment policies to limited access to a pool of qualified applicants, particularly among small isolated districts. LEAs are focusing funds to support non-HQ teachers become HQ; create HR positions to better ensure requirements are met and data accurately documented and reported; and implementing new recruiting and retention strategies. CDE plans to continue with the same protocol annually.

2141c Identification and Activities. CDE began identifying and notifying LEAs under this provision in winter 2006. However, with clarification from the USDE in spring 2007, CDE added in the financial agreement requirement in spring 2008. It has been an evolving process. Because of the late notice, CDE contacted districts right away to discuss priorities for the use of Title IIA funds:

- Working toward individual core content teachers becoming HQ
- Conducting needs assessments around professional development and hiring
- Implementing Professional Development
- Piloting innovations around recruitment and retention of teachers and principals

In spring 2008, CDE conducted phone interviews with individual districts, but the main portion of the agreement process happened during the consolidated application process beginning in June 2008. The focus was on targeting funds toward getting teachers HQ and/or supporting the district to make AYP. When an activity did not appear clearly focused on that goal, the LEA was asked to respond with a justification or reallocate funds. While CDE and the identified districts came to an agreement on the use of funds, there were some components that needed improvement. Using the application process was too late in some cases to make significant changes (e.g., salary for class size reduction). In those cases, the district had to reduce dollars spent on the non-priority activity or provide a written agreement to curtail activities in the future.

To address the timing issue for the next round of identified district in fall 2008, CDE has combined the Title I Program Improvement and Title IIA 2141c process. Identified districts are expected to create a cohesive Title I and Title IIA plan. Furthermore, districts are expected to complete action plans (including projected Title IIA budgets) to address Highly Qualified and AYP issues. The plans are due in January 2009 – well before the 2009-10 consolidated application process. This new process will allow CDE to work with districts in a more timely manner to ensure that Title IIA activities are squarely focused on the identified priorities. Activities such as class size reduction will require strong evidence of success and impact on the identified issues before being approved. Any 2008-09 budget revisions will also undergo close scrutiny to ensure alignment with the priorities. One district identified under 2141c was not identified for Program Improvement; therefore, the action plans for this district were tailored to address the 2141c planning process only. CDE will provide further training and technical assistance to all identified districts (e.g., webinars, additional grant opportunities) over the next few months as they begin to formulate their plans.

The 2141c districts were given higher priority on a teacher recruitment and retention grant offered in winter 2008. This particular grant was aimed at encouraging districts to assess staffing needs and consider innovative approaches to addressing those needs. This included examining the equitable distribution of experienced, qualified and effective teachers

and increasing Colorado's Statewide percentage of highly qualified teachers and Title I paraprofessionals to 100%. Funds could be used for the following types of activities:

- Conducting a needs assessment on staffing (including the equitable distribution of effective teachers)
- Planning and/or implementing a research-based teacher and/or principal mentoring and induction program
- Planning and/or implementing strategies to recruit, hire, and retain highly qualified teachers and principals
- Providing supports to help get teachers -- especially special education teachers and other hard-to-staff positions -- or Title I paraprofessionals become highly qualified.

Progress reports indicated that the tight focus of this grant enabled districts to provide extra attention on their staffing needs assessment, conduct HQ reviews, study their HQ data, examine the equitable distribution of teachers, and address other relevant requirements. Given the success of this grant, CDE is planning on offering this opportunity again in late 2008 (if State level funds are available).

Section 5: HOUSSE Process

Since the original plan was approved, CDE has created and implemented three HOUSSE provisions: (1) an Elementary HOUSSE for Veteran Teachers, (2) a Secondary HOUSSE for Multi- Subject Special Education Teachers; and (3) a Secondary HOUSSE for Multi-Subject Rural Teachers.

Elementary HOUSSE for Veteran Teachers. The elementary HOUSSE is still available for veteran teachers who have not gone through the process yet. The eligibility requirements include:

- Valid teaching license on or before July 1, 2006 (in or out of State), and
- One or more years of teaching experience (in or out of State).

The elementary HOUSSE provision was created in spring 2006 and made available to eligible elementary teachers to complete the 2006-07 HQ data collection. To date, the vast majority of general and special education teachers that needed the elementary HOUSSE have used it. However, veteran teachers coming from other States and elementary teachers returning to the professions still need to have this provision available. Colorado relies heavily upon out of State recruiting but does not accept HQ certification from other States. Therefore, out-of-State elementary teachers have few options to demonstrate subject matter competency in elementary content – except through content tests and the HOUSSE provision. For that reason, it was decided to create a HOUSSE that would be helpful to elementary teachers but also still phase itself out over time. This was done by fixing the eligibility requirements to one point in time (eligible teachers need to be licensed on or before July 1, 2006). It should be noted that the State maintains control over approving the HOUSSE provisions.

Multi-Subject HOUSSE for Secondary Teachers in Rural Settings. The following are the eligibility criteria for teachers in rural schools to use the HOUSSE. Candidates must meet all criteria to be eligible for the HOUSSE provision:

- District is eligible for the most recent Small Rural School Achievement Program (SRSA).
- Candidate has been assigned to teach two or more core content classes in a secondary grade (i.e., 6th through 12th grade).
- Candidate has a valid Colorado license and at least one year of teaching experience (in or out of State). If hired in a charter school where licenses have been waived, candidate has at least a Bachelor's degree.
- Candidate is already Highly Qualified in at least one core content subject without the use of this HOUSSE provision.

Multi-Subject HOUSSE for Secondary Special Education Teachers. The following are the eligibility criteria for special education teachers to use the HOUSSE. Candidates must meet all

criteria to be eligible for the HOUSSE provision.

- Candidate is the sole provider of instruction (see definition below) for two or more core content classes in a secondary grade (i.e., 6th through 12th grade).
- Candidate has a Colorado license with the proper special education endorsements.
- (If a new teacher licensed on or after July 1, 2007) Candidate is already Highly Qualified in at least language arts, math or science without the use of this HOUSSE provision.

The "sole provider" of content at the secondary level is defined as: (1) the person who introduces core content and provides full lessons on key concepts to students or (2) the person who makes instructional decisions for students (e.g., assessments, curricular design).

Section 6: Equity Plan

CDE has continued to run the data each year as it was first shared in the original HQT State plan. In 2007-08, individual reports were run for districts that had a higher incidence of inequitable distribution of its teachers in any of the elements:

- Teachers with less experience in schools with a higher percentage of minority students
- More non-highly qualified teachers in schools with a higher percentage of minority students
- Teachers with less experience in schools with higher poverty
- More non-highly qualified teachers in schools with a higher percentage of minority students

These identified districts were given priority on the Recruitment and Retention grant described in section 4. Given the success of the grants, CDE is planning on offering the opportunity again in late 2008 (if funds are available).

Training on the equity plans was provided at the NCLB directors meetings. All districts were expected to look at their own data and provide an outline of a plan – except for small districts that only had one school per level (i.e., one elementary). These were submitted in the 2008-09 consolidated application. Unfortunately, the plans have proved to be somewhat superficial.

In talking to districts and in reading their plans, it is apparent that Colorado has only scratched the surface of this reform-oriented provision. CDE was also somewhat dissatisfied with the analysis that it ran. Given the high number of HQ teachers in the State (98% in 2006-07), the analysis was not very sensitive to differences in districts. It was difficult to know how much of the difference between the schools was significant and worth further action.

For 2008-09, CDE has run the data for the Statewide snapshot of teachers' distribution throughout the State. However, CDE is proposing a new strategy to continue work on the equitable distribution of teachers. CDE will:

- Create a partnership with the University of Colorado-Denver (one of the same partners that worked with CDE on the teacher attrition study) to discuss more sophisticated analysis
- Create a field team to discuss possible analysis and feasible strategies
- Provide more in-depth workshops with districts to create meaningful analysis and plans. (Some of the materials from NCCTQ provide for nice structure to facilitate deeper discussion.)
- Continue to monitor data and follow up on an annual basis with districts' progress on their plans

Exhibit D-6: Definitions of High-Minority and Low-Minority Schools and High-Poverty and Low-Poverty Schools as Defined by the State for the purposes of the State's Highly Qualified Teacher Plan

High- and Low-Poverty Schools
(as defined in The CDE Highly Qualified Teacher (HQT) Plan)

- Elementary:
  - Low poverty: less than or equal to 15.92% Free or Reduced Lunch, bottom quartile
  - High poverty: greater than or equal to 63.64% Free or Reduced Lunch, top quartile

- Secondary:
  - Low poverty: less than or equal to 16.57% Free or Reduced Lunch, bottom quartile
  - High poverty: greater than or equal to 53.13% Free or Reduced Lunch, top quartile

Note: Elementary is defined as schools with E levels and EM levels; secondary is defined as schools with M levels, MH levels and EMH levels, where E=Elementary, M=Middle, H=High

High- and Low-Minority Schools
(as defined in The CDE Highly Qualified Teacher (HQT) Plan)

- Low minority: less than or equal to 15.79%, bottom quartile
- High minority: greater than or equal to 57.61%, top quartile

Note: Above thresholds apply to both elementary and secondary schools alike

Exhibit D-7: State Board May 2010 Resolution

It provides, in part, that, "The Colorado State Board of Education unanimously supports each of the following activities initiated by the commissioner of education for the purpose of ensuring that every child in Colorado has access to an effective teacher in his or her classroom and an effective principal in his or her school:

> Review the ***performance of educator preparation programs*** and include performance indicators in the reports required to be prepared pursuant to C.R.S. 22-68.5-102.5 and in conjunction with the annual survey of superintendents conducted pursuant to 22-60.5-116.5, C.R.S.;
>
> Participate in and lead a variety of initiatives in collaboration with educator preparation programs intended ***to align pre-service activities with proven methods of increasing educator effectiveness***, including the use of pre-service performance assessments (TPAC), outcomes-based measures of performance (UCD and UC Boulder pilot) and clinically-based preparation programs (Blue Ribbon Panel on Clinical Preparation, Partnerships and Student Improvement);
>
> Set ***annual targets and develop plans to meet such targets to increase the number of educator preparation programs that demonstrate their ability to prepare teachers and principals to be effective*** and decrease or eliminate those programs that consistently fail to demonstrate that they prepare effective educators;
>
> Set ***annual targets for increasing the number of preparation programs whose candidates demonstrate that they are effective and decreasing the number that fail to do so***;
>
> Recommend ***improvements to the standards and criteria applicable to the preparation of teachers and principals to increase the effectiveness of preparation program graduates***, which recommendations should be informed by independent national efforts and current preparation program activities throughout Colorado."

Exhibit D-8: Colorado's Advanced Placement Initiative

National Math & Science Initiative

Colorado Legacy Schools: A Proven Investment in Students and Teachers
Program Narrative

What is the Colorado Legacy Schools Advanced Placement Training and Incentive Program?

The Colorado Legacy Schools (CLS) Advanced Placement Training and Incentive Program (APTIP) is a new partnership to Colorado, formed by the Colorado Legacy Foundation in conjunction with The National Math and Science Initiative. The goals of this program are to increase significantly the number and diversity of students taking and passing math, science and English Advanced Placement exams in high school and prepare them for careers in Science, Technology, Engineering, and Mathematics (STEM). States participating in APTIP around the U.S. include TX, AL, AR, CT, KY, MA and VA.

CLS will provide the APTIP to school districts across the State of Colorado. Program elements include teacher training, curricular support, financial incentives and program management for administrators, leaders, teachers and students of participating middle and high schools.

To this end, it is noted that students passing AP exams are three times more likely to earn a college degree and African-American and Hispanic students passing AP exams are four times more likely to earn a college degree (College Board). By increasing AP enrollment and pass rates, it is the end goal of the CLS program to increase the number of minority and low-income students enrolling and succeeding in rigorous coursework in math, science and English; decrease the dropout rate and achievement gaps related to student achievement and graduation rates; and increase the number of high school and college graduates in the State of Colorado.

Who is the Colorado Legacy Foundation?

The Colorado Legacy Foundation was founded on the premise that all kids deserve to receive a quality education. The current educational system, while constantly evolving, does not adequately provide for every child. Therefore, a need was presented for the development of an organization that could seek out, test and recommend innovative ideas that may change formal education policy for the State of Colorado. It is our goal to improve the quality of the K-12 educational system and continually increase student achievement.

Established in 2007 as part of the Forward Thinking Education Plan, the Colorado Legacy Foundation is a 501(c)(3) nonprofit, governed by an independent board of trustees that develops initiatives to support the work of the Colorado Department of Education. This direct connection makes us uniquely suited to act quickly and assist CDE in the leveraging of scarce education resources.

What is the connection?

Colorado Race to the Top Phase 2 Appendix

One of the primary initiatives of the Colorado Legacy Foundation is increasing teacher effectiveness throughout the State of Colorado. As APTIP focuses heavily on training and coaching AP and pre-AP teachers with formal and informal methods, APTIP is very closely aligned with this fundamental goal of the organization.

Legacy schools will accomplish a number of goals and objectives listed below, including leading teachers to coach other AP and Pre-AP teachers, training to upgrade the content knowledge for AP teachers currently in the classroom, offering financial incentives for teachers and students based on results, allowing AP classes to have open enrollment to provide opportunities for students from diverse backgrounds, allowing more time on task for students through prep sessions and after-school tutoring, and establishing high standards with accountability for results.

Goal # 1: Increase effectiveness of math and science teachers throughout the State of Colorado.

- *Objective # 1: Increase the number of students who enroll in AP courses and pass AP exams.*

Goal # 2: Produce students with the preparation and desire to pursue science, technology, engineering and math at the graduate level and beyond.

- *Objective # 2: Increase the number of math and science teachers throughout the State of Colorado.*

Goal # 3: Increase the size of the educated workforce within the State of Colorado.

- *Objective # 3: Increase the rate of high school graduations within the State of Colorado.*

Goal # 4: Increase ability of workforce within the State of Colorado to be internationally competitive.

Exhibit E-1: Summary of Education Accountability Act of 2009 (SB 09-163)

Summary of SB 09-163
(Accountability Alignment)
May 7, 2009

The Accountability Alignment Bill builds upon and incorporates:

- HB-07-1048, which established student academic growth as the cornerstone of Colorado's educational accountability system
- SB-08-212, which establishes readiness for Postsecondary and Workforce success as Colorado's overarching goal for all students
- SB-00-186, by updating its core concepts in recognition of lessons learned and new technology, while retaining its high expectations and accountability for student results
- Revised district accreditation process established by CDE in 2008 in cooperation with school districts throughout the State
- Approval by the U.S. Department of Education of the Colorado Growth Model for AYP purposes

The major purposes of the bill include:

1. Aligning conflicting accountability systems into a single system that passes federal muster
2. Modernizing and aligning reporting of State, district and school performance information
3. Creating a fairer, clearer and more effective cycle of support and intervention
4. Enhancing State, district and school oversight of improvement efforts

In accomplishing these purposes, the bill eliminates the "CSAP penalty" and weighted index. The bill also updates Colorado's language about education to emphasize capacity building rather than judgments.

1. Align conflicting accountability systems through common performance indicators, enabling a single accountability system for State and federal purposes

- Establishes an expanded set of State Performance Indicators for the State, districts and schools
  - Student academic growth (measured by the Colorado Growth Model)
  - Student achievement levels (measured by the percent of students scoring advanced, proficient, partially proficient and unsatisfactory
  - Extent of achievement gaps based on income and ethnicity
  - Postsecondary readiness (measured by graduation rates and ACT/PWR)

- Performance indicators selected to be consistent with the revised district accreditation process and federal expectations

- Requires the Colorado State Board of Education to adopt Statewide targets on each and report results

2. Modernize and align reporting through 21st century technology and improved public disclosure and access

- Builds on the highly interactive Colorado Growth Model displays to provide State Performance Reports, District Performance Reports and School Performance Reports
  - Provide results on the State education performance indicators and data required by State and federal law

- Creates SchoolView, a web-based portal for the public and educators to access all publically reported data about State, district and school performance and characteristics
  - Allows print summaries and export for secondary analysis
  - Reduces school and district reporting burden

3. Enhance oversight of improvement strategies for low-performing districts and schools supported by a State Review panel appointed by commissioner

- Creates authority for the Commissioner to appoint a State Review Panel to evaluate district and school improvement strategies and make recommendations on needed interventions

4. Create a fairer, clearer and more effective cycle of support and intervention

- Provide high quality CDE service and support: (1) ready access to data and research to support interpretation, decision-making and learning; (2) consultative services on best practices for improvement and implementation; (3) evaluation and feedback on district and school plans. Provide support with increasing CDE involvement based on need and resource availability, including turnaround support for chronically low-performing districts and schools

- Assign district accreditation categories and school improvement categories based on results related to State targets for State Performance Indicators and overall State performance. In assigning accreditation categories, also consider duration of district or school performance challenges and progress made under current improvement efforts

- Align district accreditation categories with levels of support and improvement required while retaining six levels of performance categories
    - Level 1: Accredited with Distinction
    - Level 2: Accredited
    - Level 3: Accredited with Improvement Plan
    - Level 4: Accredited with Priority improvement Plan
    - Level 5: Accredited with Turnaround Plan
    - Level 6: Unaccredited – State Board determines whether situation warrants district reorganization, external management, conversion to innovative school or school zone status, conversion to a charter school or school closure

- Expect districts to assign accreditation categories to schools in a manner that is aligned with and meets or exceeds the rigor of the State system for districts

Exhibit E-2: Colorado's Low Performing Schools, 2007-2009 (Colorado Tier 1 and Tier II Schools)

District Name	School Name	EMH level	Tier I	Tier II	Low Grad Rate	Reading 07-09 %ProfAdv	Math 07-09 %ProfAdv	Performance Score
ADAMS 12 FIVE STAR SCHOOLS	CROSSROAD ALTERNATIVE SCHOOL	M		X		14.8	5.4	-2.21
BOULDER VALLEY RE 2	BOULDER PREP CHARTER HIGH SCHOOL	H		X	X	24.4	4.2	-2.03
BOULDER VALLEY RE 2	JUSTICE HIGH CHARTER SCHOOL	H		X		12.1	1.2	-2.03
BRIGHTON 27J	BRIGHTON HERITAGE ACADEMY	M		X		12.8	5.6	-2.01
JEFFERSON COUNTY R-1	CONNECTIONS LEARNING CENTER ON THE EARLE JOHNSON CAMPUS	M		X		15.6	10.2	-2.01
MONTROSE COUNTY RE-1J	VISTA CHARTER SCHOOL	H		X	X	21.4	1.4	-1.91
DELTA COUNTY 50(J)	DELTA COUNTY OPPORTUNITY SCHOOL	H		X	X	27.5	1.9	-1.87
HARRISON 2	NEW HORIZONS DAY SCHOOL	M		X		21.1	5.6	-1.83
JEFFERSON COUNTY R-1	`	H		X		28.7	3.4	-1.81
POUDRE R-1	CENTENNIAL HIGH SCHOOL	H		X		56.8	5.4	-1.75
MAPLETON 1	MEADOW COMMUNITY SCHOOL	M		X		24.1	12.6	-1.64
COLORADO SCHOOL FOR DEAF AND BLIND	COLORADO SCHOOL FOR THE DEAF AND BLIND	M	X			11.6	15.8	-1.60
PUEBLO CITY 60	FREED MIDDLE SCHOOL	M	X			45.4	24.8	-1.58
CHARTER SCHOOL INSTITUTE	COLORADO DISTANCE & ELECTRONIC LEARNING	M		X		57.7	26.9	-1.55

District Name	School Name	EMH level	Tier I	Tier II	Low Grad Rate	Reading 07-09 %ProfAdv	Math 07-09 %ProfAdv	Performance Score
	ACADEMY							
DENVER COUNTY 1	PHILIPS ELEMENTARY SCHOOL	E	X			31.4	32.7	-1.50
ADAMS COUNTY 14	HANSON ELEMENTARY SCHOOL	E	X			29.3	35.8	-1.45
DENVER COUNTY 1	GILPIN K-8 SCHOOL	E	X			25.9	18.5	-1.45
DENVER COUNTY 1	GREENLEE K-8 SCHOOL	E	X			33.7	36.3	-1.45
MESA COUNTY VALLEY 51	CLIFTON ELEMENTARY SCHOOL	E	X			45.8	39.6	-1.38
JEFFERSON COUNTY R-1	JEFFERSON COUNTY OPEN SECONDARY	M		X		55.8	22.7	-1.37
EAST OTERO R-1	TIGER LEARNING CENTER	H		X		19.6	0.0	-1.36
PUEBLO CITY 60	JAMES H RISLEY MIDDLE SCHOOL	M		X		41.3	21.7	-1.36
SHERIDAN 2	FORT LOGAN ELEMENTARY SCHOOL	E	X			44.8	50.4	-1.35
PUEBLO CITY 60	LEMUEL PITTS MIDDLE SCHOOL	M		X		53.7	31.1	-1.33
JEFFERSON COUNTY R-1	NEW AMERICA SCHOOL	H		X	X	7.3	0.0	-1.31
JEFFERSON COUNTY R-1	BRADY EXPLORATION SCHOOL	H		X	X	30.1	3.2	-1.30
CENTER 26 JT	HASKIN ELEMENTARY SCHOOL	E	X			37.7	32.9	-1.29
POUDRE R-1	POLARIS EXPEDITIONARY LEARNING SCHOOL	M		X		69.0	36.0	-1.28
DENVER COUNTY 1	ACADEMY OF URBAN LEARNING	H		X	X	24.4	0.0	-1.19
MAPLETON 1	GLOBAL LEADERSHIP ACADEMY	M		X		25.5	17.5	-1.19

District Name	School Name	EMH level	Tier I	Tier II	Low Grad Rate	Reading 07-09 %ProfAdv	Math 07-09 %ProfAdv	Performance Score
WIDEFIELD 3	DISCOVERY HIGH SCHOOL	H		X	X	41.4	4.3	-1.18
GREELEY 6	JOHN EVANS MIDDLE SCHOOL	M		X		36.2	14.9	-1.15
ARCHULETA COUNTY 50 JT	ARCHULETA COUNTY HIGH SCHOOL	H		X	X	30.8	0.0	-1.14
MAPLETON 1	ACHIEVE ACADEMY	M		X		36.4	13.8	-1.14
FOUNTAIN 8	LORRAINE SECONDARY SCHOOL	M		X		42.1	19.0	-1.13
ADAMS-ARAPAHOE 28J	VANGUARD CLASSICAL SCHOOL	M		X		48.9	28.7	-1.10
GREELEY 6	COLORADO HIGH SCHOOL OF GREELEY	H		X	X	21.2	0.0	-1.10
ADAMS-ARAPAHOE 28J	NEW AMERICA SCHOOL	H		X	X	10.5	0.7	-1.09
DENVER COUNTY 1	RISHEL MIDDLE SCHOOL	M		X		22.9	15.5	-1.07
PUEBLO CITY 60	YOUTH & FAMILY ACADEMY CHARTER	H	X		X	30.0	6.4	-1.06
DENVER COUNTY 1	LAKE MIDDLE SCHOOL	M		X		24.3	16.2	-1.03
ROCKY FORD R-2	JEFFERSON MIDDLE SCHOOL	M		X		42.6	19.5	-1.03
BRIGHTON 27J	BRIGHTON HERITAGE ACADEMY	H		X	X	26.8	3.6	-1.01
DENVER COUNTY 1	SKYLAND COMMUNITY HIGH SCHOOL	H		X	X	18.8	3.3	-1.01
PUEBLO CITY 60	RONCALLI MIDDLE SCHOOL	M		X		62.7	43.2	-1.00
MONTEZUMA-CORTEZ RE-1	SOUTHWEST OPEN CHARTER SCHOOL	H		X	X	29.3	3.7	-0.98
MESA COUNTY VALLEY 51	R-5 HIGH SCHOOL	H		X	X	36.7	3.5	-0.97
PUEBLO CITY 60	CENTRAL HIGH SCHOOL	H		X		52.8	9.2	-0.96

District Name	School Name	EMH level	Tier I	Tier II	Low Grad Rate	Reading 07-09 %ProfAdv	Math 07-09 %ProfAdv	Performance Score
JEFFERSON COUNTY R-1	MC LAIN HIGH SCHOOL	H		X	X	47.6	8.2	-0.94
BOULDER VALLEY RE 2	ARAPAHOE RIDGE HIGH SCHOOL	H		X	X	23.2	4.1	-0.91
DENVER COUNTY 1	NORTH HIGH SCHOOL	H		X		27.5	6.2	-0.91
ADAMS 12 FIVE STAR SCHOOLS	VANTAGE POINT	H		X	X	37.6	3.0	-0.90
MAPLETON 1	CLAYTON PARTNERSHIP SCHOOL	M		X		42.0	24.3	-0.90
DENVER COUNTY 1	NOEL MIDDLE SCHOOL	M		X		28.2	18.7	-0.88
ADAMS COUNTY 14	LESTER R ARNOLD HIGH SCHOOL	H		X	X	40.5	3.5	-0.86
DENVER COUNTY 1	GREENLEE K-8 SCHOOL	M		X		19.4	13.2	-0.84
LIBERTY J-4	LIBERTY JUNIOR-SENIOR HIGH SCHOOL	M		X		57.5	39.0	-0.78
WESTMINSTER 50	HIDDEN LAKE HIGH SCHOOL	H		X	X	34.7	3.4	-0.73
MONTE VISTA C-8	BYRON SYRING DELTA CENTER	H		X	X	32.8	4.5	-0.71
HARRISON 2	NEW HORIZONS DAY SCHOOL	H		X	X	26.3	3.3	-0.66
ST VRAIN VALLEY RE 1J	OLDE COLUMBINE HIGH SCHOOL	H		X	X	52.3	6.9	-0.66
DENVER COUNTY 1	P.S.1 CHARTER SCHOOL	H		X	X	35.9	5.1	-0.55
FOUNTAIN 8	LORRAINE SECONDARY SCHOOL	H		X	X	52.7	6.6	-0.52
COLORADO SPRINGS 11	COMMUNITY PREP CHARTER SCHOOL	H		X	X	40.5	2.4	-0.38
ENGLEWOOD 1	COLORADO'S FINEST ALTERNATIVE HIGH SCHOOL	H		X	X	59.3	10.6	-0.33

District Name	School Name	EMH level	Tier I	Tier II	Low Grad Rate	Reading 07-09 %ProfAdv	Math 07-09 %ProfAdv	Performance Score
FORT MORGAN RE-3	LINCOLN HIGH SCHOOL	H		X	X	61.5	2.4	-0.21
DENVER COUNTY 1	MONTBELLO HIGH SCHOOL	H	X		X	32.7	5.8	-0.13
ADAMS-ARAPAHOE 28J	AURORA CENTRAL HIGH SCHOOL	H		X	X	37.9	9.9	-0.10
ADAMS 12 FIVE STAR SCHOOLS	COLORADO VIRTUAL ACADEMY (COVA)	H		X	X	71.8	22.1	-0.09
COLORADO SPRINGS 11	BIJOU ALTERNATIVE PROGRAM	H		X	X	53.7	7.4	-0.03
ADAMS-ARAPAHOE 28J	WILLIAM SMITH HIGH SCHOOL	H		X	X	52.7	19.0	0.35
VALLEY RE-1	SMITH HIGH SCHOOL	H		X	X	56.4	5.1	0.37

Definition of Lowest Achieving Schools

Persistently lowest-achieving schools means, as determined by the State:

- 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
- 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;
  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
- 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
  Any secondary school that is eligible for Title 1 funds, whether receiving funds or not, that,
  a. Is equally low-achieving as the 5% of secondary schools identified in (ii)(a) and has not made AYP for two consecutive years; 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.

To identify the lowest-achieving schools, a State must take into account both:

(i) The academic achievement of the "all students" group in a school in terms of proficiency on the State's assessments under section 1111(b)(3) of the ESEA in reading/language arts and mathematics combined; and

(ii) The school's lack of progress on those assessments over a number of years in the "all students" group.

Exhibit E-3: Goals for Student Achievement Growth and Required Leading Indicators of Success in Turnaround Schools

As part of its overarching strategy for supporting dramatic improvement in the State's lowest-achieving schools, the Colorado Department of Education's Turnaround Office will develop detailed performance goals and specific timelines for improvement to which all turnaround schools and districts will be held. As described in Section E(2)(ii) of the Narrative, these goals, timelines and indicators will be encompassed in MOUs between the CDE and individual districts and will include the following:

- *Common ambitious but achievable goals for student growth and achievement that every turnaround school will be expected to meet within 3-5 years after beginning its turnaround effort.* The CDE will define a school turnaround a "success" when it the school meets expectations on three key performance indicators: student growth, student achievement levels, and post-secondary readiness measures. Turnaround schools will be required to meet Statewide targets for the percentage of students in each ethnic and socioeconomic subgroup that make sufficient growth to become or remain proficient over a three year period. In addition, schools will be required to meet achievement levels for each subgroup in the core academic subjects that equal or exceed State targets for all students. High schools will also be required to achieve Statewide targets for postsecondary and workforce readiness as measured by graduation rates, college-going rates, credit accumulation, and ACT scores. The Statewide targets that will be the basis for goal-setting for turnaround schools appear in Exhibit VI.A(1)iii-1.

- *School-specific timelines and benchmarks for reaching these goals. Every school will have a clear set of ambitious goals and timelines for improving* performance, based on its current achievement, turnaround strategy, and particular needs. First, each district's SOW with the State will establish rigorous timelines and benchmarks for improvement based on each school's achievement levels when it began its turnaround effort. No timeline will exceed five years to meet the ultimate performance goals outlined in the previous bullet. Some schools, because they are starting at higher achievement levels than others, will be required to meet t*he State's performance goals in three years.* These terms will be negotiated for individual schools in each district's SOW.

Second, research shows that successful turnarounds typically involve a focus on a few key goals in the first few weeks and months of the effort. This focus will be reflected in each school's individualized benchmarks. For example, if an elementary school decides to invest heavily in year one in third and fourth grade reading, its first-year benchmarks will reflect that by setting more ambitious targets for growth in reading achievement in third and fourth grade than for other grades and subjects. All schools will be required to show sufficient academic growth in all grades and subjects by year five, but initial benchmark goals will help foster the intense focus common to successful turnarounds by setting school- and year-specific targets.

Third, research shows that "early wins," or strong and measurable gains in the first year, are common to successful turnarounds. Therefore, benchmarks for all schools will require large and measurable gains in the school's first year of turnaround, and sustained progress thereafter. Timelines will not be constructed as "balloon payments" to allow the school to remain low-performing for three to four years and then expect to make large leaps in year five.

- *A set of leading indicators to inform the district and State whether each school is on-track to meet its benchmarks and ultimate goals for student achievement.* In conjunction with the CTC, the CDE Turnaround Office will invest in the creation and refinement of a research-based set of leading indicators to measure success or failure in turnaround schools. In year one, the CDE will start with three initial sets of indicators, which it will develop over the course of spring 2010 and begin collecting from the first cohort of turnaround schools in early 2011. Mid-year collection and analysis of as many indicators as possible will enable the CDE, local districts and school leaders to initiate mid-course corrections or more dramatic shifts in strategy for the next school year. Consistent with Colorado's overall approach of building and collecting knowledge about what works in improving student outcomes, these indicators and results from the first cohort of turnaround schools will thereafter inform research and analysis to develop more accurate and refined sets of leading indicators for future cohorts of turnaround schools.

Leading indicators to be collected in year one will include:

(1) The leading indicators that must be used by States and districts to hold schools receiving Title I Section 1003(g) funds accountable, which include: the number of minutes within the school year; student participation rate on State

assessments in reading/language arts and in mathematics, by student subgroup; dropout rate; student attendance rate; number and percentage of students completing advanced coursework (e.g., AP/IB), early-college high schools, or dual enrollment classes; discipline incidents; truants; distribution of teachers by performance level on an LEA's teacher evaluation system; and teacher attendance rate.

(2) Other quantitative indicators that supplement those required under 1003(g), such as: results on interim assessments of student performance; the percentage of students taught by teachers who, in prior years, achieved above average or exceptional growth with their students; other measures of time allocated to learning, to be developed in conjunction with the National Center on Time and Learning; and others likely to be highly correlated with successful improvement efforts.

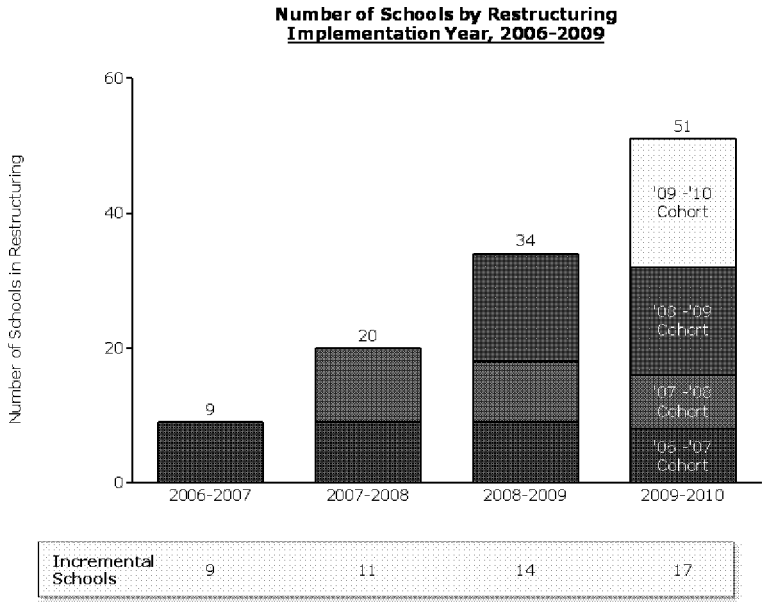
(3) Qualitative indicators that arise from cross-sector research about successful turnarounds. For example, the extent to which the school leader and staff have prioritized a few key goals that will lead to visible early wins; whether the school leader is engaging staff in regular and transparent sharing of data about student performance; and evidence of positive community involvement in the turnaround effort or the leader's successful efforts to influence those who oppose dramatic change.

- *Required district action if turnarounds are not on-track for success*. In their MOUs with the State, districts will be required to intervene quickly if leading indicators and initial achievement results suggest that turnaround efforts are not on-track. If districts do not step in to correct a turnaround effort, the CDE will mobilize its full authority under the Educational Accountability Act of 2009 and its control of federal and State dollars to ensure students' opportunity for success.

Exhibit E-4: Evidence for E(2) – Colorado's Historic Performance on School Turnaround

NCLB School Improvement, 2006-2009

Colorado Has Been Building Upon Its Efforts to Restructure Low-Performing Schools Over the Past Four Years Through NCLB School Improvement

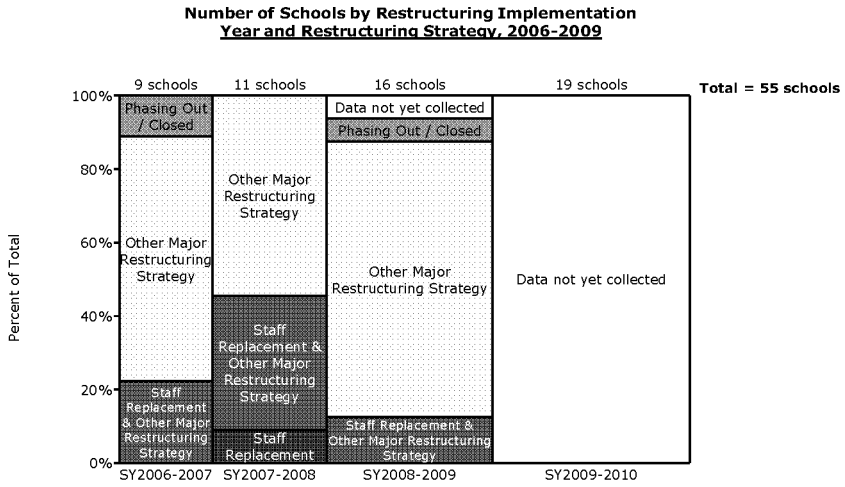


Source: Colorado Department of Education

2

A Variety of Restructuring Strategies Have Been Employed Among Schools Who Failed to Meet AYP in Two Consecutive Years

- Most schools have undergone a major restructuring strategy, some of which included a staff replacement



Source: Colorado Department of Education

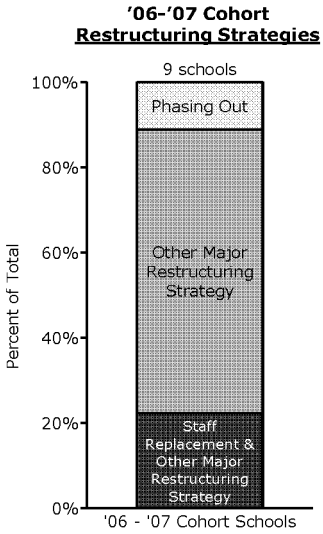
3

Nine Schools Entered Restructuring in the 2006-2007 School Year After Two Consecutive Years of Missing AYP

- These nine schools also missed AYP in their first year of restructuring

School	AYP 2004	AYP 2005	AYP 2006	AYP 2007 (First Year of Restructuring)	AYP 2008	AYP 2009
Amesse Elementary School	No	No	No	No	No	No
Charles M. Schenck (CMS) Community School	No	No	No	No	No	No
Cowell Elementary School	No	No	No	No	No	Yes
Ford Elementary School	Yes	No	No	No	Yes	No
Kepner Middle School	No	No	No	No	No	No
Lake Middle School	No	No	No	No	No	No
Rishel Middle School	No	No	No	No	No	No
Skinner Middle School	No	No	No	No	No	No
Swansea Elementary School	No	No	No	No	No	No

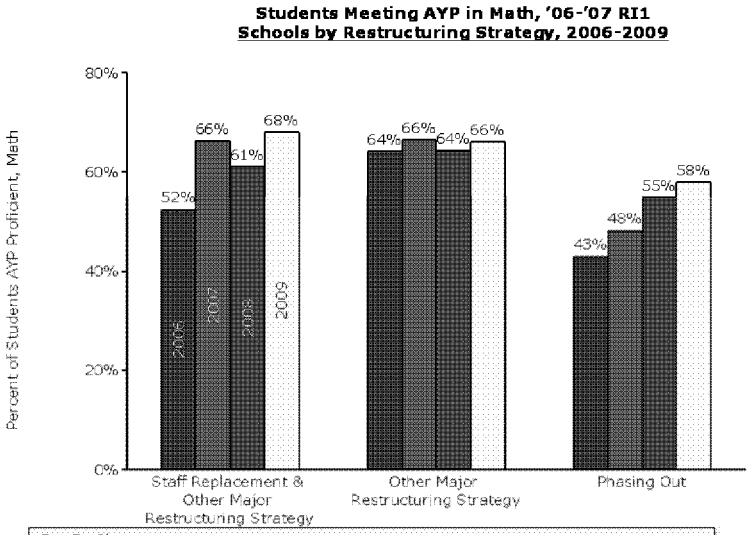
Yes = Made AYP
No = Did Not Make AYP



Note: All nine schools are located in the Denver County School District
Source: Colorado Department of Education

4

AYP Math Improvement Was Most Significant in the One School Whose Restructuring Strategy Was to Be Phased Out

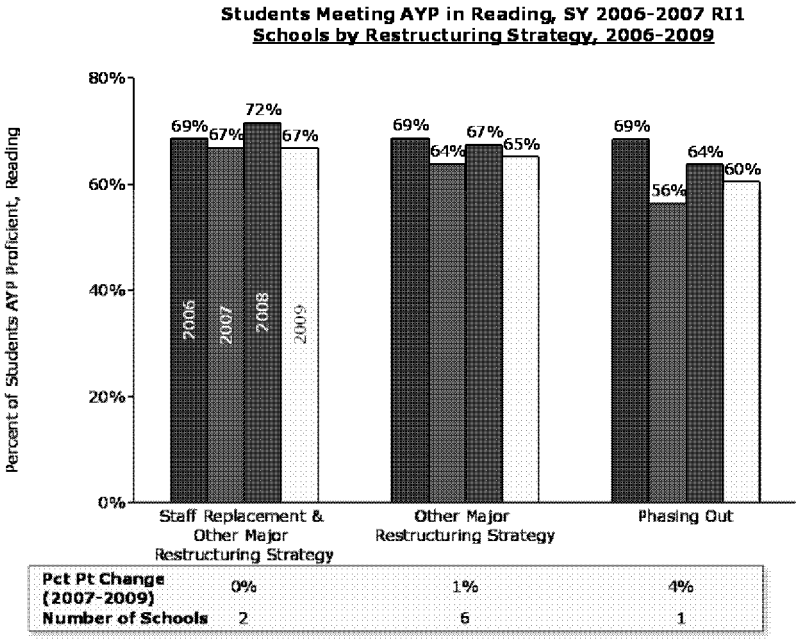


	Staff Replacement & Other Major Restructuring Strategy	Other Major Restructuring Strategy	Phasing Out
Pct Pt Change (2007-2009)	2%	0%	10%
Number of Schools	2	6	1

Note: Based on nine schools that entered restructuring in the 2006-2007 school year ("2007" corresponds to first year of restructuring); AYP proficiency includes partially proficient or better
Source: Colorado Department of Education

5

SY 2006-2007 Restructuring Schools Made Less Improvement in Reading Although the Single Phasing Out School Again Achieved the Greatest Gains

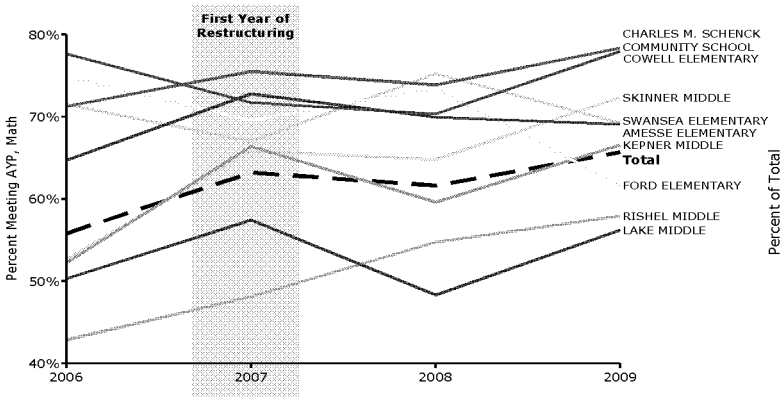


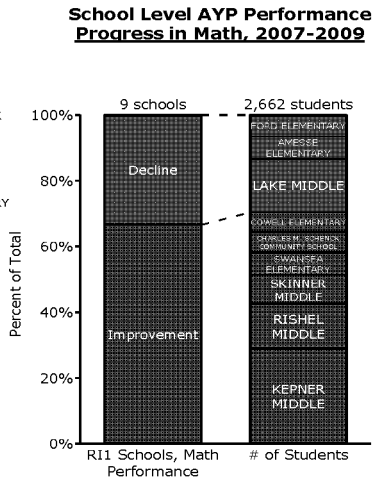
Note: Based on nine schools that entered restructuring in SY 2006-2007 ("2007" corresponds to first year of restructuring); AYP proficiency includes partially proficient or better
Source: Colorado Department of Education

6

Although These Schools Are Still Struggling to Meet AYP, They Have Shown Improvement in Student Performance

- Two-thirds of schools that began restructuring in SY 2006-2007 improved AYP proficiency in math from 2007 to 2009

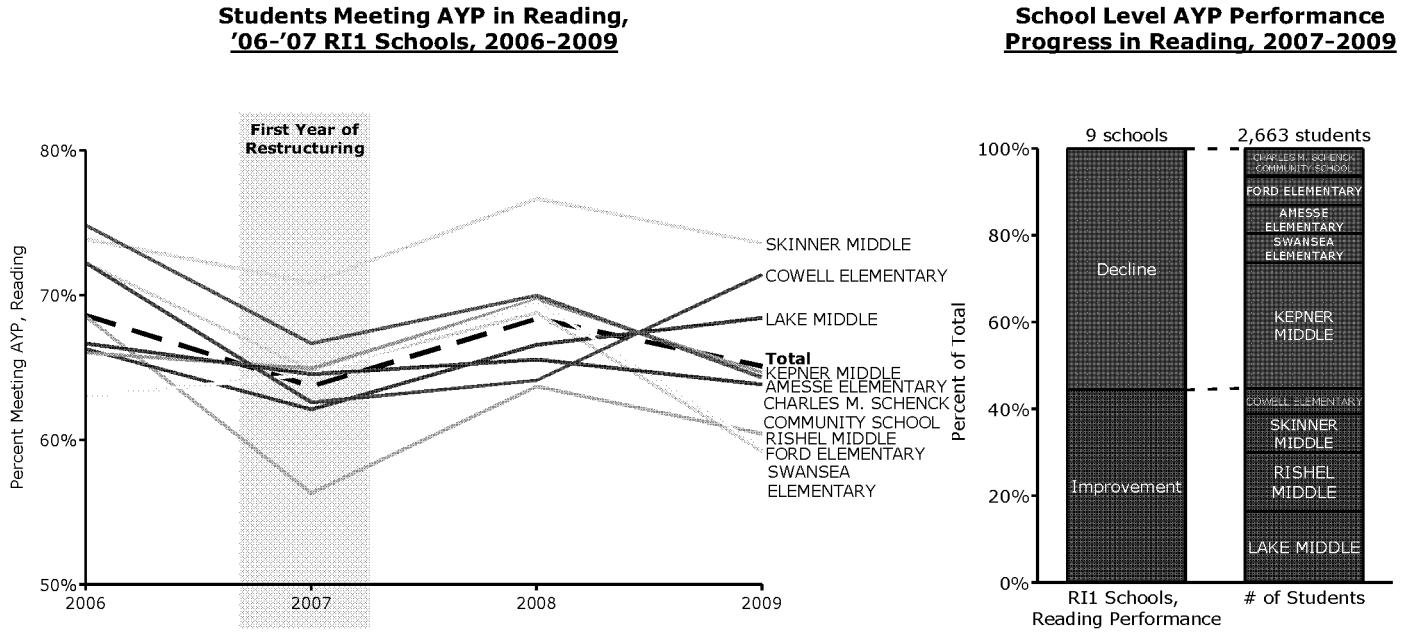




Note: All nine schools are located in the Denver County School District; Improvement/decline in AYP proficiency calculated by comparing 2009 percent AYP proficient and 2007 percent AYP proficient
Source: Colorado Department of Education

7

Just Under Half of Schools Which Began Restructuring in 2006-2007 Improved AYP Proficiency in Reading from 2007 to 2009



Note: All nine schools are located in the Denver County School District; Improvement/decline in AYP proficiency calculated by comparing 2009 percent AYP proficient and 2007 percent AYP proficient
Source: Colorado Department of Education

8

Historic Performance on School Turnaround: State Board of Education Intervention in Cole Middle School

Prior law required that schools receiving an unsatisfactory rating for three consecutive years on their School Accountability Reports be mandatorily converted to a charter school. Implementation of two provisions from the Charter Schools Act (that have consequently been repealed), provided significant insight on intervention strategies for the State and spurred subsequent legislative changes. Section 22-7-609(5), C.R.S., (from the prior Educational Accountability Act) was the provision that directed the State Board of Education to review operations of those public schools that had received an academic performance rating of "unsatisfactory" after a second year of operation under a school improvement plan and to determine whether the school should be converted to a charter school. Section 22-7-609.3, C.R.S. (also from the prior Educational Accountability Act) directed the State Board to consider those schools that had received an academic performance rating of unsatisfactory for 2 school years in any three-year prior commencing after the school year in which a district/CSI had adopted a school restructuring plan to determine whether the school should be converted to a charter school.

In 2004, Denver's Cole Middle School, after receiving an unsatisfactory rating for three consecutive years became the first and only school in Colorado to be ordered by the State Board to convert to a charter school. Because of a lack of capacity, expertise, and resources to conduct the conversion process well and because there were several flaws in the authorizing legislation (which did not account for students caught in the transition from district school to charter, provided

little guidance on the process for selecting new management, and created a harsh deadline by which a new school would need to open), candidates for receiving the charter had just a month to respond to the State's request for proposals and laborious charter contract negotiations impeded preparations for opening the school.

Cole reopened in fall 2005 as a "KIPP transition school," but by December, the school's governing board had dissolved, it was operating under its third principal and it had lost three of six teachers. Critics have pointed out that the conversion process had a variety of shortcomings, including: (1) failure to garner enough community buy-in, (2) an awkward implementation strategy to accommodate former Cole seventh- and eighth-graders instead of relying on its successful strategy of adding grades slowly and (3) a lack of sufficient time for KIPP to find and train a new principal through its nationally recognized leadership training program. KIPP elected to pull out from the school the following year and, although test scores in the spring of 2006 showed improvement from 2004, students were still below Statewide averages in many areas.

Historic Performance on School Turnaround: Phasing Out/School Closure

Rishel Middle School in Denver has struggled academically over the last several years. The school received a rating of Accredited on Probation, the district's lowest rating, as part of the robust School Performance Framework introduced this year by the district, which is heavily weighted to emphasize student achievement and measure academic growth over time. Rishel has also seen a steep drop in student enrollment over the years and currently occupies only 43% of the space available in the building. The board of education of Denver Public Schools approved the 2-year phasing out and eventual closure of Rishel Middle School by SY2010-2011.The elimination is part of the district's shared-campus plan and was not imposed by the State due to any State or federal accountability measures. The Rishel campus will be transitioned to a shared campus which will house the KIPP Denver Collegiate High School (9-12); Math & Science Leadership Academy (K-5); and current Rishel Middle School program (7-8).

On November 19, 2007, the board of education of Denver Public Schools approved the rolling-grade level closure of the existing academic program at Kunsmiller Middle School, starting at the end of the SY2007-2008 through the end of the SY2009-2010. As a condition of the approval, the board of education included milestones for academic program development, student recruitment, staff selection and professional development, and community engagement that needed to be met in order for a new school to replace Kunsmiller Middle School. The Kunsmiller Creative Arts Academy and West Denver Prep II (6-8), a charter school approved in June 2008, will share space.

Historic Performance on School Turnaround: Voluntary Restructuring by Denver Public Schools (DPS)

Denver Public Schools has implemented a variety of voluntary initiatives over the last few years geared toward implementing a comprehensive plan for school restructuring, which include the creation of innovation schools and charter schools, phasing out/closure of schools, and establishment of shared campuses.

Denver's Bruce Randolph Middle School is an example of how the district and a school that successfully navigated the voluntary restructuring option. In the case of Bruce Randolph, the district and new school leadership negotiated an agreement on waivers from the district's collective bargaining agreement, creating increased flexibility over the length of the school year, use of time during the school day, hiring of staff, leadership structure and staff pay. One objective of a better aligned system of accountability, support, and intervention is to craft a clearer turnaround path that will provide well-directed opportunities for more low-performing schools to engage in a process like the one taken by Bruce Randolph, particularly in the context of the flexibility provided to Innovation Schools and school zones under Senate Bill 08-130.

Additionally, in 2008 the DPS Board of Education approved opening five new schools (four charter schools and one innovation school), the phase-out of the current Rishel Middle School program, and the sharing of four existing facilities with

new schools starting next school year. The new school openings are part of the district's effort to introduce high performing school options through the request for proposal process run by the district's New Schools Office.

- **Innovation Schools**
  Innovation Schools are a new category of schools that operate as district schools but actively implement new educational and operational practices.
    - Math & Science Leadership Academy, a teacher-led innovation school proposal, was approved and has started a kindergarten through fifth grade program on the Rishel shared campus.
    - Cole Arts and Science Academy was approved under the Innovation Schools Act by the SBE on 8/13/09
    - Manual High School was approved by the State Board of Education on 2/19/09
    - Montclair School of Academics by the State Board of Education on 2/19/09
- **Charter schools**
    - KIPP Denver Collegiate High School charter school was approved and will start a ninth through twelfth grade program starting next school year on the Rishel shared campus.
    - César Chávez Academy Denver charter school, a replica of the school model in Colorado Springs and Pueblo, was approved and has started a kindergarten through eighth grade program. This new school will not share space in existing district facilities.
    - Justice High School Denver charter school, a replica of the Boulder-based school serving high-risk youth, was approved and has started a seventh through twelfth grade program. This new school will not share space in existing district facilities.
    - Edison Learning School 3 charter school, a replica of the Edison Learning model as seen in Wyatt-Edison and Omar D. Blair schools, was approved and has started a sixth through eighth grade program. This school will be located on the West High School shared campus.

The Denver school board has also approved a shared campus policy which specifies the principles that will guide the creation and operation of shared campuses in the district and has accepted the recommendations by the district regarding which buildings will become shared campuses next school year.

- The Rishel campus will house KIPP Denver Collegiate High School (9-12) and Math & Science Leadership Academy (K-5). The current middle school program at Rishel (6-8) was phased out, allowing all current sixth and seventh grade students to stay at the school through the conclusion of their eighth grade year (2010-2011).
- The West building will become a shared campus housing West High School (9-12) and Edison Learning School 3 (6-8).
- The Smiley building will house the current Smiley Middle School International Baccalaureate Middle Years Program (6-8) and Envision Leadership Prep (6-12), a charter school serving targeted first-generation college-going students that was approved by the district in June 2008.
- On the Kunsmiller shared campus, the district's new Kunsmiller Creative Arts Academy (K-12) and West Denver Prep II (6-8), a charter school approved in June 2008, will share space.

Summary of Supporting Evidence for Activities Proposed to Turn Around the Lowest-achieving Schools

Initiative 1: Stimulate supply and build capacity for dramatic improvement in the state's persistently lowest-achieving schools			
Activity	Supporting statement	Resources	Explanation
Enable leaders to participate in an MBA program designed to prepare school turnaround leaders; Establish Leadership Residency for turnaround schools	To carry out the actions that recur in successful turnarounds, leaders need a unique set of competencies, such as achievement orientation, impact and influence, problem solving, analytical thinking, and persistence.	Spencer, L.M & Spencer, S.M. (1993) *Competence at Work*. New York, NY: John Wiley & Sons	Competencies of highly-effective turnaround leaders may include achievement orientation, impact and influence, problem solving, analytical thinking, and persistence. See Chapter 17, entrepreneur competencies.
		Public Impact (2008). *School Turnaround Leaders: Competencies for Success*. Chapel Hill, NC: Author	The competencies included here stem primarily from in-depth studies of highly successful leaders in analogous leadership roles (e.g., entrepreneurs, managers in complex organizations). These studies quantify the competency differences between typical and highly successful people in these roles. The specific competencies used here were selected to match the turnaround actions found in cross-sector literature.
	State and local leaders can use Behavioral Event Interviewing (BEI) to select turnaround leaders with the required competencies.	Krajewski, H. T., Goffin, R. D., McCarthy, J. M., Rothstein, M. G., & Johnston, N. (2006). Comparing the validity of structured interviews for managerial-level employees: Should we look to the past or focus on the future? *Journal of Occupational and Organizational Psychology*, 79, 411-432	"Past behavior interviews" (of which BEIs are one form) are shown to significantly predict job performance ratings.
		Huffcutt, Weekley, etc. (2001); Pulakos, E. D. and Schmitt, N. (1995). Experience-based and situational interview questions: Studies of validity. *Personnel Psychology*, 48, 289–308	Experience-based interviews yield high levels of validity in predicting future job performance.
		Spencer, L. M., McClelland, D. C., & Spencer, S. M. (1992). *Competency Assessment Methods: History and state of the art*. Hay/McBer Research Press, p. 38.	Detailed discussion of the reliability and validity of approaches to measuring competencies and selecting based on these measures.

Colorado Race to the Top Phase 2 Appendix

Initiative 1: Stimulate supply and build capacity for dramatic improvement in the state's persistently lowest-achieving schools			
Activity	Supporting statement	Resources	Explanation
Build supply of providers to open high-quality new schools	Newly-created schools have shown promising results with previously underserved students.	Tough, P. (2009). *Whatever it Takes.*	Exploration of the Harlem Children's Zone, including the role that new schools play in helping poor students compete with their middle-class peers.
		Merseth, K. (2009). *Inside Urban Charter Schools.*	Explores the intricate workings of five consistently high-performing charter schools in urban areas in Massachusetts—four in Boston and one in Lawrence. These schools, while unique in important ways, also share several common practices and approaches to educating children that may hold important keys to providing a first-rate public education for all students.
	"Restarting" with a new provider to operate a previously low-performing school has shown promising results.	St. Hope, (2008). *Evidence of Value-Added Achievement*	St HOPE's elementary school is the highest performing elementary school in the area, posting significant gains in ELA and math proficiency rates. St. HOPE's high school, Sac High, has seen significant improvement in high school exit exam results and college-going rates.
		Mass Insight. (2009) *Duggan Middle School Case Study*	Duggan is showing early indicators of positive progress, particularly in English Language Arts. Though the sixth grade is lagging behind the overall improvement trend, seventh and eighth grade students outperformed their district peers for the first time. The math data showed a slight uptick in performance across the board, though it stil lags both district and state performance averages.
Pilot intensive turnaround models in cooperation with Mass Insight and partnership zones	Case studies of turnaround models show great success following many fundamental elements of the Mass Insight turnaround model.	Harvard School of Excellence, Chicago	The Academy for Urban School Leadership began turning around low-performing Chicago Public Schools after their highly-trained teachers became frustrated working within the traditional school structures. By linking the AUSL teacher residency program with the operation of schools, AUSL is able to simultaneously train new teachers, while also transforming the structure of chronically low-performing schools. AUSL closely resembles a Lead Partner, as the organization has the authority to make decisions, and is accountable for specific performance benchmarks, both of which are defined by a contract with the Chicago Public Schools.
		McDaniel Elementary School, Philadelphia, PA	In the spring of 2006, McDaniel Elementary was one of twelve low-performing schools selected by the District of Philadelphia for inclusion in a specially created sub-district ("CEO District"). This designation provided a few altered conditions, but did include additional support from the sub-district superintendent, and an investment in turnaround management training from the University of Virginia's School Turnaround Specialist Program.

Initiative 1: Stimulate supply and build capacity for dramatic improvement in the state's persistently lowest-achieving schools			
Activity	Supporting statement	Resources	Explanation
		Miami-Dade County Public Schools, School Improvement Zone	Miami's School Improvement Zone was launched in 2004 as a district-based carve-out zone. The Zone was created as a temporary intervention, and was dissolved after three years. The Miami case provides a unique set of lessons learned for other states and districts who are developing their own turnaround strategies. The Zone's creation of a separate office (yet one that didn't have full autonomy), the limited use of external partners, the emphasis on extended learning time, and a focus on literacy are highlighted in this case study.
		Pickett Middle School, Philadelphia	Mastery Charter Schools converts existing low-performing Philadelphia schools into charter schools. Pickett Middle School serves the same demographic of students as the "Old Pickett," but the school was renovated, re-staffed, and is now run by the CMO. Mastery provides centralized leadership and a "tight" governance structure for its charter schools and focuses on students achieving basic proficiency levels within the first few years of enrollment. Financial and non-financial incentives are offered to teachers based on student performance
		Sci Academy, Recovery School District, New Orleans, LA	Sci Academy is a charter school in New Orleans, LA that was created as part of the Recovery School District. The school's curriculum focuses on science and math, and the leadership is supported by the non-profit strategic partner, New Schools for New Orleans.
Provide significant financial incentives to reward leaders for success in turnaround schools	States and districts can increase the pool of turnaround teacher applicants by offering special performance incentives for leaders who demonstrate great results with students in a turnaround schools.	Banker, R. D., Lee, S. Y. Potter, G. & Srinivasan, D. (2000). "An Empirical Analysis of Continuing Improvements Following the Implementation of a Performance-Based Compensation Plan." *Journal of Accounting and Economics* Vol 30 (3)	Study of nearly 4000 employees at one firm found that introduction of a pay-for-performance bonus plan helped the firm attract and retain more productive sales employees.
		Bouwens, J. & van Lent, L. (2003). *Effort and Selection Effects of Incentive Contracts*. Tilburg University Center for Economic Research	A survey of compensation practices among 151 CEOs found that incentive-based compensation methods attract better employees, who, in turn, provide more effort.
		M. Beer and M.D. Cannon (2004). "Promise and Peril in Implementing Pay-For-Performance," *Human Resource Management* 43(1)	Finding pay-for-performance programs generally have a positive effect upon employee performance.

Colorado Race to the Top Phase 2 Appendix

Initiative 1: Stimulate supply and build capacity for dramatic improvement in the state's persistently lowest-achieving schools			
Activity	Supporting statement	Resources	Explanation
Through the Colorado Turnaround Center, To provide incentives and support for the essential elements of turnaround, including engaging students and parents in turnarounds and student learning; providing dropout prevention services, and providing assistance in incorporating extended learning time during the school day and year	Research demonstrates that effective family engagement supports higher student achievement and graduation rates.	A New Generation of Evidence: The Family is Critical to Student Achievement, edited by Anne T. Henderson and Nancy Berla, Center for Law and Education, Washington, D.C., 1994 (third printing, 1996).	When their parents are involved, students gain: higher grades and test scores, better attendance and more homework done, fewer placements in special education, more positive attitudes and behavior, higher graduation rates, and greater enrollment in post-secondary education. Benefits of parent involvement for parents: more confidence in the school, higher teacher expectations of their children, higher teacher opinions of them as parents, more self-confidence, and more likely to continue their own education. Benefits of parent involvement for schools: improves teacher morale, higher ratings of teachers by parents, more support from families, higher student achievement, and better reputations in the community.
	Services will incorporate best practices and national research to help districts identify early warning signals to guide potential interventions aimed at preventing dropouts.	Martha Able MacIver, Robert Balfanz, and Vaughan Byrns, "Advancing the 'Colorado Graduates' Agenda: Understanding the Dropout Problem and Mobilizing to Meet the Graduation Challenge," The Center for Social Organization of Schools, Johns Hopkins University. October 2009.	Building upon research conducted in other cities, the Center for Social Organization of Schools at Johns Hopkins University has partnered with five of Colorado's largest school districts to help them understand both who is at risk of dropping out of school (by looking at sixth and ninth grade data) and profiles of recent dropouts in their schools and communities. Identifying students with poor attendance, failing grades, and poor behavior can help educators and communities prevent future dropouts and intervene with students much earlier to keep them on the path to graduation.
	Adding more learning time is an especially effective reform strategy for increasing student achievement in math, ELA and science and closing the achievement gap.	Listening to Experts: What Massachusetts teachers are saying about time and learning and the Expanded Learning Time Initiative. (Boston, MA: Massachusetts 2020, May 2009), Massachusetts Teachers Association, American Federation of Teachers Massachusetts and National Center on Time & Learning.	With expanded learning time, teachers meet regularly each week to analyze student data and assess student progress in order to strengthen and target instruction in the areas where each individual student needs help. As a result teachers in ELT schools believe they have adequate time to complete the curriculum and meet the needs of all students. When used effectively, more time for teachers can have a significant impact on teaching quality, and as a result, student outcomes.
	The community in which an organization is located plays a pivotal role in supporting or undermining major change efforts.	Gnyawali, D. R., & Fogel, D. S. (1994). Environments for entrepreneurship development: Key dimensions and research implications. *Entrepreneurship: Theory and Practice.* 18(4), 43-54	Local communities can play an important role in developing an entrepreneurial environment. A favorable attitude of the society toward entrepreneurship and a widespread public support for entrepreneurial activities are both needed to motivate people to start a new business.

Initiative 1: Stimulate supply and build capacity for dramatic improvement in the state's persistently lowest-achieving schools			
Activity	Supporting statement	Resources	Explanation
Build parent, student, community and public support for dramatic change		Calkins, A., Guenther, W., Belfiore, G., & Lash, D. (2007). *The turnaround challenge: Why America's best opportunity to dramatically improve student achievement lies in our worst-performing schools.* Mass Insight.	Turnaround of failing local schools has no natural constituency. Coalitions of support must instead be built at two levels – statewide and community-wide. To ensure sustained and sufficient statewide commitment to turnaround reforms and investments, someone must create an advocacy coalition of political, education, corporate, foundation, university, and nonprofit leaders.
		Duke, D. L., Tucker, P. D., Belcher, M., Crews, D., Harrison-Coleman, J., Higgins, J., et al. (2005, September). *Lift-off: Launching the school turnaround process in 10 Virginia schools.* Charlottesville, VA: Darden/Curry Partnership for Leaders in Education.	Examples of the role of the community in several school turnarounds.
		Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., and Darwin, M. (2008). *Turning Around Chronically Low-Performing Schools: A Practice Guide.* Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.	Signaling change may be difficult when the prevailing community perception of the school is negative.48 School leaders may need to initiate a public campaign in the community to develop immediate support. A faulty plan, a resistant staff or community, or a feeble or inept commitment to change can derail the turnaround.
		Brenneman, G. (1998, September-October). Right away and all at once: How we saved Continental. *Harvard Business Review*, 76(5), 162-179.	Re: the challenge of dealing with tough opposition from organized employees.
		Hamel, G. (2000 , July-August). Waking up IBM: How a gang of unlikely rebels transformed Big Blue. *Harvard Business Review*, 78(4), 137-146.	Re: the challenge of overcoming internal organizational resistance to change.
		Kim, W. C., & Marborgne, R. (2003, April). Tipping point leadership. *Harvard Business Review*, 81(4), 60-69.	Re: community and employee distrust and skepticism of initial turnaround strategies.

Initiative 2: Provide incentives and supports for dramatic turnarounds in the state's persistently lowest-achieving schools			
Activity	Supporting statement	Resources	Explanation
Negotiates scopes of work with districts where target schools are located that require districts to provide greater autonomy for turnaround schools	Successful starting fresh and turnaround efforts frequently occur in an environment in which leaders are given increased autonomy over critical decisions, especially in the areas of staffing, scheduling, and budget.	Berends, M. Bodilly, S.J. & Kirby, S.N. (2002) *Facing the Challenges of Whole-School Reform: New American Schools After A Decade*. Santa Monica, CA: RAND	RAND authors note that change in these schools called for significant school autonomy over budget, staffing, curriculum, instruction and assessments.
		Gnyawali, D. R., & Fogel, D. S. (1994). Environments for entrepreneurship development: Key dimensions and research implications. *Entrepreneurship: Theory and Practice.* 18(4), 43-54	Empirical studies of entrepreneurial environments of various countries show that countries that keep rules and regulations at a minimum, offer tax and other incentives, and provide training and counseling services to start-up entrepreneurs increase the likelihood of new venture start-ups.
		Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., and Darwin, M. (2008). *Turning Around Chronically Low-Performing Schools: A Practice Guide*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.	Some turnaround schools changed instructional schedules; school leaders took care to choose the right staff for the school and to deploy staff members carefully to meet the student needs. School leaders needed to make certain that the selected staff fit the vision of the school and its context.
		Calkins, A., Guenther, W., Belfiore, G., & Lash, D. (2007). *The turnaround challenge: Why America's best opportunity to dramatically improve student achievement lies in our worst-performing schools.* Mass Insight.	Schools seeking to raise student achievement dramatically put the right people in the right positions to do their most effective work, and then enable that performance with operating conditions and incentives that support it. Turnaround school leaders must have the ability to shape the staff in their schools, without regard to seniority or other contract bargaining restrictions.
Set expectations for and monitor districts' swift action in turnaround schools.	In turnaround efforts that are successful, fast, focused changes occur in the first few months and substantial improvements occur within the first year.	Buchanan, L. (2003, December). The turning of Atlanta. *Harvard Business Review*, 76(5), 162-179.	Turnaround in 60 days.
		Kotter, J. P. (1995, March-April). Leading change: Why transformation efforts fail. *Harvard Business Review,* 73(2), 19-27.	Importance of a sense of urgency for rapid results.
		Paton, R., & Mordaunt, J. (2004, August). What's different about public and non-profit "turnaround"? *Public Money & Management*, 24(4), 209-216.	Including time spans for case studies of turnarounds.

Initiative 2: Provide incentives and supports for dramatic turnarounds in the state's persistently lowest-achieving schools			
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Negotiates scopes of work with districts where target schools are located that require districts to provide greater autonomy for turnaround schools	Successful starting fresh and turnaround efforts frequently occur in an environment in which leaders are given increased autonomy over critical decisions, especially in the areas of staffing, scheduling, and budget.	Berends, M. Bodilly, S.J. & Kirby, S.N. (2002) *Facing the Challenges of Whole-School Reform: New American Schools After A Decade*. Santa Monica, CA: RAND	RAND authors note that change in these schools called for significant school autonomy over budget, staffing, curriculum, instruction and assessments.
		Gnyawali, D. R., & Fogel, D. S. (1994). Environments for entrepreneurship development: Key dimensions and research implications. *Entrepreneurship: Theory and Practice*. 18(4), 43-54	Empirical studies of entrepreneurial environments of various countries show that countries that keep rules and regulations at a minimum, offer tax and other incentives, and provide training and counseling services to start-up entrepreneurs increase the likelihood of new venture start-ups.
		Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., and Darwin, M. (2008). *Turning Around Chronically Low-Performing Schools: A Practice Guide*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.	Some turnaround schools changed instructional schedules; school leaders took care to choose the right staff for the school and to deploy staff members carefully to meet the student needs. School leaders needed to make certain that the selected staff fit the vision of the school and its context.
		Calkins, A., Guenther, W., Belfiore, G., & Lash, D. (2007). *The turnaround challenge: Why America's best opportunity to dramatically improve student achievement lies in our worst-performing schools.* Mass Insight.	Schools seeking to raise student achievement dramatically put the right people in the right positions to do their most effective work, and then enable that performance with operating conditions and incentives that support it. Turnaround school leaders must have the ability to shape the staff in their schools, without regard to seniority or other contract bargaining restrictions.
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		Kotter, J. P. (1995, March-April). Leading change: Why transformation efforts fail. *Harvard Business Review,* 73(2), 19-27.	Importance of a sense of urgency for rapid results.
		Paton, R., & Mordaunt, J. (2004, August). What's different about public and non-profit "turnaround"? *Public Money & Management*, 24(4), 209-216.	Including time spans for case studies of turnarounds.

NCLB Results and Lessons Learned

Evidence for (E)(2):		
Approach Used	**# of Schools Since SY2004-05**	**Results and Lessons Learned**
NCLB Option 1: Staff Replacement	• 1 school entered restructuring in SY2007-2008	• Met AYP in both Math and Reading from 2008-2009 o Students meeting AYP in Math: 10.0% increase in number of students proficient and above o Students meeting AYP in Reading: 8.3% annual growth from 2008-2009 o Refer to Exhibit VI.E(2)ii-5a for data analysis
NCLB Option 2: Contracting	0	• None
NCLB Option 3: State Takeover	0	• None
NCLB Option 4: Chartering	0	• None
NCLB Option 5: Other Major Restructuring	• 6 schools entered restructuring in SY 2006-2007 • 6 schools entered restructuring in SY 2007-2008 • 12 schools entered restructuring in SY 2008-2009	• SY 2006-2007 Cohort: o Students meeting AYP in Math: -.3% annual growth from 2007-2009 o Students meeting AYP in Reading: 1.4% annual growth from 2007-2009 • SY 2007-2008 Cohort: o Students meeting AYP in Math: 4.9% annual growth from 2008-2009 o Students meeting AYP in Reading: 2.1% annual growth from 2008-2009 • SY 2008-2009 Cohort: Data not yet available • SY 2009-2010 Cohort: Data not yet available • Refer to Exhibit VI.E(2)ii-5a for data analysis
NCLB Options 1 and 5: Combination of both staff replacement and other restructuring	• 2 schools entered restructuring in SY 2006-2007 • 4 schools entered restructuring in SY 2007-2008 • 2 schools entered restructuring in SY 2008-2009	• SY 2006-2007 Cohort: o Students meeting AYP in Math: 1.7% annual growth from 2007-2009 o Students meeting AYP in Reading: -0.1% annual growth from 2007-2009 • SY 2007-2008 Cohort: o Students meeting AYP in Math: 2.5% annual growth from 2008-2009 o Students meeting AYP in Reading: 2.9% annual growth from 2007-2009 • SY 2008-2009 Cohort: Data not yet available • Refer to Exhibit VI.E(2)ii-5a for data analysis
State takeover and conversion to charter school, mandated under prior State law	• 1 in SY 2004-2005 (Cole Middle School)	• See Exhibit VI.E(2)ii-5b for the State Board of Education's intervention in Cole Middle School
Phasing Out / School Closure	• 1 entered restructuring in SY 2006-2007 (Rishel Middle School) • 1 entered restructuring in SY 2007-2008 school year (Kunsmiller Middle	• Rishel Middle School o Students meeting AYP in Math: 9.9% annual growth from SY 2008-2009 o Students meeting AYP in Reading: 4.1% annual growth from SY 2007-2009 • See Exhibit VI.E(2)ii-5c for Denver Public Schools'

	School)	phasing out/closure of Rishel Middle School and Kunsmiller Middle School
Not yet determined	• 1 school entered restructuring planning in SY 2008-2009 • 19 schools entered restructuring implementation in SY 2009-2010	• Data will be collected at the end of SY 2009-2010
Voluntary Restructuring		• See Exhibit VI.E(2)ii-5d for voluntary restructuring initiatives by Denver Public Schools
Chartering/Innovation Schools		• See Exhibit VI.E(2)ii-5d for voluntary restructuring initiatives by Denver Public Schools

Exhibit F-1: Report of Sources and Uses Available for Education Spending

STATE OF COLORADO

OFFICE OF THE STATE CONTROLLER

REPORT OF SOURCES AND USES AVAILABLE FOR EDUCATION SPENDING

FISCAL YEARS 2008-09 AND 2007-08

Prepared by David McDermott, April 27, 2010
Sources: Colorado Audited CAFR - Fiscal Years 2008-09 and 2007-08, and the Colorado Financial Data Warehouse.

	FY2008-09	FY2007-08
Available Revenues:		
General Fund:		
Total General Purpose Revenue (CAFR page 157/147)	6,525,414	7,504,799
Transfers in to Augment General Revenue Shortfall (CAFR page 157/147)	815,254	0
Transfer from Sales and Use Tax Holding Fund (CAFR page 157/147)	219,155	0
State Public School Fund:		
Total Revenues (CAFR Page 54/52)	7,077	4,578
Total Transfers-In (CAFR Page 54/52)	3,032,701	2,895,950
Less Transfers from General Revenue in the General Fund (CAFR Page 134/126)	(2,930,074)	(2,790,547)
State Education Fund:		
Total Revenues (CAFR Page 55/53)	357,808	428,846
Total Transfers-In (CAFR Page 55/53)	121,411	0
Less Transfers from General Revenue in the General Fund (CAFR Page 134/126)	(121,411)	0
Higher Education:		
Total Operating Revenue (CAFR page 60/58)	3,850,489	3,650,702
Less Federal Operating Grants and Contracts (CAFR page 60/58)	(1,001,621)	(925,993)
Total NonOperating Revenue (CAFR page 60/58)	238,881	178,874
Less Federal NonOperating Grants and Contracts (CAFR page 60/58)	(144,691)	0
Capital Contributions (CAFR page 60/58)	131,121	139,190
Transfers-in (CAFR page 60/58)	181,412	157,377
(CAFR Page 135/127)	(135,227)	(131,174)
Less Fee-for-Service Contract Payments from General Fund by CCHE (Financial Data Warehouse)	(272,564)	(298,715)
Less Stipends and Fee-for-Service Shown in Operating Revenue and General Fund Revenue (CAFR Page 199/189)	(262,738)	(328,170)
Total Revenue Available for Education from All Sources	**10,612,397**	**10,485,717**
Education Expenditures and Expenses:		
General Fund:		
Expenditures by Department: Education (CAFR Page 157/147)	3,214,929	3,023,182

Expenditures by Department: Higher Education (CAFR Page 157/147)	661,974	747,717
State Public School Fund:		
Total Expenditures (CAFR Page 54/52)	2,999,810	2,872,284
Less Transfers from General Revenue in the General Fund (CAFR Page 134/126)	(2,930,074)	(2,790,547)
State Education Fund:		
Total Expenditures (CAFR Page 55/53)	488,830	297,587
Less Transfers from General Revenue in the General Fund (CAFR Page 134/126)	(121,411)	0
Higher Education:		
Total Operating Expense (CAFR page 60/58)	4,183,979	3,872,434
Less Federal Operating Grants and Contracts (CAFR page 60/58)	(1,001,621)	(925,993)
Total NonOperating Expense (CAFR page 60/58)	102,200	88,568
Less Federal NonOperating Grants and Contracts (CAFR page 60/58)	(144,691)	0
Capital Contributions (CAFR page 60/58)	131,121	139,190
Capital Expenditures from Higher Education Resources Transfers-Out (CAFR page 60/58)	3,813	3,372
Less Fee-for-Service Contract Payments from General Fund by CCHE (Financial Data Warehouse)	(272,564)	(298,715)
Less Stipends and Fee-for-Service Shown in Operating Revenue and General Fund Revenue (CAFR Page 199/189)	(262,738)	(328,170)
Total Education Expenditures and Expenses	**7,053,557**	**6,700,909**
Percent of Total Available Revenues Expended for Education	**66.47%**	**63.91%**

Description of Revenues to Support Education

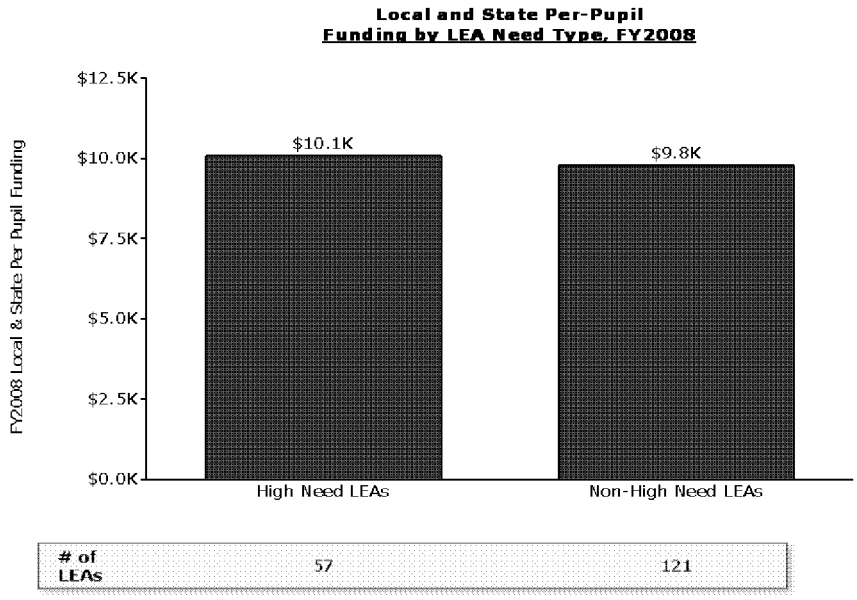
Calculation

Component	FY 2007-08	Source
State Support for Institutions of Higher Education (IHE)	$ 602,028,183	Total Appropriation in FY 07-08
State Support for Elementary and Secondary Education (K-12)	$ 3,152,710,777	Total Appropriation in FY 07-08
Total State Support for IHE and K-12	$ 3,754,738,960	
Total Available State Revenue	$ 7,844,863,909	Based on FY 2007-08 column in March 2009 LSC revenue forecast + (SEF and SPSF for K-12)
Percent of Available State Revenues to Support IHE + K-12	47.9%	Percentage Calculation = $3,754,738,960 / $7,844,863,909

Component	FY 2008-09	Source
State Support for Institutions of Higher Education (IHE)	$ 555,289,004	Based on the FY 2008-09 State Support - Higher Education Calculation
State Support for Elementary and Secondary Education (K-12)	$ 3,392,945,206	Based on the FY 2008-09 State Support - Elementary and Secondary Calculation
Total State Support for IHE and K-12	$ 3,948,234,210	
Total Available State Revenue	$ 8,182,970,995	Based on the FY 2008-09 Available State Revenue Calculation
Percent of Available State Revenues to Support IHE + K-12	48.2%	Percentage Calculation = $3,948,234,210 / $8,182,970,995

Exhibit F-2: Local and State Per Pupil Funding by LEA Need Type

High-Need LEAs Received ~$300 More Local and State Funding on a Per Pupil Basis than Non-High-Need LEAs in 2008

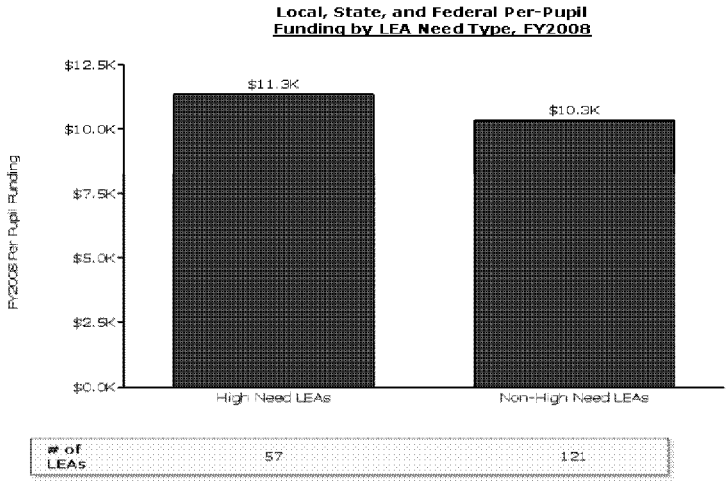


Note: Based on FY2009 Title 1 need calculations and FY2008 per pupil funding (local and state only); Does not include Charter School Institute or BOCES
Source: CDE; U.S. Census

1

Local, State & Federal Per-Pupil Funding by LEA Need Type

High-Need LEAs Received ~$1K More Total Funding on a Per Pupil Basis than Non-High-Need LEAs in 2008



Note: Based on FY2009 Title 1 need calculations and FY2008 per pupil funding (local, state and federal); Does not include Charter School Institute or BOCES
Source: CDE; U.S. Census

2

Exhibit F-3: Colorado State Law C.R.S 22-30.5, Charter Schools Act

PART 1 - CHARTER SCHOOLS ACT

22-30.5-101. Short title.
This part 1 shall be known and may be cited as the "Charter Schools Act".
Source: L. 93: Entire article added, p. 1051, § 1, effective June 3. **L. 96:** Entire section amended, p. 667, § 3, effective May 2.

ANNOTATION
Charter Schools Act does not violate the equal protection clause of the United States Constitution. Because the act is facially neutral and does not implicate a fundamental right, the act must be reviewed under a rational relationship test. Colorado has a legitimate governmental interest in encouraging innovation in education and the act is rationally related to such an interest. Villanueva v. Carere, 873 F. Supp. 434 (D. Colo. 1994), aff'd, 85 F.3d 481 (10th Cir. 1996).
Charter schools established pursuant to this act are public entities and, thus, absent a Governmental Immunity Act immunity exception, entitled to immunity from liability in claims that lie in tort or could lie in tort. King v. U.S., 53 F. Supp.2d 1056 (D. Colo. 1999).

22-30.5-102. Legislative declaration.
(1) The general assembly hereby finds and declares that:
(a) It is the obligation of all Coloradans to provide all children with schools that reflect high expectations and create conditions in all schools where these expectations can be met;
(b) Education reform is in the best interests of the State in order to strengthen the performance of elementary and secondary public school pupils, that the best education decisions are made by those who know the students best and who are responsible for implementing the decisions, and, therefore, that educators and parents have a right and a responsibility to participate in the education institutions which serve them;
(c) Different pupils learn differently and public school programs should be designed to fit the needs of individual pupils and that there are educators, citizens, and parents in Colorado who are willing and able to offer innovative programs, educational techniques, and environments but who lack a channel through which they can direct their innovative efforts.
(2) The general assembly further finds and declares that this part 1 is enacted for the following purposes:
(a) To improve pupil learning by creating schools with high, rigorous standards for pupil performance;
(b) To increase learning opportunities for all pupils, with special emphasis on expanded learning experiences for pupils who are identified as academically low-achieving;
(c) To encourage diverse approaches to learning and education and the use of different, innovative, research-based, or proven teaching methods;
(d) To promote the development of longitudinal analysis of student progress, in addition to participation in the Colorado student assessment program, to measure pupil learning and achievement;
(e) To create new employment options and professional opportunities for teachers and principals, including the opportunity to be responsible for the achievement results of students at the school site;
(f) To provide parents and pupils with expanded choices in the types of education opportunities that are available within the public school system;
(g) To encourage parental and community involvement with public schools;
(g.5) To address the formation of research-based charter schools that use programs that are proven to be effective;
(h) To hold charter schools accountable for performance through the "Education Accountability Act of 2009", including but not limited to meeting State, school district, and school targets for the measures used to determine the levels of attainment of the performance indicators;
(i) To provide an avenue for citizens to participate in the educational process and environment;
(j) To provide citizens with multiple avenues by which they can obtain authorization for a charter school.
(3) In authorizing charter schools, it is the intent of the general assembly to create a legitimate avenue for parents, teachers, and community members to implement new and innovative methods of educating children that are proven to be effective and to take responsible risks and create new and innovative, research-based ways of educating all children within the public education system. The general assembly seeks to create an atmosphere in Colorado's public education system where research and development in developing different learning opportunities is actively pursued.

As such, the provisions of this part 1 should be interpreted liberally to support the findings and goals of this section and to advance a renewed commitment by the State of Colorado to the mission, goals, and diversity of public education.
Source: L. 93: Entire article added, p. 1051, § 1, effective June 3. **L. 94:** (2)(g.5) added, p. 1378, § 1, effective May 25. **L. 96:** IP(2) and (3) amended, p. 668, § 4, effective May 2; (2)(c) amended, p. 752, § 1, effective May 22. **L. 2004:** (2)(c), (2)(d), (2)(e), (2)(g.5), (2)(h), and (3) amended and (2)(i) and (2)(j) added, p. 1569, § 1, effective June 3. **L. 2009:** (2)(h) amended, (SB 09-163), ch. 293, p. 1534, § 25, effective May 21.
Cross references: For the "Education Accountability Act of 2009", see article 11 of this title.

ANNOTATION

The general assembly did not intend approval of a charter application to establish a final contract between the local board and the charter school proponents, but rather intended the approval to be an interim step toward creation of that contract. A local board can comply with a State board order to approve a charter application and still expect resolution of its initial grounds for denial in a satisfactory final agreement. Bd. of Educ., Dist. No. 1 v. Booth, 984 P.2d 639 (Colo. 1999).

The governing policy provisions of a charter contract are made up of the charter school application and all agreements and requests releasing the charter school from school district policies. Acad. of Charter Schs. v. Adams Cty. Sch. Dist. No. 12, 32 P.3d 456 (Colo. 2001).

The State board of education has complete statutory authority to settle any disputes arising from implementation of the governing policy provisions of the charter contract, and the governing policy provisions are not subject to judicial review. Acad. of Charter Schs. v. Adams Cty. Sch. Dist. No. 12, 32 P.3d 456 (Colo. 2001).

Contract requiring a pro-rata reduction of the district per pupil revenues funding to a school for a student transferring out may violate subsection (5) because it would include a reduction of capital construction funds and other funds covering direct and indirect costs incurred in the operation of the charter school and the education of its students, which are not enrollment sensitive. Ridgeview Classical Sch. v. Poudre Sch. Dist. R-1, __ P.3d __ (Colo. App. 2008).

In order for a contract for purchase of services from the school district to be valid, it must be at the discretion of the school, must be provided by the district at cost, and must be for a direct budgeted service of the school district, or a service, activity, or undertaking that the charter school is required or chooses to perform in order to carry out the educational program described in the charter contract. Ridgeview Classical Sch. v. Poudre Sch. Dist. R-1, __ P.3d __ (Colo. App. 2008).

Applied in Acad. of Charter Schs. v. Adams Cty. Sch. Dist. No. 12, 994 P.2d 442 (Colo. App. 1999), aff'd in part and rev'd in part on other grounds, 32 P.3d 456 (Colo. 2001).
22-30.5-106. Charter application - contents.
(1) The charter school application shall be a proposed agreement upon which the charter applicant and the chartering local board of education negotiate a charter contract, and, at a minimum, shall include:

(a) The mission Statement of the charter school, which must be consistent with the principles of the general assembly's declared purposes as set forth in section 22-30.5-102 (2) and (3);

(b) The goals, objectives, and pupil performance standards to be achieved by the charter school, including but not limited to the performance indicators specified in section 22-11-204 and applicable standards and goals specified in federal law;

(c) Evidence that an adequate number of parents, teachers, pupils, or any combination thereof support the formation of a charter school;

(d) Repealed.

(e) A description of the charter school's research-based educational program that has been proven to be effective, pupil performance standards, measurable annual targets for the measures used to determine the levels of attainment of the performance indicators specified in section 22-11-204, and curriculum;

(e.5) A description of the manner in which the charter school will collect and use longitudinal assessment data in determining and improving the academic progress achieved by the students enrolled in the charter school;

(f) A description of the charter school's procedures for taking corrective action in the event that pupil performance at the charter school falls below the targets for the measures used to determine the levels of attainment of the performance indicators, as said targets were approved by the chartering local board of education in the charter contract;

(g) Evidence that the plan for the charter school is economically sound, a proposed budget for the term of the charter, a description of the manner in which an annual audit of the financial and administrative operations of the charter school, including any services provided by the State, a school district, or a third party, is to be conducted;

(h) A description of the governance and operation of the charter school, including the nature and extent of parental, professional educator, and community involvement in the governance and operation of the charter school;

(i) An explanation of the relationship that will exist between the proposed charter school and its employees;

(i.5) The employment policies of the proposed charter school;

(j) A proposal regarding the parties' respective legal liabilities and applicable insurance coverage;

(k) A description of how the charter school plans to meet the transportation needs of its pupils and, if the charter school plans to provide transportation for pupils, a plan for addressing the transportation needs of low-income and academically low-achieving pupils and whether the charter school seeks authority to impose a transportation fee on students enrolled in the charter school and the circumstances under and the procedures by which it would impose a transportation fee;

(l) A description of the charter school's enrollment policy, consistent with the requirements of section 22-30.5-104 (3), and the criteria for enrollment decisions;

(m) A dispute resolution process, as provided in section 22-30.5-107.5.

(2) No person, group, or organization may submit an application to convert a private school or a nonpublic home-based educational program into a charter school or to create a charter school which is a nonpublic home-based educational program as defined in section 22-33-104.5.

(3) A charter applicant is not required to provide personal identifying information concerning any parent, teacher, or prospective pupil prior to the time that the charter contract is approved by both parties and either the charter school actually employs the teacher or the pupil actually enrolls in the charter school, whichever is applicable. A charter school applicant shall provide, upon request of the chartering school district, aggregate information concerning the grade levels and schools in which prospective pupils are enrolled.

Source: L. 93: Entire article added, p. 1054, § 1, effective June 3. **L. 94:** (1)(l) added, p. 1379, § 3, effective May 25. **L. 96:** (1)(d) repealed and (1)(i.5) added, p. 753, §§ 3, 4, effective May 22. **L. 97:** (1)(e) amended, p. 586, § 15, effective April 30. **L. 99:** (1)(m) and (3) added, pp. 1255, 1256, §§ 2, 4, effective June 2. **L. 2004:** Entire section amended, p. 1575, § 5, effective June 3. **L. 2005:** (1)(k) amended, p. 1508, § 3, effective June 9. **L. 2009:** (1)(b), (1)(e), and (1)(f) amended, (SB 09-163), ch. 293, p. 1535, § 27, effective May 21.

Cross references: For the legislative declaration contained in the 1999 act enacting subsections (1)(m) and (3), see section 1 of chapter 302, Session Laws of Colorado 1999.

ANNOTATION

The governing policy provisions of a charter contract are made up of the charter school application and all agreements and requests releasing the charter school from school district policies. Acad. of Charter Schs. v. Adams Cty. Sch. Dist. No. 12, 32 P.3d 456 (Colo. 2001).

Applied in Acad. of Charter Schs. v. Adams Cty. Sch. Dist. No. 12, 994 P.2d 442 (Colo. App. 1999), aff'd in part and rev'd in part on other grounds, 32 P.3d 456 (Colo. 2001).

22-30.5-107. Charter application - process.
(1) A charter applicant cannot apply to, or enter into a charter contract with, a school district unless a majority of the proposed charter school's pupils, other than on-line pupils, will reside in the chartering school district or in school districts contiguous thereto. The local board of education shall receive and review all applications for charter schools. If the local board of education does not review a charter application, it shall be deemed to have denied the charter application. Applications must be filed with the local board of education by a date determined by the local board of education to be eligible for consideration for the following school year. The date determined by the local board of education for filing of applications shall not be any earlier than August 15, or any later than October 1. Prior to any change in the application deadline, the local board of education shall notify each charter school applicant in the district of the proposed change by certified letter. The local board of education shall not charge any application fees. If such board finds the charter school application is incomplete, the board shall request the necessary information from the charter applicant and give the charter applicant reasonable opportunity to provide additional information to the local board of education for review. The charter school application shall be reviewed by the district accountability committee prior to consideration by the local board of education.
(1.5) For purposes of reviewing a charter school application, a district accountability committee shall include at least:
(a) One person with a demonstrated knowledge of charter schools, regardless of whether that person resides within the school district; and
(b) One parent or legal guardian of a child enrolled in a charter school in the school district; except that, if there are no charter schools in the school district, the local board of education shall appoint a parent or legal guardian of a child enrolled in the school district.
(2) After giving reasonable public notice, the local board of education shall hold community meetings in the affected areas or the entire school district to obtain information to assist the local board of education in its decision to approve a charter school application. The local board of education shall rule by resolution on the application for a charter school in a public hearing, upon reasonable public notice, within seventy-five days after receiving the application filed pursuant to subsection (1) of this section. All negotiations between the charter school and the local board of education on the contract shall be concluded by, and all terms of the contract agreed upon, no later than ninety days after the local board of education rules by resolution on the application for a charter school.
(2.5) The charter applicant and the local board of education may jointly waive the deadlines set forth in this section.
(3) If a local board of education denies a charter school application, does not review a charter school application, or unilaterally imposes conditions that are unacceptable to the charter applicant, the charter applicant may appeal the decision to the State board pursuant to section 22-30.5-108.
(3.5) Nothing in this part 1 shall prohibit a school district from adopting one or more policies that encourage charter applicants to address specified school district needs.
(4) If a local board of education denies or does not review a charter school application, it shall State its reasons for the denial or refusal to review. Within fifteen days after denying or refusing to review a charter school application, the local board of education shall notify the department of the denial or refusal and the reasons therefore. If a local board of education approves a charter application, it shall send a copy of the approved charter application to the department within fifteen days after approving the charter application.
(5) A school district may unilaterally impose conditions on a charter applicant or on a charter school only through adoption of a resolution of the local board of education of the school district. If a local board adopts a resolution unilaterally imposing conditions on a charter applicant or on a charter school, the resolution shall, at a minimum, State the school district's reasons for imposing the conditions unilaterally, despite the objections of the charter applicant or the charter school. The charter applicant or charter school may appeal the decision of the local board of education to unilaterally impose the conditions by filing the notice of appeal with the State board within thirty days after adoption of the resolution, as provided in section 22-30.5-108 (2)(a).

Source: L. 93: Entire article added, p. 1055, § 1, effective June 3. **L. 96:** Entire section amended, p. 753, § 5, effective May 22. **L. 97:** (1) amended, p. 586, § 16, effective April 30. **L. 99:** (1.5) added and (2) amended, p. 1209, § 2, effective August 4. **L. 2002:** (1) amended, p. 1749, § 23, effective June 7; entire section amended, p. 187, § 1, effective July 1, 2003. **L. 2004:** Entire section amended, p. 1576, § 6, effective June 3.
Editor's note: Amendments to subsection (1) by Senate Bill 02-051 and House Bill 02-1349 were harmonized.
ANNOTATION
Applied in Acad. of Charter Schs. v. Adams Cty. Sch. Dist. No. 12, 32 P.3d 456 (Colo. 2001).

22-30.5-107.5. Dispute resolution - governing policy provisions - appeal.
(1) Except as otherwise provided in section 22-30.5-108, any disputes that may arise between a charter school and its chartering school district concerning governing policy provisions of the school's charter contract shall be resolved pursuant to this section.
(2) (a) A charter school or its chartering school district may initiate a resolution to any dispute concerning a governing policy provision of the school's charter contract by providing reasonable written notice to the other party of an intent to invoke this section. Such notice shall include, at a minimum, a brief description of the matter in dispute and the scope of the disagreement between the parties.
(b) Within thirty days after receipt of the written notice described in paragraph (a) of this subsection (2), the charter school and the school district shall agree to use any form of alternative dispute resolution to resolve the dispute, including but not limited to any of the forms described in the "Dispute Resolution Act", part 3 of article 22 of title 13, C.R.S.; except that any form chosen by the parties shall result in final written findings by a neutral third party within one hundred twenty days after receipt of such written notice.
(c) The neutral third party shall apportion all costs reasonably related to the mutually agreed upon dispute resolution process.
(3) (a) A charter school and its chartering school district may agree to be bound by the written findings of the neutral third party resulting from any alternative dispute resolution entered into pursuant to subsection (1) of this section. In such case, such findings shall be final and not subject to appeal.
(b) If the parties do not agree to be bound by such written findings of the neutral third party, the parties may appeal such findings to the State board. A party who wishes to appeal such findings shall provide the State board and the other party with a notice of appeal within thirty days after the release of such findings, and the notice of appeal shall contain a brief description of the grounds for appeal. The State board may consider said written findings or other relevant materials in reaching its decision and may, on its own motion, conduct, after sufficient notice, a de novo review of and hearing on the underlying matter.
(4) The State board shall:
(a) Issue its decision on the written findings of the neutral third party resulting from any alternative dispute resolution entered into pursuant to subsection (1) of this section within sixty days after receipt of the notice of appeal; or
(b) Make its own findings within sixty days after making its own motion for a de novo review and hearing described in paragraph (b) of subsection (3) of this section.
(5) If the State board, after motion by one of the parties and sufficient notice and hearing, finds that either of the parties to an alternative dispute resolution process held pursuant to this section has failed to participate in good faith in such process or has refused to comply with the decision reached after agreeing to be bound by the result of such process, the State board shall resolve the dispute in favor of the aggrieved party.
(6) Any decision by the State board pursuant to this section shall be final and not subject to appeal.
Source: L. 99: Entire section added, p. 1255, § 3, effective June 2. **L. 2002:** Entire section R&RE, p. 1001, § 1, effective June 1.
Cross references: For the legislative declaration contained in the 1999 act enacting this section, see section 1 of chapter 302, Session Laws of Colorado 1999.

ANNOTATION
Annotator's note. The following annotations include a case decided under this section as it existed prior to its 2002 repeal and reenactment.
By adding this section, the general assembly established the processes for settling governing policy contract disputes, as well as explicitly establishing the situations in which the State board of education had appellate review. Acad. of Charter Schs. v. Adams Cty. Sch. Dist. No. 12, 32 P.3d 456 (Colo. 2001).
The enactment of this section served as a retroactive change to the Charter Schools Act. Because the section authorizes an aggrieved party to seek appellate review from the State board of education, and because the State

board's decision is not subject to review, plaintiff lacked standing to pursue its governing policy claims. Acad. of Charter Schs. v. Adams Cty. Sch. Dist. No. 12, 32 P.3d 456 (Colo. 2001).

22-30.5-108. Appeal - standard of review - procedures.

(1) Acting pursuant to its supervisory power as provided in section 1 of article IX of the State constitution, the State board, upon receipt of a notice of appeal or upon its own motion, may review decisions of any local board of education concerning the denial of a charter school application, the nonrenewal or revocation of a charter school's charter, or the unilateral imposition of conditions on a charter applicant or a charter school, in accordance with the provisions of this section. Any disputes arising with regard to governing policy provisions of a charter school's charter contract shall be resolved as provided in section 22-30.5-107.5. A local board of education's refusal to review a charter application constitutes a denial of the charter application and is appealable as a denial pursuant to the provisions of this section.

(2) A charter applicant or any other person who wishes to appeal a decision of a local board of education concerning the denial of a charter application or the nonrenewal or revocation of a charter or the unilateral imposition of conditions on a charter applicant or a charter school, shall provide the State board and the local board of education with a notice of appeal or of facilitation within thirty days after the local board's decision. The person bringing the appeal shall limit the grounds of the appeal to the grounds for the denial of a charter application or the nonrenewal or revocation of a charter, or the unilateral imposition of conditions on a charter applicant or charter school, whichever is being appealed, specified by the local board of education. The notice shall include a brief Statement of the reasons the appealing person contends the local board of education's denial of a charter application or nonrenewal or revocation of a charter, or imposition of conditions on a charter applicant or charter school was in error.

(2.5) If a district court dismisses a case for lack of jurisdiction and the case involves a charter application, or the nonrenewal or revocation of a charter, or the unilateral imposition of conditions on a charter applicant or charter school, the thirty-day period for filing a notice of appeal or of facilitation described in subsection (2) of this section shall be tolled until the date of dismissal by the court.

(3) If the notice of appeal, or the motion to review by the State board, relates to a local board's decision to deny a charter application or to refuse to renew or to revoke a charter or to a local board's unilateral imposition of conditions that are unacceptable to the charter applicant or the charter school, the appeal and review process shall be as follows:

(a) Within sixty days after receipt of the notice of appeal or the making of a motion to review by the State board and after reasonable public notice, the State board shall review the decision of the local board of education and make its findings. If the State board finds that the local board's decision was contrary to the best interests of the pupils, school district, or community, the State board shall remand such decision to the local board of education with written instructions for reconsideration thereof. Said instructions shall include specific recommendations concerning the matters requiring reconsideration.

(b) Within thirty days following the remand of a decision to the local board of education and after reasonable public notice, the local board of education, at a public hearing, shall reconsider its decision and make a final decision. If the local board of education decides to approve the charter application or decides not to unilaterally impose the condition, the local board of education and the charter applicant shall complete the charter contract within ninety days following the remand of the State board's decision to the local board of education.

(c) Following the remand, if the local board of education's final decision is still to deny a charter application or to unilaterally impose the condition on a charter applicant or if the local board of education's final decision is still to refuse to renew or to revoke a charter or to unilaterally impose conditions unacceptable to the charter school, a second notice of appeal may be filed with the State board within thirty days following such final decision.

(d) Within thirty days following receipt of the second notice of appeal or the making of a motion for a second review by the State board and after reasonable public notice, the State board, at a public hearing, shall determine whether the final decision of the local board of education was contrary to the best interests of the pupils, school district, or community. If such a finding is made, the State board shall remand such final decision to the local board with instructions to approve the charter application, or to renew or reinstate the charter or to approve or disapprove the conditions imposed on the charter applicant or the charter school. The decision of the State board shall be final and not subject to appeal.

(3.5) In lieu of a first appeal to the State board pursuant to paragraph (a) of subsection (3) of this section, the parties may agree to facilitation. Within thirty days after denial of a charter application or nonrenewal or revocation of a charter or unilateral imposition of conditions on a charter applicant or a charter school by the local board of education, the parties may file a notice of facilitation with the State board. The parties may continue in facilitation as long as both parties agree to its continued use. If one party subsequently rejects facilitation, and such rejection is not reconsidered within seven days, the local board of education shall reconsider its denial of a charter application or

nonrenewal or revocation of a charter and make a final decision as provided in paragraph (b) of subsection (3) of this section. The charter applicant may file a notice of appeal with the State board as provided in paragraph (c) of subsection (3) of this section within thirty days after a local board of education's final decision to deny a charter application, to refuse to renew or to revoke a charter, or to unilaterally impose conditions on a charter applicant or a charter school.
(4) (Deleted by amendment, L. 2004, p. 1578, § 7, effective June 3, 2004.)
(5) Nothing in this section shall be construed to alter the requirement that a charter school be a part of the school district that approves its charter application and charter contract and be accountable to the local board of education pursuant to section 22-30.5-104 (2).
Source: L. 93: Entire article added, p. 1056, § 1, effective June 3. **L. 94:** (3)(a) and IP(4)(a)(I) amended, p. 1341, § 1, effective May 25. **L. 96:** (2), IP(3), and (3)(c) amended and (3.5) added, p. 754, § 6, effective May 22. **L. 97:** (3)(a), IP(4)(a)(I), and (5) amended, p. 586, § 17, effective April 30. **L. 2002:** (1), (2), IP(3), (3)(c), and (3)(d) amended and (2.5) added, p. 1002, § 2, effective June 1. **L. 2004:** Entire section amended, p. 1578, § 7, effective June 3.

ANNOTATION
Where the State board of education concludes that a charter school's remedy lay in district court, such conclusion does not confer jurisdiction on the courts or extend standing to plaintiffs when none otherwise existed. Acad. of Charter Schs. v. Adams Cty. Sch. Dist. No. 12, 994 P.2d 442 (Colo. App. 1999), aff'd in part and rev'd in part on other grounds, 32 P.3d 456 (Colo. 2001).
The State board is authorized to substitute its judgment for that of a local board under the "best interests" language of subsection (3)(d). Bd. of Educ., Dist. No. 1 v. Booth, 984 P.2d 639 (Colo. 1999).
State board's authority is limited upon a second appeal. Where, on first appeal, the State board had approved a charter application in principle but directed the local board and the applicants to negotiate further on unresolved operational details, the State board had no authority to issue a similar, conditional approval on the second appeal pursuant to subsection (3)(d). Booth v. Bd. of Educ., 950 P.2d 601 (Colo. App. 1997), aff'd in part and rev'd in part on other grounds, 984 P.2d 639 (Colo. 1999).
The plain language of this section authorizes the State board only to require approval of the charter application was submitted and not subsequent status reports. Bd. of Educ., Dist. No. 1 v. Booth, 984 P.2d 639 (Colo. 1999).
If disputes arise from the implementation of the governing policy provisions of the charter contract, such disputes may eventually be appealed to the State board of education pursuant to this section, and any decision rendered by the State board is final and not subject to appeal. Acad. of Charter Schs. v. Adams Cty. Sch. Dist. No. 12, 32 P.3d 456 (Colo. 2001).
Only issue on second appeal is whether the local board's denial of an application is contrary to the best interests of the pupils, school district, or community. The State board's purported issuance of a partial or conditional order to approve a pending application, which fell short of an unconditional finding on this issue, was held unenforceable and the case was remanded for further proceedings. Booth v. Bd. of Educ., 950 P.2d 601 (Colo. App. 1997), aff'd in part and rev'd in part on other grounds, 984 P.2d 639 (Colo. 1999).
State board's final order on second appeal is not subject to judicial review under the State Administrative Procedure Act. Booth v. Bd. of Educ., 950 P.2d 601 (Colo. App. 1997), aff'd in part and rev'd in part on other grounds, 984 P.2d 639 (Colo. 1999).
Applied in Acad. of Charter Schs. v. Adams Cty. Sch. Dist. No. 12, 994 P.2d 442 (Colo. App. 1999), aff'd in part and rev'd in part on other grounds, 32 P.3d 456 (Colo. 2001).
22-30.5-109. Charter schools - reporting - publicizing - limits on enrollment - moratorium prohibited.
(1) Each local board of education that approves a charter application and enters into a charter contract with a charter school shall annually report to the department information that the department requests to evaluate the effectiveness of charter schools. The local boards of education shall provide the information on forms provided by the department. The State board shall adopt rules establishing the time lines and procedures for reporting the information required in this subsection (1).
(2) (Deleted by amendment, L. 2004, p. 1580, § 8, effective June 3, 2004.)
(3) It is the intent of the general assembly that greater consideration be given to charter school applications designed to increase the educational opportunities of at-risk pupils, as defined in section 22-30.5-103.
(4) If otherwise qualified, nothing in this part 1 shall be construed to prohibit any institution certified on or before April 1, 1993, as an educational clinic pursuant to former article 27 of this title as it existed prior to August 7, 2006, from applying to become a charter school pursuant to this part 1.

(5) Nothing in this part 1 shall be construed to prevent a school in a school district which is comprised of only one school from applying to become a charter school pursuant to this part 1.
(6) A school district shall not discriminate against a charter school in publicizing the educational options available to students residing within the district through advertising, direct mail, availability of mailing lists, or other informational activities, provided that the charter school pays for its share of such publicity at cost.
(7) A chartering authority may not restrict the number of pupils a charter school may enroll; except that a charter school and its chartering authority may negotiate and agree to limitations on the number of students the charter school may enroll as necessary to:
(a) Facilitate the academic success of students enrolled in the charter school;
(b) Facilitate the charter school's ability to achieve the other objectives specified in the charter contract; or
(c) Ensure that the charter school's student enrollment does not exceed the capacity of the charter school facility or site.
(8) The local board of education of a school district shall not impose a moratorium on the approval of charter applications for charter schools within the school district.
Source: L. 93: Entire article added, p. 1057, § 1, effective June 3. **L. 96:** (4) and (5) amended, p. 668, § 6, effective May 2; (2)(a) amended, p. 754, § 7, effective May 22. **L. 98:** (1) amended, p. 823, § 31, effective August 5. **L. 99:** (6) added, p. 1256, § 6, effective June 2. **L. 2002:** (7) added, p. 1750, § 24, effective June 7. **L. 2003:** (6) amended, p. 2139, § 42, effective May 22. **L. 2004:** Entire section amended, p. 1580, § 8, effective June 3. **L. 2006:** (4) and (6) amended, p. 605, § 19, effective August 7.
Cross references: For the legislative declaration contained in the 1999 act enacting subsection (6), see section 1 of chapter 302, Session Laws of Colorado 1999.
22-30.5-110. Charter schools - term - renewal of charter - grounds for nonrenewal or revocation - repeal.
(1) A new charter application shall be approved by a local board of education for a period of at least three years. A charter may be renewed for successive periods.
(1.5) No later than December 1 of the year prior to the year in which the charter expires, the governing body of a charter school shall submit a renewal application to the chartering local board of education. The chartering local board of education shall rule by resolution on the renewal application no later than February 1 of the year in which the charter expires, or by a mutually agreed upon date.
2) A charter school renewal application submitted to the chartering local board of education shall contain:
(a) A report on the progress of the charter school in achieving the goals, objectives, pupil performance standards, content standards, targets for the measures used to determine the levels of attainment of the performance indicators, and other terms of the charter contract and the results achieved by the charter school's students on the assessments administered through the Colorado student assessment program; and
(b) A financial Statement that discloses the costs of administration, instruction, and other spending categories for the charter school that is understandable to the general public and that will allow comparison of such costs to other schools or other comparable organizations, in a format required by the State board of education.
(c) Repealed.
(3) A charter may be revoked or not renewed by the chartering local board of education if it determines that the charter school did any of the following:
(a) Committed a material violation of any of the conditions, standards, or procedures set forth in the charter contract;
(b) Failed to meet or make reasonable progress toward achievement of the goals, objectives, content standards, pupil performance standards, targets for the measures used to determine the levels of attainment of the performance indicators, applicable federal requirements, or other terms identified in the charter contract;
(c) Failed to meet generally accepted standards of fiscal management; or
(d) Violated any provision of law from which the charter school was not specifically exempted.
(4) (Deleted by amendment, L. 2004, p. 1582, § 9, effective June 3, 2004.)
(4.5) If a local board of education revokes or does not renew a charter, the board shall State its reasons for the revocation or nonrenewal.
(5) A decision to revoke or not to renew a charter may be appealed or facilitation may be sought pursuant to the provisions of section 22-30.5-108.
Source: L. 93: Entire article added, p. 1058, § 1, effective June 3. **L. 96:** (4.5) added and (5) amended, p. 755, § 8, effective May 22. **L. 97:** (1) amended and (1.5) added, p. 400, § 3, effective August 6. **L. 2001:** (2) amended, p. 338, § 4, effective April 16. **L. 2004:** Entire section amended, p. 1582, § 9, effective June 3. **L. 2007:** (2)(c) repealed, p. 745, § 28, effective May 9. **L. 2009:** (2)(a) and (3)(b) amended, (SB 09-163), ch. 293, p. 1535, § 28, effective May 21.

22-30.5-111. Charter schools - employee options.
(1) During the first year that a teacher employed by a school district is employed by a charter school, such teacher shall be considered to be on a one-year leave of absence from the school district. Such leave of absence shall commence on the first day of services for the charter school. Upon the request of the teacher, the one-year leave of absence shall be renewed for up to two additional one-year periods upon the mutual agreement of the teacher and the school district. At the end of three years, the relationship between the teacher and the school district shall be determined by the school district and such district shall provide notice to the teacher of the relationship.
(2) The local board of education shall determine by policy or by negotiated agreement, if one exists, the employment status of school district employees employed by the charter school who seek to return to employment with public schools in the school district.
(3) Employees of a charter school shall be members of the public employees' retirement association or the Denver public schools retirement system, whichever is applicable. The charter school and the teacher shall contribute the appropriate respective amounts as required by the funds of such association or system.
Source: L. 93: Entire article added, p. 1059, § 1, effective June 3.
22-30.5-112. Charter schools - financing - definitions - guidelines.
(1) (a) For purposes of the "Public School Finance Act of 1994", article 54 of this title, pupils enrolled in a charter school shall be included in the pupil enrollment, the on-line pupil enrollment, or the preschool program enrollment, whichever is applicable, of the school district that granted its charter. The school district that granted its charter shall report to the department the number of pupils included in the school district's pupil enrollment, the school district's on-line pupil enrollment, and the school district's preschool program enrollment that are actually enrolled in each charter school.
(b) The school district shall also identify each charter school that is a qualified charter school as defined in section 22-54-124 (1) (f.6), identify each qualified charter school that will be operating in a school district facility and that does not have ongoing financial obligations incurred to repay the outstanding costs of new construction undertaken for the charter school's benefit, and provide an estimate of the number of pupils expected to be enrolled in each qualified charter school during the budget year following the budget year in which the district makes a report.
(2) (a) (I) As part of the charter school contract, the charter school and the school district shall agree on funding and any services to be provided by the school district to the charter school.
(II) For the 1999-2000 budget year, the charter school and the school district shall begin discussions on the contract using eighty percent of the district per pupil operating revenues.
(III) (A) For budget year 2000-01 and budget years thereafter, except as otherwise provided in paragraph (a.3) of this subsection (2), each charter school and the chartering school district shall negotiate funding under the contract. The charter school shall receive one hundred percent of the district per pupil revenues for each pupil enrolled in the charter school who is not an on-line pupil and one hundred percent of the district per pupil on-line funding for each on-line pupil enrolled in the charter school; except that the chartering school district may choose to retain the actual amount of the charter school's per pupil share of the central administrative overhead costs for services actually provided to the charter school, up to five percent of the district per pupil revenues for each pupil who is not an on-line pupil enrolled in the charter school and up to five percent of the district per pupil on-line funding for each on-line pupil enrolled in the charter school.
(B) For budget years 2001-02 through 2010-11, the minimum amount of funding specified in sub-subparagraph (A) of this subparagraph (III) shall reflect the one-percent increase in the Statewide base per pupil funding for State fiscal years 2001-02 through 2010-11 received by the school district as required by section 17 of article IX of the State constitution.
(a.3) If the authorizing school district enrolls five hundred or fewer students, the charter school shall receive funding in the amount of the greater of one hundred percent of the district per pupil on-line funding for each on-line pupil enrolled in the charter school plus one hundred percent of the district per pupil revenues for each pupil who is not an on-line pupil enrolled in the charter school, minus the actual amount of the charter school's per pupil share of the central administrative overhead costs incurred by the school district, based on audited figures, or eighty-five percent of the district per pupil revenues for each pupil enrolled in the charter school who is not an on-line pupil plus eighty-five percent of the district per pupil on-line funding for each on-line pupil enrolled in the charter school.
(a.4) (I) Within ninety days after the end of each fiscal year, each school district shall provide to each charter school within its district an itemized accounting of all its central administrative overhead costs. The actual central administrative overhead costs shall be the amount charged to the charter school. Any difference, within the limitations of subparagraph (III) of paragraph (a) of this subsection (2) and paragraph (a.3) of this subsection (2),

between the amount initially charged to the charter school and the actual cost shall be reconciled and paid to the owed party.
(II) Within ninety days after the end of each fiscal year, each school district shall provide to each charter school within its district an itemized accounting of all the actual costs of district services the charter school chose at its discretion to purchase from the district calculated in accordance with paragraph (b) of this subsection (2). Any difference between the amount initially charged to the charter school and the actual cost shall be reconciled and paid to the owed party.
(III) If either party disputes an itemized accounting provided pursuant to subparagraphs (I) and (II) of this paragraph (a.4), any charges included in an accounting, or charges to either party, that party is entitled to request a third-party review at the requesting party's expense. The review shall be conducted by the department, and the department's determination shall be final.
(a.5) As used in this subsection (2):
(I) "Central administrative overhead costs" means indirect costs incurred in providing:
(A) Services listed under the heading of support services - general administration in the school district chart of accounts as specified by rule of the State board; and
(B) Salaries and benefits for administrative job classifications listed under the headings of support services - business and support services - central in the school district chart of accounts as specified by rule of the State board.
(II) "District per pupil revenues" means the district's total program as defined in section 22-54-103 (6) for any budget year divided by the district's funded pupil count as defined in section 22-54-103 (7) for said budget year.
(II.5) "District per pupil on-line funding" means a school district's on-line funding, as specified in section 22-54-104 (4.5), divided by the district's on-line pupil enrollment for any budget year.
(III) "Per pupil operating revenues" shall have the same meaning as provided in section 22-54-103 (9).
(a.7) For the 2000-01 budget year through the 2008-09 budget year, each charter school shall annually allocate the minimum per pupil dollar amount specified in section 22-54-105 (2) (b), multiplied by the number of students enrolled in the charter school who are not students enrolled in an on-line program, as defined in section 22-30.7-102 (9), to a fund created by the charter school for capital reserve purposes, as set forth in section 22-45-103 (1) (c) and (1) (e), or solely for the management of risk-related activities, as identified in section 24-10-115, C.R.S., and article 13 of title 29, C.R.S., or among such allowable funds. Said moneys shall be used for the purposes set forth in section 22-45-103 (1) (c) and (1) (e) and may not be expended by the charter school for any other purpose. Any moneys remaining in such fund that have not been expended prior to the 2009-10 budget year shall be budgeted for the purposes set forth in section 22-45-103 (1) (c) and (1) (e) in the 2009-10 budget year or any budget year thereafter.
(a.8) (I) For the 2000-01 budget year and budget years thereafter, the school district shall provide federally required educational services to students enrolled in charter schools on the same basis as such services are provided to students enrolled in other public schools of the school district. Each charter school shall pay an amount equal to the per pupil cost incurred by the school district in providing federally required educational services, multiplied by the number of students enrolled in the charter school. At either party's request, however, the charter school and the school district may negotiate and include in the charter contract alternate arrangements for the provision of and payment for federally required educational services.
(II) Notwithstanding any provision of subparagraph (I) of this paragraph (a.8) to the contrary, the school district shall calculate the per pupil cost of providing federally required educational services after subtracting the amount received in federal and State moneys for providing said services.
(a.9) For budget year 2002-03 and budget years thereafter, and in accordance with section 22-30.5-406, the funding provided by a chartering school district to a charter school pursuant to this subsection (2) shall be reduced by the amount of any direct payments of principal and interest due on bonds issued on behalf of a charter school by a governmental entity other than a school district for the purpose of financing charter school capital construction that were made by the State treasurer or the chartering school district on behalf of the charter school.
(b) The charter school, at its discretion, may contract with the school district for the direct purchase of district services in addition to those included in central administrative overhead costs, including but not limited to food services, custodial services, maintenance, curriculum, media services, and libraries. The amount to be paid by a charter school in purchasing any district service pursuant to this paragraph (b) shall be determined by dividing the cost of providing the service for the entire school district, as specified in the school district's budget, by the number of students enrolled in the school district and multiplying said amount by the number of students enrolled in the charter school.
(b.5) (I) The charter school and the school district shall negotiate prior to the beginning of each fiscal year for the payment to the school district of any direct costs incurred by the school district. If the charter school and the school

district do not reach agreement regarding the payment of direct costs, the school district shall be barred from withholding from the charter school any moneys as reimbursement for direct costs. The school district shall provide an itemized accounting to each charter school for the direct costs incurred by the school district with the itemized accounting provided pursuant to paragraph (a.4) of this subsection (2).
(II) For purposes of this paragraph (b.5), "direct costs" means the direct costs incurred by a school district solely for the purpose of reviewing charter applications, negotiating the charter contract, and providing direct oversight to charter schools. "Direct costs" shall not include the school district's legal or other costs attributable to litigation or the resolution of a dispute with a charter school.
(c) (I) For the 1999-2000 budget year, in no event shall the amount of funding negotiated pursuant to this subsection (2) be less than eighty percent of the district per pupil operating revenues multiplied by the number of pupils enrolled in the charter school.
(II) For budget year 2000-01 and budget years thereafter, the amount of funding received by a charter school pursuant to this subsection (2) shall not be less than one hundred percent of the chartering school district's district per pupil revenues, minus up to five percent as provided in subparagraph (III) of paragraph (a) of this subsection (2), multiplied by the number of pupils enrolled in the charter school or as otherwise provided in paragraph (a.3) of this subsection (2) for any charter school chartered by a school district that enrolls five hundred or fewer students.
(d) (Deleted by amendment, L. 2004, p. 1583, § 10, effective June 3, 2004.)
(e) Fees collected from students enrolled at a charter school shall be retained by such charter school.
(3) (a) (I) For the 1999-2000 budget year, notwithstanding subsection (2) of this section, the proportionate share of State and federal resources generated by students with disabilities or staff serving them shall be directed to charter schools enrolling such students by their school districts or administrative units. The proportionate share of moneys generated under other federal or State categorical aid programs shall be directed to charter schools serving students eligible for such aid.
(II) For budget year 2000-01 and budget years thereafter, if the charter school and the school district have negotiated to allow the charter school to provide federally required educational services pursuant to paragraph (a.8) of subsection (2) of this section, the proportionate share of State and federal resources generated by students receiving such federally required educational services or staff serving them shall be directed by the school district or administrative unit to the charter school enrolling such students.
(III) For budget year 2000-01 and budget years thereafter, the proportionate share of moneys generated under federal or State categorical aid programs, other than federally required educational services, shall be directed to charter schools serving students eligible for such aid; except that a school district that receives small attendance center aid pursuant to section 22-54-122 for a small attendance center that is a charter school shall forward the entire amount of such aid to the charter school for which it was received.
(a.5) Each charter school that serves students who may be eligible to receive services provided through federal aid programs shall comply with all federal reporting requirements to receive the federal aid.
(b) If a student with a disability attends a charter school, the school district of residence shall be responsible for paying any tuition charge for the excess costs incurred in educating the child in accordance with the provisions of section 22-20-109 (5).
(4) The governing body of a charter school is authorized to accept gifts, donations, or grants of any kind made to the charter school and to expend or use said gifts, donations, or grants in accordance with the conditions prescribed by the donor; however, no gift, donation, or grant shall be accepted by the governing body if subject to any condition contrary to law or contrary to the terms of the contract between the charter school and the local board of education.
(4.5) Except as provided in section 22-30.5-112.3 (2) (b), any moneys received by a charter school from any source and remaining in the charter school's accounts at the end of any budget year shall remain in the charter school's accounts for use by the charter school during subsequent budget years and shall not revert to the school district or to the State.
(5) Repealed. / (Deleted by amendment, L. 2004, p. 1583, § 10, effective June 3, 2004.)
(6) (Deleted by amendment, L. 2004, p. 1583, § 10, effective June 3, 2004.)
(7) A charter school shall comply with all of the State financial and budget rules, regulations, and financial reporting requirements with which the chartering school district is required to comply, including but not limited to annual completion of a governmental audit that complies with the requirements of the department.
(8) (a) Notwithstanding any provision of this section to the contrary, a chartering school district, under the circumstances specified in the contract between the school district and the charter school pursuant to section 22-30.5-105 (2) (c) (IV), may withhold a portion of a charter school's monthly payment due pursuant to this section.

(b) The chartering school district may withhold a portion of the payment due to the charter school only until such time as the charter school complies with the financial reporting requirements.
(9) (a) If a charter school determines that its chartering school district has not forwarded to the charter school the amount due to the charter school in accordance with the terms of the charter contract and the provisions of this section, the charter school may seek a determination from the State board regarding whether the chartering school district improperly withheld any portion of the amount due to the charter school. A charter school that chooses to request a determination pursuant to this subsection (9) of issues arising on or after July 1, 2004, shall submit the request within the next fiscal year following the fiscal year in which the chartering school district may have improperly withheld funding; except that, if the charter contract requires the charter school to complete any requirements prior to seeking a determination from the department pursuant to this subsection (9), the charter school shall submit the request no later than the end of the next fiscal year following the fiscal year in which the charter school completes said requirements.
(b) Upon receipt from a charter school of a request for a determination of whether the chartering school district has improperly withheld any portion of the amount due to the charter school, the State board shall direct the department to review the terms of the charter contract and the financial information of the charter school and the chartering school district and make a recommendation to the State board regarding whether the chartering school district improperly withheld any portion of the amount due to the charter school. The department shall request from the chartering school district and the charter school all information necessary to make the recommendation, including but not limited to audited financial data. The chartering school district and the charter school shall provide the requested information as soon as possible following the request, but in no event later than thirty days after completion of the annual financial audit. The department shall forward its recommendation to the State board within sixty days after receiving all of the requested information from the chartering school district and the charter school.
(c) At the next State board meeting following receipt of the recommendation of the department pursuant to paragraph (b) of this subsection (9), the State board shall issue its decision regarding whether the chartering school district improperly withheld any portion of the amount due to the charter school. If the State board finds that the chartering school district improperly withheld any portion of the amount due to the charter school, the chartering school district shall pay to the charter school, within thirty days after issuance of the decision, the amount improperly withheld. In addition, the chartering school district shall pay the costs incurred by the department in reviewing the necessary information to make its recommendation. If the State board finds that the chartering school district did not improperly withhold any portion of the amount due to the charter school, the charter school shall pay the costs incurred by the department in reviewing the necessary information to make its recommendation.
(d) If the chartering school district fails within the thirty-day period to pay the full amount that was improperly withheld, the charter school may notify the department, and the department shall withhold from the chartering school district's State equalization payment the unpaid portion of the amount improperly withheld by the chartering school district from the charter school and pay the unpaid portion directly to the charter school.
(10) (a) If a charter school determines that a school district has not paid the tuition charge for the excess costs incurred in educating a child with a disability as required in section 22-20-109 (5), the charter school may seek a determination from the State board in accordance with the provisions of subsection (9) of this section.
(b) If the State board determines that the school district has improperly withheld moneys due to the charter school, the school district, within thirty days after the State board's determination, shall pay to the charter school the amount improperly withheld. In addition, the school district shall pay the costs incurred by the department in reviewing the necessary information to make its recommendation. If the school district fails, within the thirty-day period, to pay the full amount that was improperly withheld, the charter school shall notify the department, and the department shall withhold from the school district's State equalization payment the unpaid portion of the amount improperly withheld by the district and pay the unpaid portion directly to the charter school.
(c) If the State board finds that the school district did not improperly withhold any portion of the amount due to the charter school, the charter school shall pay the costs incurred by the department in reviewing the necessary information to make its recommendation.
Source: L. 93: Entire article added, p. 1059, § 1, effective June 3. **L. 94:** (2)(a) amended, p. 812, § 25, effective April 27; (1) and (3) amended, p. 1379, § 4, effective May 25. **L. 96:** (5) amended, p. 1240, § 97, effective August 7. **L. 97:** (1) amended, p. 587, § 18, effective April 30. **L. 99:** (2)(a), (2)(b), (2)(c), and (3)(a) amended and (2)(a.3), (2)(a.5), (2)(a.7), (2)(a.8), and (2)(b.5) added, p. 172, § 1, effective March 30; (3)(a) R&RE and (4.5) added, p. 1257, §§ 8, 7, effective June 2. **L. 2001:** (1) and (2)(a)(III) amended and (2)(a.4) added, pp. 349, 339, 358, §§ 11, 2, 25, effective April 16; (2)(a)(III) amended, p. 337, § 2, effective April 16. **L. 2002:** (1), (2)(a)(III) (A), (2)(a.3), (2)(a.7), and (3)(a)(III) amended and (2)(a.5)(II.5), (2)(a.9), and (3)(a.5) added, pp. 1750, 1751, 1766, §§ 25, 26, 34, effective June

7. **L. 2003:** (4.5) amended, p. 517, § 7, effective March 5; (1), (2)(a)(III)(A), (2)(a.3), (2)(a.5)(I), and (2)(a.5)(II.5) amended, p. 2127, § 19, effective May 22. **L. 2004:** (2)(a)(III)(A), (2)(a.4)(III), (2)(c)(II), (2)(d), (5), and (6) amended, (5) repealed, and (7), (8), (9), and (10) added, pp. 1583, 1591, §§ 10, 25, effective June 3; (2)(a)(III)(A), (2)(b.5), and (5) amended, p.1632, § 34, effective July 1. **L. 2006:** (2)(a.8) amended, p. 577, § 6, effective April 24; (1)(a) amended, p. 696, § 39, effective April 28; (1)(b) amended, p. 606, § 20, effective August 7. **L. 2007:** (2)(a.5)(II.5) and (2)(a.7) amended, p. 1090, §§ 17, 19, effective July 1. **L. 2008:** (2)(a)(III)(A) amended, p. 1899, § 74, effective August 5. **L. 2009:** (2)(a.7) amended, (SB 09-256), ch. 294, p. 1554, § 11, effective May 21; (1)(a) amended, (SB 09-292), ch. 369, p. 1962, § 57, effective August 5.
Editor's note: (1) Amendments to subsection (2)(a)(III) by Senate Bill 01-129 and House Bill 01-1232 were harmonized. Amendments to subsection (2)(a)(III)(A) by House Bill 04-1141 and House Bill 04-1362 were harmonized.
(2) Subsection (5) was amended in House Bill 04-1362, effective July 1, 2004. However, those amendments will not take effect due to the repeal of subsection (5) by House Bill 04-1141, effective June 3, 2004.
(3) Subsection (1)(a) was amended by a 2009 act that was passed without a safety clause. The act establishes an effective date of August 5, 2009, for this provision; however, the act, or portions thereof, may not take effect if the people exercise their right to petition under article V, section 1 (3) of the State constitution. For further explanation concerning the effective date, see page ix of this volume.
Cross references: For the legislative declaration contained in the 1996 act amending subsection (5), see section 1 of chapter 237, Session Laws of Colorado 1996. For the legislative declaration contained in the 1999 act amending subsection (3)(a) and enacting subsection (4.5), see section 1 of chapter 302, Session Laws of Colorado 1999.

ANNOTATION
The waiver of a transfer policy or funding a transferred student's education in another school in the district are not permitted or contemplated services within the meaning of subsection (2)(b) of this section or § 22-30.5-104 (7)(b). Ridgeview Classical Sch. v. Poudre Sch. Dist. R-1, __ P.3d __ (Colo. App. 2008).
Applied in Acad. of Charter Schs. v. Adams Cty. Sch. Dist. No. 12, 994 P.2d 442 (Colo. App. 1999), aff'd in part and rev'd in part on other grounds, 32 P.3d 456 (Colo. 2001).
22-30.5-112.1. Charter schools - definitions - exclusive jurisdiction districts - authorized on or after July 1, 2004 - financing.
(1) As used in this section, unless the context otherwise requires:
(a) "Adjusted district per pupil revenues" means the qualifying school district's per pupil funding plus the qualifying school district's at-risk per pupil funding.
(b) "At-risk funding" means the amount of funding determined in accordance with the formulas described in section 22-54-104 (4).
(c) "At-risk per pupil funding" means the amount of funding determined in accordance with the following formula: (The qualifying school district's at-risk funding divided by the qualifying school district's funded pupil count) x (the district charter school's percentage of at-risk pupils divided by the qualifying school district's percentage of at-risk pupils)
(d) "At-risk pupils" shall have the same meaning as provided in section 22-54-103 (1.5).
(e) "Central administrative overhead costs" shall have the same meaning as provided in section 22-30.5-112 (2) (a.5) (I).
(f) "District charter school" means a charter school for which the charter application is approved on or after July 1, 2004, by a qualifying school district.
(g) "District funded pupil count" shall have the same meaning as provided in section 22-54-103 (7).
(h) "District per pupil funding" means a qualifying school district's per pupil funding as determined in accordance with the formula described in section 22-54-104 (3).
(i) "District per pupil on-line funding" means a school district's on-line funding, as specified in section 22-54-104 (4.5), divided by the district's on-line pupil enrollment for any budget year.
(j) "District per pupil revenues" means the qualifying school district's total program, as defined in section 22-54-103 (6), for any budget year divided by the qualifying school district's funded pupil count for said budget year.
(k) "On-line pupil enrollment" means:
(I) Repealed.
(II) For the 2008-09 budget year, and for budget years thereafter, the number of pupils, on October 1 within the applicable budget year or the school day nearest said date, enrolled in, attending, and actively participating in a multi-

district program, as defined in section 22-30.7-102 (6), created pursuant to article 30.7 of this title, by the district charter school.
(l) "Pupil enrollment" shall have the same meaning as provided in section 22-54-103 (10).
(m) "Qualifying school district" means a school district:
(I) That has retained exclusive authority to authorize charter schools pursuant to the provisions of section 22-30.5-504; and
(II) In which more than forty percent of the pupil enrollment consists of at-risk pupils.
(2) Notwithstanding the provisions of section 22-30.5-112 (2) (a) to (2) (a.5), (2) (b), (2) (b.5), and (2) (c), the amount of funding to be received by a district charter school, the accounting of central administrative overhead costs between a district charter school and a qualifying school district, and the direct purchase of district services by a district charter school from a qualifying school district shall be determined pursuant to the provisions of this section.
(3) (a) For budget year 2004-05 and budget years thereafter, each district charter school and the qualifying school district that approved the charter shall negotiate funding under the charter contract. The district charter school shall receive one hundred percent of the adjusted district per pupil revenues for each pupil enrolled in the district charter school who is not an on-line pupil and one hundred percent of the district per pupil on-line funding for each on-line pupil enrolled in the district charter school; except that the qualifying school district may choose to retain the sum of the actual amount of the district charter school's per pupil share of the central administrative overhead costs for services actually provided to the district charter school, up to five percent of the adjusted district per pupil revenues for each pupil who is not an on-line pupil enrolled in the district charter school and up to five percent of the district per pupil on-line funding for each on-line pupil enrolled in the district charter school.
(b) Notwithstanding any provision of this subsection (3) to the contrary, if a qualifying school district enrolls five hundred or fewer students, the district charter school shall receive funding in the amount of the greater of one hundred percent of the district per pupil on-line funding for each on-line pupil enrolled in the district charter school plus one hundred percent of the district per pupil revenues for each pupil who is not an on-line pupil enrolled in the district charter school, minus the actual amount of the district charter school's per pupil share of the central administrative overhead costs incurred by the qualifying school district, based on audited figures, or eighty-five percent of the district per pupil revenues for each pupil enrolled in the district charter school who is not an on-line pupil plus eighty-five percent of the district per pupil on-line funding for each on-line pupil enrolled in the district charter school.
(4) Within ninety days after the end of each fiscal year, each qualifying school district shall provide to each district charter school authorized by the qualifying school district an itemized accounting of all its central administrative overhead costs. The actual central administrative overhead costs shall be the amount charged to the district charter school. Any difference, within the limitations specified in subsection (3) of this section, between the amount initially charged to the district charter school and the actual cost shall be reconciled and paid to the owed party.
(5) The district charter school, at its discretion, may contract with the qualifying school district for the direct purchase of district services in addition to those included in central administrative overhead costs, including but not limited to food services, custodial services, maintenance, curriculum, media services, and libraries. The amount to be paid by a district charter school in purchasing any district service pursuant to this subsection (5) shall be determined through an agreement between the district charter school and the qualifying school district using one of the following methods:
a) By dividing the cost of providing the service for the entire qualifying school district, as specified in the qualifying school district's budget, by the number of students enrolled in the qualifying school district and multiplying said amount by the number of students enrolled in the district charter school;
(b) By determining the actual costs incurred by the qualifying school district in providing support services; or
(c) By negotiating a services agreement between the district charter school and the qualifying school district pursuant to which multiple services are provided for a fixed cost.
(6) Notwithstanding any other provision of this section to the contrary and for the purposes of this section only, a school district in which more than forty percent of the pupil enrollment consists of at-risk pupils at the time a charter school's application is first approved shall be deemed to have the same percentage of at-risk pupil enrollment for the term of the charter contract. For purposes of renewal of the charter contract, the percentage of at-risk pupils in the school district at the time the renewal application is submitted shall be the percentage used for purposes of determining whether the school district is a qualifying school district and subject to the provisions of this section.
Source: L. 2006: Entire section added, p. 574, § 5, effective April 24. **L. 2007:** (1)(i) and (1)(k) amended, pp. 1090, 1086, §§ 18, 8, effective July 1. **L. 2009:** (1)(k)(I) repealed, (SB 09-292), ch. 369, p. 1962, § 58, effective August 5.
Editor's note: Subsection (1)(k)(I) was repealed by a 2009 act that was passed without a safety clause. The act establishes an effective date of August 5, 2009, for this provision; however, the act, or portions thereof, may not take

effect if the people exercise their right to petition under article V, section 1 (3) of the State constitution. For further explanation concerning the effective date, see page ix of this volume.

22-30.5-112.3. Charter schools - additional aid from district.

(1) (a) and (a.5) Repealed.

(a.7) (I) For the 2003-04 budget year and each budget year thereafter, a qualified charter school, as defined in section 22-54-124 (1) (f.6), shall receive State education fund moneys from the school district that granted its charter in an amount equal to the percentage of the district's certified charter school pupil enrollment that is attributable to pupils expected to be enrolled in the qualified charter school multiplied by the total amount of State education fund moneys distributed to the district for the same budget year pursuant to section 22-54-124 (3).

(II) As used in this paragraph (a.7), "pupils" means pupils, other than pupils enrolled in an on-line program, as defined in section 22-30.7-102 (9), who are enrolled in a charter school.

(b) Funding received pursuant to paragraph (a), (a.5), or (a.7) of this subsection (1) shall be in addition to any funding provided pursuant to section 22-30.5-112.

(c) A district shall provide funding to each qualified charter school, as defined in section 22-54-124 (1) (f.6), by making a single lump-sum payment to the qualified charter school as soon as possible after the district receives a lump-sum payment of State education fund moneys pursuant to section 22-54-124 (4).

(2) (a) A charter school shall use moneys it receives pursuant to subsection (1) of this section solely for capital construction, as defined in section 22-54-124 (1) (a).

(b) Notwithstanding the provisions of section 22-30.5-112 (4.5), any moneys received by a charter school pursuant to subsection (1) of this section for the 2001-02 budget year that are not expended by January 31, 2003, shall be transferred back to the State education fund created in section 17 (4) of article IX of the State constitution.

Source: L. 2001: Entire section added, p. 348, § 10, effective April 16. **L. 2002:** (1)(a) and (1)(c) amended, p. 1751, § 27, effective June 7. L. 2003: (1)(a)(I), (1)(c), and (2) amended and (1)(a.5) added, p. 517, § 8, effective March 5; (1)(a)(I), (1)(b), and (1)(c) amended and (1)(a.7) added, pp. 2133, 2134, §§ 29, 30, effective May 22. L. 2006: (1)(a) and (1)(a.5) repealed and (1)(c) amended, p. 606, §§ 21, 22, effective August 7. **L. 2007:** (1)(a.7)(II) amended, p. 1090, § 20, effective July 1.

22-30.5-112.5. Charter schools - transportation plans.

If a charter school's charter or contract includes provision of transportation services by the school district, the charter school and the school district shall collaborate in developing a transportation plan to use school district equipment to transport students enrolled in the charter school to and from the charter school and their homes and to and from the charter school and any extracurricular activities. The transportation plan may include, but need not be limited to, development of bus routes and plans for sharing the use of school district equipment for the benefit of students enrolled in charter schools of the school district and students enrolled in other schools of the school district.

Source: L. 2001: Entire section added, p. 368, § 37, effective April 16.

22-30.5-113. State board - department of education - duties - charter schools - evaluation - report.

(1) Beginning in the 2004-05 budget year, and at least every three years thereafter, the department shall prepare a report and evaluation for the governor and the house and senate committees on education on the success or failure of charter schools and of institute charter schools authorized pursuant to part 5 of this article, their relationship to other school reform efforts, and suggested changes in State law necessary to strengthen or change the charter school program described in this article.

(2) The State board shall compile evaluations of charter schools received from local boards of education and evaluations of institute charter schools prepared by the State charter school institute created in section 22-30.5-503. The State board shall review information regarding the statutes, regulations, and policies from which charter schools were released pursuant to section 22-30.5-105 and from which institute charter schools were released pursuant to section 22-30.5-508 to determine if the releases assisted or impeded the charter schools or the institute charter schools in meeting their Stated goals and objectives.

(3) In preparing the report required by this section, the State board shall compare the performance of charter school pupils and institute charter school pupils with the performance of ethnically and economically comparable groups of pupils in other public schools who are enrolled in academically comparable courses.

Source: L. 93: Entire article added, p. 1061, § 1, effective June 3. **L. 98:** (2) repealed, p. 1076, § 6, effective June 1. **L. 2004:** Entire section R&RE, p. 1591, § 26, effective June 3; (1) and (3) amended, p. 1633, § 35, effective July 1.

22-30.5-114. Repeal of part. (Repealed)

Source: L. 93: Entire article added, p. 1061, § 1, effective June 3. **L. 96:** Entire section amended, p. 668, § 7, effective May 2. **L. 98:** Entire section repealed, p. 164, § 1, effective April 6.

22-30.5-115. Construction of article - severability.

If any provision of this article or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of this article that can be given effect without the invalid provision or application, and to this end the provisions of this article are declared to be severable.
Source: L. 96: Entire section added, p. 755, § 9, effective May 22.

Exhibit F-4: Colorado Charter School Standard Application

Introduction

The "Colorado Charter School Standard Application, Check List, and Review Rubric" was developed to provide guidance in the writing and review of new charter school submissions. The target audience for this document is both the founding group (the applicant) as they develop a charter school application and the potential authorizer (the school district or CSI) as they review and evaluate the quality and completeness of the application.

This standard application is the result of collaboration between the CDE, the Colorado League of Charter Schools (The League), and the Charter School Institute (CSI). This document is intended to communicate the minimum standard for producing a comprehensive, high quality, and complete charter school application. ***Using the format presented in this document is not a guarantee for charter approval.*** Authorizers are encouraged to build upon this format as a template. Use of this document as a template for applications will have policy implications for authorizers and should be reviewed and adapted accordingly. Applicants must research the expectations of the potential authorizer to ensure compliance with requirements.
For example, individual school districts may choose to weight certain items in the application differently, may have additional requirements, or may have adopted an entirely different format.

This standard application is divided into nineteen application components. The components appear in this document in the same order that they appear in the Colorado Revised Statutes (CRS 22-30.5-106.1). It is important to remember that each of these components may require upfront training and education to meet the quality standard expected by the State and the potential authorizer. Each component is divided into three sections: a Component Description, a
Checklist for Completion, and an Evaluation Rubric. The Component Description is a narrative designed to give the applicant background information, reference to statute, and general explanation of the component. The Checklist for Completion may be used by both the applicant and the authorizer to monitor the completeness of the application. The Evaluation Rubric provides the authorizer with means of determining the quality of the application component, but may also be used by the applicant when targeting a high quality school program.

The format for the standard application is necessarily compartmentalized into the different application components. However, it is important to remember that
each of the components relate to one another. Curriculum is not complete without consideration of assessment. Facilities cannot be sufficiently addressed in isolation from budgetary decisions. The completed application should tell a story that relates the application components into one comprehensive package. The vision and mission should be evident throughout the application and all program elements and resource allocations should be in alignment with the

Colorado Standard Application, Checklist and Review Rubric

proposed budget and school program. It is important to also consider that online school applications, or other unique programs, may not conform precisely to all components of this standard application. In these cases communication with the potential authorizer is imperative.

The companion to this standard application is the Charter School Application Flow Chart which presents an outline of the charter school application process. The flow chart can be found at the following Web site: www.startacoloradocharter.org

Application Components

A. Executive Summary
Although an executive summary is not required by the Charter Schools Act, it serves as a concise explanation

of the proposed charter school and identifies who is submitting the charter application.

This section should be two to three pages long and should include:

- The proposed school's name, grade levels to be served, proposed opening date (month and year), grade levels upon opening and growth plan (if the school does not plan to initially open with all grade levels).
- Size of the school at build-out including the number of classes per grade level and the number of students per class.
- Vision and mission Statements including a brief explanation of how they were created.
- A short explanation of the key programmatic features the school will implement in order to accomplish its vision and mission.
- How the proposed school will be more effective than the schools currently serving the targeted student population.
- Any other unique features, such as a non-traditional school year, longer school day, key partner organizations, multiple campuses, school culture, etc.
- Student body to be served, such as key demographic data, targeted geographical area, etc.
- Evidence of a community need for a school of this nature.

B. Vision and Mission Statements

1. Component Description

A charter school application must have a mission Statement for the proposed school. Many schools have both a vision and a mission Statement. The vision Statement is a Statement of how the charter school will look once it is operating (the big picture view). The mission Statement is how the school intends to make that vision a reality.

The vision and mission Statements should be succinct, easy to understand and easy to remember. Many schools post their vision/mission Statement throughout their building and use it in their printed materials (e.g. Parent/Student Handbook and Employee Handbook). Resist the temptation to please everyone with these Statements. Instead, define your school for potential students, parents and staff. Be as clear as possible and don't use education "jargon." Again, be clear so as to lend clarity to those who will ultimately implement the vision over the life of the charter school.

2. Checklist for Comprehensive Application

The vision and mission Statements describe the purpose for the charter school with a focus on outputs rather than inputs. The vision and mission Statements are the driving force and rationale behind all other components of the application.

It's obvious that the school's goals, educational program, operations, etc., align with and support the fulfillment of the vision and mission Statements.

The vision and mission Statements express the ideal, long-term impact, scope and scale of the school. The vision articulates what the school hopes to be. The mission Statement explains how the school will reach that goal.

3. Evaluation Rubric

Excellent Vision and Mission Statements will have the following characteristics:

- Are clear, focused and compelling.
- Likely to produce high quality education outcomes.
- Express clear guiding purposes.
- Have priorities reflected throughout the application.

C. Goals, Objectives and Pupil Performance Standards

1. Component Description

Accreditation is the process by which school districts and public schools receive certification from the State Board of Education. Accreditation rules are established to foster greater accountability from public schools and school districts for the betterment of public education. This section should be based on the State Accreditation Indicators, which can be found at the Colorado Department of Education's Web site http://www.cde.State.co.us/index_accredit.h. The authorizer may use this section of the charter school application as a basis for the accreditation plan it creates with the approved charter school. The application should reflect an understanding of the accreditation requirements of the chartering authority with a clear plan from the charter school applicants outlining how data will be obtained, and how that data will be provided to the chartering authority for their accreditation contract requirements with CDE.

It is understood that there are not actual baseline test scores, attendance rates or other data before the school is established. A charter applicant can either use the district average as a baseline and/or State that a baseline will be established in the first year of operation.

In Colorado, there are multiple forms of accountability by which public schools, including public charter schools, are measured. The State Board of Education has approved accreditation contracts with each of the school districts and the Charter School Institute (CSI). School districts and the CSI, in turn, accredit each of their public schools. The process for individual public schools to be accredited oftentimes mirrors the authorizer's accreditation plan. Reviewing the authorizer's accreditation plan is essential before writing this section.

In addition to Accreditation Indicators required by State law, a charter school may choose to have other measures for which they wish to be held accountable. Those indicators may include school climate or culture. Be sure to only include measures that the charter school is willing to be held accountable for over time, as these additional indicators would become a part of the school's accountability plan.

2. Checklist for Comprehensive Application

Provide goals that align with District/CSI Accreditation Indicators. Specified goals for making Adequate Yearly Progress (AYP).
Goals are written "SMART" (Specific, Measurable, Attainable, Reflective of the school's mission and Time-phased) which includes objectives and benchmarks (or State that a baseline will be established and how/when).
Goals in addition to Accreditation Indicators match the proposed school's mission and are based on valid and reliable methods to measure progress in non- Accreditation Indicator areas of school performance.
Outline of how data will be obtained and how that data will be provided to the authorizer and CDE.

3. Evaluation Rubric

An excellent Goals, Objectives and Pupil Performance Standards Plan will have the following characteristics:

- Alignment with the school's vision/mission and the eleven Accreditation Indicators.
- Goals that are clear, specific, measurable, attainable, reflective of the school's mission and time-phased.
- Objectives that clearly support the goals.

- A clear plan for the school to meet AYP.
- Plan for measuring student longitudinal growth, in addition to the State model, including data for GT, ESL and Special Education.
- Clear, realistic strategies for improving student achievement and closing achievement gaps for all groups of students.
- Understanding of and strategy for complying with State achievement and reporting requirements including those related to accountability reporting and Accreditation.

D. Evidence of Support

1. Component Description

A charter school application should include the aggregate number of students interested in the charter school at the different grade levels. Individual student and/or family information should NOT be included. Do NOT include copies of the Letters of Intent completed by prospective parents. Reference the figures used in the Intent to Submit Form and update the numbers if necessary. If appropriate to further demonstrate support, disaggregate the number of prospective students by zip code, school of attendance, gender or type of current school (home, private, public). After the charter school is approved, the founders will go through an enrollment process and verify which students will be attending the charter school. See C.R.S. 22-30.5-106(3) for more information.

It may be helpful to include letters of support from community leaders, business people or elected officials. These letters should State why the individual believes a new charter school would best serve the community. The tone of this section should illustrate a positive foundation of community support as opposed to a groundswell based on criticism. Care should be given to avoid derogatory comments about the authorizer's current curricular and program offerings.

Explain how students and parents were informed of the proposed charter school and what community meetings were conducted. Outreach activities should be diverse and designed to reach all students in the community, thereby, ensuring equal access. If relevant to the community, meetings should be bilingual.

Explain the applicant team's ties to and knowledge of the community. If the applicant team has established any partnerships or networking relationships, describe them and any resources or agreements that are planned. Specifically address what type of outreach activities have been made to at-risk populations, especially if the application is for the State CSI, whose mission is to serve at-risk student populations.

2. Checklist for Comprehensive Application

Information about the proposed charter school's student body including the intended students' educational needs and demographics (racial/cultural, socioeconomic, special needs, and ELL). The application, in its entirety, reflects an understanding of the intended student population.

A description of the type of outreach the founders conducted to make the student population and their families aware of the proposed charter school. This should include future plans if the charter school is approved.

A summary of the number of students expressing an interest in the proposed school. This information should be disaggregated in a manner showing additional information about the prospective students.

Information on community members and leaders who publicly support the proposed school and their role in the development of the school and application, if the proposed school is not being developed by parents.

If there are any partnerships or networking relationships, provide an explanation of the planned

resources or agreements that have been discussed.

3. Evaluation Rubric

Evidence of Support means:

- A complete explanation of the student population the school intends to serve.
- An adequate number of parents, teachers, pupils or any combination thereof support the formation of this proposed charter school.
- Sufficient demand for the school exists and is aligned to the school's growth plan.
- Community notification of a proposed charter school was broad enough to provide equal opportunity for students to enroll.

E. Educational Program

1. Component Description

A charter school application should include a description of the school's educational program, pupil performance standards and curriculum, which must meet or exceed content standards and must be designed to enable each pupil to achieve such standards. Content standards are specific Statements of what a student should know or be able to do relative to a particular academic area or areas. Instruction and assessment, in a standards based system, should be aligned with Colorado's content standards. Colorado model content standards and suggested grade level expectations are online at http://www.cde.State.co.us/cdeedserv/download/pdf/AccredGuidelines.pdf.

There should be a current research basis for selecting a particular curriculum. In addition to obtaining information from the publisher, research is available online at ERIC (http://www.eric.ed.gov) and the What Works Clearinghouse (http://www.whatworks.ed.gov/). The research should support using the curriculum with the student body the proposed school will likely attract, and benchmark assessments should be chosen to align with the chosen curriculum.

All core content areas plus supplemental or elective areas should be described. If certain characteristics of the school culture are critical to the overall educational program (i.e., small school size, character education and high expectations), the research basis should thoroughly support the unique educational program design.

2. Checklist for Comprehensive Application

Core content areas are described, including the curriculum, and supported by research matching the probable student population for the proposed school. Description of the educational program provides an explanation of how the curriculum is either already aligned to State model content standards, or will be aligned within the first three years of school operation including a timeline and process for monitoring the success of the program.

Description explains why the selected curriculum was chosen for the anticipated population of students.

Supplemental curricula for electives or "special" courses is thoroughly described and based on State model content standards when available.

Other vital aspects of the educational program design are thoroughly described and supported by research findings.

3. Evaluation Rubric

An excellent proposal will demonstrate the following qualities related to the Educational Program:

- The curriculum framework is clearly presented, aligned with the school's vision/mission and provides an appropriate level of detail for the objectives, content, and skills for each subject and for all grades the school will serve.
- The curriculum is supported by research, by applicant experience and/or by sound reasoning behind its selection.
- Evidence is provided that the educational program is a good match for the intended student population.
- A clear outline of how the school will monitor the implementation of the curriculum. The plan identifies a timeline, a lead contact and specific action steps.
- A clear outline of how the school will use information from the curriculum monitoring process to facilitate professional development and continuous improvement in the education program. The plan identifies a timeline, a lead contact and specific action steps.
- The school day and school calendar are structured in ways that align with the educational program. The calendar and daily schedule reflect the minimum number of hours required by State statute (1,056 hours for secondary students; 968 hours for elementary students; no fewer than 160 days per year for all students; see C.R.S. 22-33-104 for more information).
- A convincing plan for ongoing curriculum development (e.g., revision of standards and benchmarks, improvement of curriculum alignment and assessment development) and Performance Management is in place for use in data-driven decision making.
- A plan for the development, mentorship, retention and regular evaluation of staff that is manageable and is clearly linked to the school's mission and educational program, including a timeline, a lead contact and specific action steps.
- Evidence that school staff will be held to high professional standards.

F. Plan for Evaluating Pupil Performance

1. Component Description

A charter school application should include a clear plan for evaluating pupil performance across the curriculum. This plan should align with State performance standards as well as with the school's pupil performance goals, and should be presented along with a clear timeline for achieving these standards/goals. A clear explanation of the types of assessments and frequency of administration should be included reflecting thoughtfulness given to tracking student progress, while still preserving as much class learning time as possible. A plan for the use of data gathered through assessments should include procedures for taking corrective action (both individually and collectively) if pupil performance falls below expected standards.

A quality assessment plan will include summative (end-of-year) assessments as well as formative (more frequent, end of unit assessments) to track student skill and knowledge development. The plan will include how this data will be used to guide professional development of teachers as well as how this data will be used to guide refinement of the curriculum.

When developing the assessment plan consideration should be given to: the appropriateness of assessments to the curriculum; what will serve as baseline for student progress comparisons; the inclusion of State and federal assessments to demonstrate appropriate student growth (i.e., CELA, CSAP, AYP, CBLA); the ability of the assessment plan to provide for the early detection of students persistently lowest-achieving with curriculum content; and the ability of assessments to reflect the use of basic skills at grade-appropriate levels (i.e., reading, writing, problem-solving, etc.).

Be aware that all Colorado public schools including charter schools are subject to the Colorado Student Assessment Program (CSAP), which is aligned with the model State content standards. Contact the CDE's Assessment Office at 303-866-6664 or use the CDE Web site

(www.cde.State.co.us/index_assess.h) for detailed information regarding this program. In addition, all Colorado public schools including charter schools are subject to the Colorado Basic Literacy Act (CBLA), which mandates that all students will be reading on the third grade level by the end of the third grade before they can move on to a fourth grade reading class. This law requires that the reading growth of all students be monitored carefully from kindergarten through third grade. Students not reading on that grade level must be placed on Individual Literacy Plans (ILP) through high school. CSAP is an integral

part of this process and all third graders are required to participate in the State reading program and test, which is a part of CSAP. Further information about CBLA is also available on the CDE Web site at http://www.cde.State.co.us/action/CBLA/.

Lastly, Colorado public schools are also held responsible for demonstrating Adequate Yearly Progress (AYP). Under the No Child Left Behind (NCLB) Act, all States, schools districts, schools and subgroups of 30 or more students within each school are required to make AYP. It represents the annual academic performance targets in reading and math that the State, school districts and schools must reach to be considered on track for 100% proficiency by school year 2013-14. To make AYP a school must (a) assess 95% of its students; (b) reach targets for either proficiency or reduce non-proficiency; and (c) reach targets for one other indicator - advanced level of performance for elementary and middle schools and graduation rate for high schools. Additional information on AYP can be found at http://www.cde.State.co.us/ayp/index.asp.

Finally, if the charter application includes high school, include graduation requirements and how those requirements meet standards put forth by the Colorado Commission on Higher Education for college preparation or how your requirements prepare students to enter the workforce (http://highered.colorado.gov/Academics/Admissions/coursecompletion.hl).

2. Checklist for Comprehensive Application

A plan is in place explaining the use of internal assessments to include baseline data gathering, short- and long-term goals, types of assessments, and how the school will use this information to revise professional development and instruction. The application describes what formal assessments will be used in addition to CSAP that align with the school's goals; that meet requirements of Colorado Basic Literacy Act (CBLA), accreditation, longitudinal growth measures, federal requirements, such as No Child Left Behind (NCLB), and Adequate Yearly Progress (AYP).

The application describes which assessments will be used for literacy testing, and the process used to bring students up to grade level in reading, as required by CBLA.

The application explains how the school will collect, analyze, triangulate and manage data on an ongoing basis. The school has created a Data Management Plan to include a Student Information System and Academic Data use summary and timeline of the plan. It identifies what other tools and resources will be used for data management purposes, such an internal database, data management service, etc. This section also explains how budget resources have been allocated to support these staffing and resource decisions.

The application explains how student assessment and progress will be appropriately communicated to parents, the authorizer and the broader community. Clear information of requirements for promotion to the next grade level or for graduation requirements aligned with CCHE and district requirements as they pertain to a high school are included.

In compliance with C.R.S. 22-30.5-106 (f), the application provides a description of the charter school's procedures for taking corrective action in the event that pupil performance at the charter school falls below the achievement goals approved by the authorizer in the charter contract. To include a timeline, responsible person and staffing changes as appropriate.

3. Evaluation Rubric

An excellent Pupil Performance Evaluation Plan will include the following characteristics:

- Alignment with the school's mission and clearly defined educational objectives.
- Evaluation that is sufficiently frequent and detailed to determine whether students are making adequate progress.
- Adequate information on how the school will use a data management system to collect and analyze student academic achievement data, use the data to modify instructional practices and report the data to the school community.
- Clear description of the expected range of assessment tools including, but not limited to, State-mandated assessments.
- Strategies to monitor all students at the school and to take appropriate corrective action including a timeline, a lead contact, and specific action steps (such as a Response to Intervention model).
- Clear procedures for taking corrective action in the event that pupil performance falls short of the goals.
- Plan for administering Statewide assessments consistent with C.R.S. 22-7-701-708.
- Plan for sharing CSAP results with each student's parent or legal guardian, the authorizer and the broader community.
- If a proposed high school, description of the graduation requirements that aligns with CCHE's admission requirements or to graduates' ability to enter the workforce.

G. Budget and Finance

1. Component Description

The budget and financial plan for the charter school must include a plan for revenues and expenditures and a plan for compliance with State and federal accounting and reporting requirements. The plan should demonstrate diligent financial practices, clear alignment to the other components in the application, and strong oversight. Particular attention should be given to facility and salary costs, as these often represent a large portion of the school's budget.

The proposed budget should be based on reasonable estimates that reflect choices made throughout the rest of the charter application. For example, enrollment projections used elsewhere in the application need to be the same enrollment projections used in the development of the budget. Similarly, facility, insurance and employment plans discussed in other sections of the application should be reflected in the budget, along with the basis for given assumptions.

The budget should demonstrate an ability to understand the sources of funding available to the charter school and the types of expenditures required to operate the charter school. The primary source of revenue is Per Pupil Revenue (PPR). There are several other sources of revenue, some of which are temporary or restricted and some of which are dependent on market factors other than enrollment. However, PPR is the guaranteed stream of revenue which makes up most of the funding the school receives. When developing the budget all ongoing expenditures required to operate the school should be supported by PPR.

The amount of PPR varies by school district. A charter school receives 100% of the PPR for the district in which the charter school resides. The charter school authorizer, whether a school district or the CSI, may retain up to 5% of PPR to cover the charter school's portion of the authorizer's central administration costs. In cases where the maximum is withheld, the charter school effectively receives 95% of its school district's PPR. When projecting revenue numbers, the single most important factor to understand is enrollment. Enrollment projections must be accurate, and it is best to project conservatively for budget purposes.

Other sources of revenue can be very helpful in funding specific programs or in helping with startup costs for new charter schools. These sources include federal grants, private grants, and more. CDE

(www.cde.State.co.us) and the Colorado League of Charter Schools (CLCS) (www.coloradoleague.org) are good resources for finding information about current sources of funding.

When planning expenditures, it is important to understand how choices affect different areas of the budget. For example, the smaller the class size the less revenue there is to spend. Also, the more staff there is in the school the less money per staff member there is to spend. Finally, as another example, the more money spent on facility costs the less money there is for salaries and other discretionary items.

In nearly all cases, the combination of facility costs and staff salaries/benefits represents close to 75% of spending in charter schools. As such, close attention should be paid to these two areas. In addition to these two areas, other items that need to be planned for financially include special education, various professional services, classroom supplies and materials, general supplies and materials, liability insurance, and more. Existing Colorado charter schools that have a similar mission/philosophy are a good resource for assistance with planning expenditures.

In addition to budget projections, the charter school must comply with various requirements. In summary, the charter school needs to set up proper accounting procedures to safeguard its assets and to ensure accurate financial reporting. At the same time, it is important to be able to provide financial information in a clear, understandable format that allows board members and administration to make sound financial decisions. Note that online schools may have special considerations with respect to budgeting and financial reporting.

The CDE requirements for financial management and reporting are available in the Financial Policies and Procedures manual at www.cde.State.co.us/cdefinance/sfFPP.h. An additional resource with general information is the Colorado Charter School Financial Management Guide at www.cde.State.co.us/cdechart/guidebook/fin/pdf/FinGuide.pdf.

2. Checklist for Comprehensive Application

The plan includes a five-year budget, realistic assumptions and their basis, a cash flow projection for the first year of operation, minimum enrollment needed for solvency, and adequate staffing that fits with the narrative in educational and other related application sections.

The budget reflects an understanding of specific statutory requirements including separation of the general fund and the capital reserve fund, direct student instructional expenses, Public Employees' Retirement Association (PERA) contributions, as well as a three percent TABOR reserve (Colo. Const. art. X, Sect.
20) each year.

The budget narrative reflects the financial policies and procedures plan, anticipated management plan that will ensure checks and balances in cash disbursement and alignment with the mission and goals.

The budget narrative includes a basic startup plan (facilities funding and FFE acquisition), the curriculum and professional development plan, and the school growth plan to include needed staff along with adequate financial allocations and anticipated timelines.

The budget is set up in such a way that it reflects an understanding of the CDE's Chart of Accounts and any financial reporting requirements of the district.

The budget does not include any "soft funds," such as grant money or donations; it includes only grants or donations that have already been received or for which commitments have been received.

Evidence is provided for anticipated fundraising and grants, if cited in the application.

The proposed budget balances each year and includes a five-year plan to reach at least a five percent reserve (in addition to the TABOR reserve) that the school can use for emergency purposes or as a long-term reserve.

The application describes the process the school will follow to contract with a Certified Public Accountant to conduct an annual, independent financial audit. It explains how the school will remain fiscally solvent, adhere to generally acceptable accounting practices, have no material

breaches, will address any concerns, and will disseminate the results from the audit to the school district and required State agencies.
The application includes a list of planned services to be contracted to outside providers.

3. Evaluation Rubric

An excellent proposal will present a Financial Plan with the following characteristics:

- Adequate budget assumptions and financial planning based on realistic revenue and expenditure projections and/or quotes for the term of the proposed contract (at least five years). These budget assumptions should be based on a minimum number of students needed for financial viability in addition to 100% of anticipated enrollment.
- Spending priorities that align with the school's mission, curriculum, plans for management, professional development and growth.
- Three percent TABOR reserve, allocation of funds to capital reserve and insurance, PERA, and direct student instructional allocations as required by law.
- Budget format as prescribed by the proposed authorizer.
- Realistic cash flow projection for the first year of operation including a plan for funding cash flow shortfalls.
- A sound financial management system proposed with adequate checks and balances, controls and staffing.
- A plan for making required school and employee contributions to the Colorado PERA is included.

- There is an adequate and reasonable plan to manage startup costs without complete dependence on federal or private grant funds.
- There is a description of how the school will conduct an annual audit of the financial and administrative operations of the school.
- There is a description of services to be purchased from the authorizer or other outside vendor(s).

H. Governance

1. Component Description

Charter school governance is extremely important to the success of a charter school. Oftentimes, a proposed charter school's applicant team transitions to become the school's founding governing board. The charter school application should describe the process involved in developing the applicant team and the individual expertise represented on the steering committee; the process to appoint or elect the initial governing board; how and when bylaws will be adopted by the board; the governance structure for the school; the nature and/or extent of parental and/or community involvement in governance; and the amount of authority the governing board will convey to the school's administrator, along with a clear delineation of their respective roles and the means by which the administrator will be evaluated.

While some existing Colorado charter schools have staff members on the governing board, others do not. Administrators may be an ex-officio, non-voting board member. If staff members have voting privileges, there should be clear policies to explain when that board member should recuse him/herself. Any potential conflict of interest by any board member should be disclosed and addressed.

The number of directors on a charter school board should not be less than five and its generally considered a best practice to have no more than nine directors.

A good way to mitigate any potential issues with board members is to have the governing board adopt and use a Board Member Agreement. These agreements stipulate the

qualifications, responsibilities and expected behaviors of individual board members and the governance structure. If the applicant team intends for the approved charter school'governing board to use a Board Member Agreement, it could be an attachment to the charter school application.

The charter school application should also describe the school's legal status. Many charter schools file articles of incorporation and bylaws with the Secretary of State in order to have their school recognized as a corporation. Schools authorized by the CSI are required to obtain a nonprofit corporation status. The articles and bylaws define the authority that rests in the charter school governing board and, in essence, "who holds the charter." These legal issues should be discussed with a charter school attorney before decisions are made. Additionally, the charter school can apply for its own tax-exempt status with the IRS. Charter schools can either use their own tax-exempt status or use their authorizer's if the school is authorized by a school district. The CSI requires all of its schools to have their own tax-exempt status. Check with the potential authorizer for more information.

The charter school governing board must operate in compliance with the Colorado Open Meetings Law (C.R.S. 24-6-401) and Public Records Act (C.R.S. 24-72-201) as well as the Family Educational Rights and Privacy Act (20 U.S.C. Sect. 1232). See http://www.cde.State.co.us/cdechart/guidebook/gov/pdf/OpenMeetings-RecordsMemo.pdf for more information on the Open Meetings and Open Records laws.

If the school will be contracting with an Educational Management Organization (EMO), a full description of the relationship should be provided.

Every charter school governing board should have a set of board policies. Much of what is included in the charter school application will become board policy. For instance, the school's vision/mission Statement, legal status, enrollment policy, discipline policy and nondiscrimination policy will all be in the board policy book. These board policies should be made available to school staff and families. Generally, schools put these policies on their Web site and have them available in the school office.

Many sample best practice documents for charter school governing boards are available online at http://www.cde.State.co.us/cdechart/guidebook/gov/index.h.

Attach:

- Governing board bylaws.
- Articles of Incorporation (optional)
- Organizational chart explaining the relationship between the board, the lead administrator, subcommittees and/or advisory committees
- Resumes of applicant team members and/or founding board members
- Draft of initial board policies (optional)
- Draft of the Board Member Agreement (optional)
- Draft of Conflicts of Interest and Grievance Process board policies

2. Checklist for Comprehensive Application

The proposed bylaws explain powers and duties, size, terms, composition, qualifications, term limits, officer positions and duties, election procedure, vacancy replacement, minimum number on the board, quorum and decision making process, how board members are elected or appointed, and when this takes place. An explanation of the proposed transition from an applicant team to the founding governing board including the identification of individuals making the transition. This description of the transition process should explain when the governing board will be seated and assume responsibility for school governance. Further, how the

transition plan will provide for a smooth shift of responsibilities and how the founder's original vision and mission will be brought to fruition.

A plan is included for how a lead administrator will be hired and how the transition of leadership will happen

Resumes for applicant team and/or founding governing board members are attached.

A plan for ongoing board training and capacity building is included in a board calendar.

An explanation of the proposed board meeting frequency and focus, the role of any standing subcommittees (e.g. School Advisory Council) is included.

A detailed description of the responsibilities of the school's advisory council and its role in relation to the school's board of directors and administration is included. This section demonstrates that the applicant thoroughly understands statutory guidance on School Advisory Councils (or accountability committees) and commits to forming such a committee or has requested a waiver with a complete replacement plan. (See C.R.S. 22-7-106 and 22-7-107 for additional information.)

An explanation of compliance with Open Meetings and Open Records laws is included.

A description of how the founding governing board will create and adopt board policies (an initial draft may be attached to the application) is included

Draft policies for Conflicts of Interest and the Grievance Process are included.

A description of the relationship between the governing board and the school administrator which includes the amount of authority the governing board will convey to the school administrator.

3. Evaluation Rubric

An excellent application will demonstrate the following characteristics related to the Governance and Management Plan:

- Proposed board members will contribute a wide range of experience and expertise (such as education, management, financial planning, law, and community outreach) that will be needed to oversee a successful charter school.
- Clear description of transition from a developing team to a working board, selection and removal procedures, term limits, meeting schedules, powers and roles of board members, and how decisions will be made and recorded.
- Clear distinction between the roles and responsibilities of the board members and school administrators.
- Plan for meaningful involvement of parents and community members in the governance of the school.
- Organizational plan that clearly outlines roles and responsibilities for implementing the school's program successfully including an internal and external evaluation plan.
- Legal status of the proposed school is clearly explained. Pertinent documents are included as attachments (Articles of Incorporation and/or bylaws).
- Comprehensive plan for providing annual board training in vital subjects to include Open Meetings and Open Records laws for new board members.
- Sufficient resources and support for transition from applicant team to founding governing board and administrator structure prior to the school's opening.
- Conflicts of Interest policy delineates potential conflicts and how they will be addressed

appropriately.

- Grievance process is clear and follows an appropriate route for resolution of concerns raised by students or parents.

I. Employees

1. Component Description

A charter school must provide an explanation of the relationship that will exist between the charter school and its employees. This must include evidence that the terms and conditions of employment are addressed with affected employees and their recognized representative, if any. In addition, proposed employment policies should be included.

As charter schools are, by statute, public schools, employees of charter schools are public employees. Charter schools and their employees must participate in Colorado's Public Employees' Retirement Association (PERA) or in the Denver Public Schools retirement fund. This is in lieu of participation in Social Security, which makes up the majority of the Federal Insurance Contributions Act (FICA) payroll tax. However, the Medicare portion of FICA is still paid by the employees and matched by the employer.

With the growing presence of private educational management organizations in Colorado, questions are arising about the nature of employees in some charter schools. This is a result of some educational management companies treating employees as employees of the private company, as opposed to employees of the public school. These determinations need to be made with legal counsel, but the nature of employees should be clearly outlined in the charter application.

There are several resources that provide more information about employment issues. Tax information is available at www.irs.gov and through the Colorado Department of Labor and Employment at www.coworkforce.com. Additional information about PERA can be found at www.copera.org. Finally, a human resources manual developed through CDE can be found at www.cde.State.co.us/cdechart/download/HREmploymenanual.pdf.

2. Checklist for Comprehensive Application

An organizational chart is included as an attachment, which explains administrative, teaching and support staff.
A narrative description gives clear delineation of employee classification and who is responsible for employment decisions and oversight at each level of the organizational chart.

Job descriptions for administrator, teachers (to include qualifications to meet NCLB standards as well as what certification is required by the school), and key employees are included. (See Highly Qualified Teachers Workbook at http://www.cde.State.co.us/FedPrograms/nclb/tiia_genres.asp.)
Descriptions of key employee policies to include employment practices, benefits, leave policies, grievance policy, conflict of interest policy, harassment, drug-free workplace, classroom practices, evaluation practices, etc., are attached.
A clear plan of support for staff development and funding is included.

3. Evaluation Rubric

An excellent application will address the following regarding the Employment Plan:

- Explanation of the relationship that will exist between the charter school and its employees, with employee classification clearly defined.
- Employment policies of the school OR clear plan for timely development and intent of such policies.
- Clear standards are in place for determining staff qualifications to meet NCLB and any licensure requirements.
- A clear delineation of the role of the head administrator to include employee hiring, evaluation and firing.
- A clear plan is in place to develop a comprehensive evaluation plan in alignment with the school's

mission, goals, curriculum assessment and professional development of staff with intent of that plan describe.

J. Insurance Coverage

1. Component Description

Charter schools must have appropriate insurance coverage. This includes workers compensation, liability insurance, and insurance for the building and its contents. Charter schools are public entities and liability is limited by the Colorado Governmental Immunity Act, C.R.S. 24-10-101 *et seq*.

The risk management office in the local school district is a very good resource for finding information about particular insurance needs. In addition, the Colorado School District Self Insurance Pool is the insurance provider for many charter schools and can provide information. Once insurance needs are understood, costs need to be estimated and incorporated into the proposed budget that includes reasonable assumptions or quotes. The selected or intended insurance coverage should be commensurate with the overall school program and risk factors.

2. Checklist for Comprehensive Application

A list of the types of insurance for which the charter school will contract. Fiscal impact of appropriate insurance coverage is evident in the budget.

3. Evaluation Rubric

An excellent application will provide adequate assurance that the school will meet applicable insurance requirements with reasonable assumptions for the cost.

K. Parent and Community Involvement

1. Component Description

One of the most distinctive characteristics of charter schools is that they are a choice school. Due to this characteristic, many charter schools have a small school atmosphere and a culture of "everyone belongs to the community." The application should demonstrate the expectations and plans for ongoing parent and community involvement and the support of volunteers through specific volunteer networks.

It is important for charter school developers to provide adequate notice to the community about the possibility of the new charter school. Some parts of the community may need additional outreach. For example, fliers may need to be published in a second language. Many charter developers have delivered fliers to individual homes in a community.

Be clear about what the new charter school will look like and the process for getting the school approved. Establish early the school's value for meaningful parental involvement. Explain to parents their role in the charter school through volunteering, monitoring their child's education and holding the school accountable. Designate an individual on the steering committee to follow up with parents who are interested in getting involved with the development of the charter school.

Network with established civic and organizations in the community your school will serve. Whenever possible, arrange to have Parent Information Meetings in that community. Be sure to reach out to a broad cross-section of the community.

2. Checklist for Comprehensive Application

A sound plan and timeline are in place to reach a diverse student population.
Parent involvement in the development of the school is clearly Stated along with volunteer requirements and opportunities after the school is open.

Partnerships or plans for community involvement are clearly defined in the application along with the purpose and expectation. Adequate evidence demonstrates assurance of these partnerships.

3. Evaluation Rubric

A sound Parent and Community Involvement plan will have the following characteristics:

- Informs parents and members of the community about the operations of the school including providing information about the school to students of all races, languages and abilities; a timeline for implementation, a lead contact, and specific action steps.
- An overview of how the parents and community were involved in the development of the school.
- Specific strategies to reach at-risk students and families who might not be aware of this school.
- Evidence such as Letters of Support, Letters of Intent, or MOUs, that the proposed school is welcomed by the larger community, has formed partnerships with community organizations, and is viewed as an attractive educational alternative that reflects the community's needs and interests.
- Detail is given of the types of volunteer requirements and opportunities that are available for the parents/guardians of the students and the larger community

L. Enrollment Policy

1. Component Description

The Charter Schools Act allows the authorizer and the charter applicant the flexibility to use any enrollment policy, such as a wait list or lottery. The federal subgrant, administered by CDE, requires the use of a lottery. Many charter schools have elected to use a lottery in order to access these startup and implementation grant funds. More information on lottery requirements can be found in the grant's Request for Proposals at http://www.cde.State.co.us/cdechart/cchgrn00.htm. The Charter School Program grant is the only federal grant requiring the use of a lottery. A charter school is required to use an approved lottery only during the time it is spending or encumbering these grant funds. (For additional information on lottery requirements, go to http://www.cde.State.co.us/cdechart/cchgrn00.htm to review the Request for Proposals, page 6.)

The lottery policies and plan for enrollment should demonstrate how the school plans to enroll the intended student population. State law does require a public charter school to not discriminate on the basis of disability, race, creed, color, gender, national origin, religion, ancestry, or need for special education services. It is important to distinguish between admission decisions and academic placement decisions. The Charter Schools Act [C.R.S. 22-30.5-104 (3)] prohibits discrimination based on academic ability. Diagnostic or placement exams may be given to students after they have been officially enrolled.

Charter School Lottery Policies Should Address:

- The date of the annual lottery.
- The definition of "founding family" and "teacher" children not to exceed 20% of the lottery.
- How the community will receive adequate notice about the formation of a new charter school.
- Any requirement for parents to reaffirm their intent to enroll on an annual basis.
- What happens to names not drawn in the lottery.
- How siblings of enrolled students are handled in the process.

- How long parents have to make a decision on whether or not their child will attend the school.

2. Checklist for Comprehensive Application

A proposed policy or description detailing how the charter school intends to select students for enrollment including the proposed timeline, description of wait list or lottery process, any enrollment criteria, or pre- or post-enrollment testing.
An explanation of the process that will be used to transfer student records to or from the charter school or a plan to develop such procedures.
An explanation of how the community will receive information about the formation of a new charter school and any upcoming lottery or enrollment deadline.
An explanation of the notification of placement and how long parents have to make the decision to accept or not accept. Contents of enrollment packet should be explained, along with an ongoing data information and communication plan.

an explanation of the requirements of parents to reaffirm intent to enroll on an annual basis.
A clear definition is provided for "founding family" and "teacher" and any preferences given them in the lottery, not to exceed 20%.

3. Evaluation Rubric

An excellent Enrollment Policy will have the following characteristics:

- Clear description of the enrollment policy consistent with the requirements of section C.R.S. 22-30.5-104(3) (or C.R.S. 22-30.5-507(3) for CSI applications).
- Explanation of criteria for enrollment decisions.
- Clear procedures for withdrawals and transfers from the school that will support an orderly transition for exiting students or a clear plan for developing such procedures.

M. Transportation and Food Service

1. Component Description

A charter school may choose not to provide any transportation or food services or may choose to negotiate with a school district, BOCES or private provider to provide transportation services, or with a district or private provider for food services for its students. Colorado law does not require a charter school to provide transportation or food services.

If a charter school chooses to provide transportation or food services, a plan for each area must be included in the application. The transportation plan should include provisions for transporting students to and from the charter school and their homes, and to and from the charter school and any extracurricular activities. For food services the plan should include a description about how this service will be offered either initially or at a later time. In addition, a description of how the charter school plans to meet the needs specifically of low-income and academically low-achieving pupils should be included for both.

The provision of transportation services has several implications. First of all, the cost must be included in the charter school's budget. Secondly, insurance and liability issues must be addressed when assessing the charter school's overall insurance needs. Insurance coverage should meet required thresholds for liability whether the school uses public or private vehicles.

Finally, many federal and State rules and regulations relate to the provision of transportation services. One specific rule to be aware of is that any small vehicles or school buses owned and operated by a charter school or under contract

must meet the safety and operating standards as prescribed in State Board Rules 1 CCR 301-25, 301-26 and 301-29.

For more information, see www.cde.State.co.us/index_nutri_transpo.h.

Schools with a significant number of students who could qualify for the Free and Reduced Lunch (FRL) program are strongly encouraged to offer some sort of lunch program. The provision of food services may or may not have a negative effect on the school's budget, depending on whether it is a program under the district food services umbrella with an agreement for the same provisions given other schools in the district or is provided through a private contractor. The school must collect FRL qualifying information from students and that process should be included in the food services plan. (Schools not providing a lunch program will still collect this information, but using a different form.)

The plan should include whether the school intends to use a private or district food services provider, how the Free and Reduced Lunch (FRL) qualification forms will be distributed, collected and recorded, and how the facility will be brought into compliance or be built to meet any federal requirements for food warming or preparation, if needed to meet FRL regulations. The charter school can only be reimbursed for its FRL program through an authorized "school food authority." If the school will not be using an approved FRL program, or provide any lunch program, this section should include how students who would qualify for a Free or Reduced-price lunch and how students who forget their lunch will be accommodated.

For more information, go to http://www.cde.State.co.us/index_nutrition.h.

2. Checklist for Comprehensive Application

A description of the charter school's transportation plan including the transportation of low-income and academically low-achieving students.
A description of daily route and extracurricular transportation needs is included and there is an adequate plan for addressing these needs.
A plan is in place for adequate safety measures and insurance coverage for the transportation of students to and from school events using private or school vehicles.
If the school does plan to offer a FRL-qualifying hot lunch program, details should be included about how this service will be provided, reimbursed through an authorized "school food authority" and any other applicable State or federal regulations.
If the school does not plan to offer a lunch program, this section addresses how the school will address the needs of students who forget or cannot provide a lunch.

3. Evaluation Rubric

An excellent Transportation and Food Service plan will have the following characteristics:

- Statements regarding whether the school plans to provide transportation and/or food services for its pupils including low-income and low-achieving students are included.
- Clear description of how the school plans to meet the transportation needs of its pupils for daily route and/or extracurricular needs, if applicable.
- Clear description of how the school plans to meet the food service needs of its pupils, if applicable.
- Viable financial plan addressing transportation and food service needs.

N. Facilities

1. Component Description

One of the greatest challenges to opening a new school is finding a suitable facility. The most important thing during the application process is to plan as much as possible and to clearly articulate those plans. It can be difficult to negotiate for facility space without having an approved charter. It is not necessary to have a signed formal agreement for a facility during the application process, but any viable options should be explained and

should include reasonable space requirements, a reasonable plan for space utilization, a discussion of how the facility will be ready for use when the school opens and, most importantly, reasonable costs of that facility which must be reflected in the proposed budget.

Charter schools may rent, lease, own, or otherwise finance facility space. In some cases, a school district may have an unused facility; in other cases, a charter school may share space with another tenant. Many charter schools have been able to finance their own facilities with tax-exempt bond financing through the Colorado Educational and Cultural Facilities Authority (CECFA). These are typically schools that are established, but information can be found by calling CECFA at 303-297-2538.

With any facility, building permits and inspections are required. Life and safety requirements (including asbestos regulations) apply to rented or contributed facilities as well. The State is responsible for issuing certificates of occupancy for public schools, and information can be obtained by calling the Department of Labor at 303-572-2919. In addition, contact your community's planning and zoning department, as well as the facilities

director for your school district for further information concerning the permit, life and safety and inspection requirements of local entities.

Each year the State legislature designates a specific amount for Capital and Liability Insurance Reserve [C.R.S. 22-45-103(1)(c)]. This revenue should be accounted for separately, spent with authorization via the governing board's action, and used for allowable expenditures.

2. Checklist for Comprehensive Application

A facility needs assessment including how many classrooms are needed, how many specials rooms are needed (art, music, gym), minimum size of each classroom, library space needed, number of bathrooms needed, number of offices needed, amount of common space needed, outdoor space needed, overall size, cost per square foot, zoning and occupancy requirements, and how each facility aligns with the facility needs assessment is included in the narrative.

If additional funds or financing will be needed to bring a facility online, the application narrative and attached budget identify potential grants and/or lending sources. If real eState consultants are involved, a brief description of the relationship and budget impacts is included.

A target location (and prospective sites if not affected by confidentiality issues) is given based on school design and intended population with an explanation of prospective school sites and assistance to find them.

An explanation of fund allocation is included based on estimated renovation costs, square foot needs per pupil and cost per square foot, average square foot costs in the intended location, and the percentage of budget designated for facility needs.

3. Evaluation Rubric

An excellent Facility plan will have the following characteristics: If a facility has been

identified --

- Designation of the proposed facility and alternatives.
- Evidence that facility will be appropriate for the educational program of the school and adequate for the projected student enrollment.
- Adequate reflection of the costs associated with the proposed facility in the budget including rent, utilities, insurance and maintenance.
- Assurance that the proposed facility will be in compliance with applicable building codes, health and safety laws, and with the requirements of the American with Disabilities Act (ADA).
- A sound plan to identify needed renovations as well as the funds and a timeline for the completion of those

renovations.

If a facility has not yet been identified –

- Description of anticipated facilities needs including evidence that the facility will be appropriate for the educational program of the school and adequate for the projected student enrollment.
- Inclusion of costs associated with the anticipated facilities needs in the budget including renovation, rent, utilities, insurance and maintenance.
- Evidence to indicate that facilities-related budget assumptions are realistic based on anticipated location, size, etc.
- Assurance that the proposed location will be in compliance with applicable building codes, health and safety laws, and with the requirements of the American with Disabilities Act (ADA).
- Plan for finding a location including a proposed schedule for doing so.

O. Waivers

1. Component Description

The technical means by which charter schools operate is via waiver from certain State laws, State rules and/or school district policies. Information on applying for waivers from the State is on the CDE Charter Schools Web site at http://www.cde.State.co.us/index_charter.h under Technical Assistance. Charter schools applying for waiver of school district policies should contact their charter school liaison if those policies are not listed on the school district's Web site. An example of a waiver application can be found in the CDE Charter Schools Electronic Guidebook of Best Practices at http://www.cde.State.co.us/cdechart/guidebook/gov/index.h.

The Colorado State Board of Education has determined that thirteen statutes may be automatically waived, upon request, for charter schools. Charter schools may request waivers from statutes in addition to those automatically waived, but the process for approval is different.

There are two philosophies on charter schools obtaining waivers. Some believe that authority is given to the charter school via the charter contract, making some waivers unnecessary. In particular, the Board Powers (C.R.S. 22-32-109 and 22-32-110) statutes are considered "delegatory" rather than "substantive." In other words, the charter school governing board is delegated the authority that otherwise would belong to the school district board of education. Others believe that obtaining a waiver is an assurance against charter contracts that may be renegotiated and, therefore, less secure for the charter school. Charter schools should investigate the school district's or CSI's viewpoint on waivers to gain understanding of expectations. A charter school developer should obtain legal counsel when seeking waivers from either the State or the authorizer.

Attach:

- Waivers requested from the State
- Waivers requested from the school district or CSI

2. Checklist for Comprehensive Application

The request for waiver from State statute by citation, State Board of Education rules or regulations and authorizer policies by policy number are included as attachments. Request includes rationale for requesting the waiver, replacement policy or explanation of intent, expected financial and implementation impact, and how the waiver will be evaluated.

3. Evaluation Rubric

An excellent application will include the following regarding waiver requests:

- A list of the State laws or rules for which a waiver is requested including a replacement plan, rationale and how the waiver will be evaluated.
- A list of each authorizer policy for which a waiver is requested including a replacement plan/rationale.

Moreover, these requested waivers will match the proposed autonomy, school mission and goals, operations, governance, and employment relationships of the proposed charter school

P. Student Discipline, Expulsion, or Suspension

1. Component Description

Although all charter schools must meet the minimum standards for student discipline, expulsion and suspension, they don't have to fit into the traditional "box." Charter schools can have their own policies as long as the statutory minimums are met. Many charter schools have sought and obtained waivers from related laws that provide for flexibility and a unique approach to student discipline.

Refer to C.R.S. 22-33.106 *et seq*., the Suspension, Expulsion and Denial of Admission law, for more detailed information. Further detail is provided in a publication prepared by the Attorney General's office at http://www.ago.State.co.us/schoolvio/svpm2007.pdf.

Most charter school contracts stipulate which party (the authorizer or the charter school) has the authority to suspend or expel students. C.R.S. 22-33-105(7) States that either a charter school authorized by the CSI, or the CSI itself, may expel, suspend or deny admission of students. During contract negotiations this issue must be decided. Therefore, the charter application should detail how the charter school proposes to handle student discipline, expulsion and suspension. Many applications include policies that the potential charter school would use. Samples are online at http://www.cde.State.co.us/cdechart/guidebook/fam/index.htm.

The education of expelled students is the responsibility of the public school that expelled them. Include an explanation of how the charter school will provide for an alternative education, if applicable.

2. Checklist for Comprehensive Application

A proposed policy for student discipline, expulsion or suspension that meets State law and district policy (unless waived), is included.
An explanation of how the student recommended for expulsion will be afforded due process rights, including manifestation hearings and the implementation of behavior plans.
A description of the schools an expelled student will be prohibited from attending.
An explanation of how the charter school will provide the expelled student with an alternative education, if applicable.

3. Evaluation Rubric

An excellent application will include:

- Policies for addressing expulsion or dismissal, suspension and education of expelled or suspended students that provide adequately for the safety of students and staff; provide due process for students to include IDEA requirements; serve the best interests of the school's students; create a positive environment for learning; and are otherwise consistent with the intents and purposes of C.R.S. 22-33-106 and 22-33-203. OR
- A clear plan for developing such policies including a schedule for doing so.
- An explanation of how the proposed school will conduct appeals for students facing expulsion and meet the requirements for Manifestation Hearings for students with disabilities (both IDEA and 504).

- A description of how students will be expelled, for what offenses and which schools they will be expelled from if the expulsion hearing is conducted by the proposed charter school.

Q. Serving Students with Special Needs

1. Component Description

As public schools, charter schools must open their enrollment to any student and must provide appropriate special education services as needed for students with disabilities. The charter school developer should consider the general philosophy of the school when developing the philosophy for delivery of special education services. For instance, a charter school may have an experiential delivery model making the needs of a student with Attention Deficit Hyperactivity Disorder (ADHD) more unique. Further, a charter school with a philosophy that no student "falls through the cracks" may have an aggressive remediation program for students who are not attaining their full academic potential and yet do not qualify for special education services.

While charter schools can obtain waivers from teacher licensure, Special Education licensure cannot be waived.

There are many CDE resources available for charter school applicants to consider when writing this section. Those resources are available at http://www.cde.State.co.us/cdechart/guidebook/sped/index.h. After reading the overview, read the resource on special education funding for direction on the impact to the charter school's operating budget. The sample compliance plan describes how all special education services could be delivered at a charter school. Charter applications should not contain as much detail as is in the sample compliance plan because the charter school application becomes the legal basis for the charter school contract. By writing that level of detail in the application, the charter school developer would be committing to how exactly particular services would be delivered rather than allowing for flexibility between the authorizer's special education director and the charter school. However, it would be good for the charter school developer to fully understand the scope and depth of services for which the charter school would be responsible.

There is a Statewide Charter Schools and Special Education Advisory Committee that meets on a regular basis. More information on that committee is at http://www.cde.State.co.us/cdechart/sped/index.htm.

Potential authorizers are increasingly interested in ascertaining the capacity of the charter school to limit potential liability issues for the authorizer (Special Education administrative unit) and consider program adequacy.

2. Checklist for Comprehensive Application

The school addresses a Response to Intervention (RtI), or child study process to address a need for adaptations or special education assessments and staffing.
Clear indications are given that the school understands requirements to meet the needs of IEP's, ELL, IDEA, 504 and plans to comply with the needs to include certified personnel, documentation, assessments, adaptations and modifications. The school may also want to address GT, and enrichment needs.
Plan is in place to include needed staff, adequate funding, evaluation of programs' success, flexibility to add contracted services, and specific services the district is expected to provide.

3. Evaluation Rubric

An excellent application will have the following characteristics regarding the plan for Serving Students with Special Needs:

- Realistic plan to identify and meet the learning needs of at-risk students, students with disabilities, gifted/talented students, and English language learners.
- Timeline, lead contact, and intervention process with specific action steps for meeting learning needs of students with special needs (such as a Response to Intervention model).
- Plans for serving special populations align with the overall curriculum, instructional approaches and the

school mission.

- Budget is adequate to meet the needs of these students (at least $400 per total student population).
- Plans are in place to provide adequate staff to meet the needs of these students including a licensed special education teacher.

R. Dispute Resolution Process

1. Component Description

This section is simply a paragraph or two that reflects the school's understanding of and compliance with C.R.S. 22-30.5-107.5, which explains how the school and its authorizer

agree to resolve disputes that may arise concerning governing policy provisions of the school's charter contract.

2. Checklist for Comprehensive Application

Except as otherwise provided in C.R.S. 22-30.5-108, a plan should be provided to settle any disputes between a charter school and its authorizer, concerning governing policy provisions of the charter contract, to include a reasonable written notice which gives a brief description of the matter in dispute and the scope of the disagreement between parties.

A process is given to address the issue within thirty days of receipt of notice. Both parties shall either reach an agreement by mutual consent or mutually agree to use any form of alternative dispute resolution as allowed by State law. Alternative dispute resolution shall result in a final issue of findings, by a neutral third party, within one hundred twenty days after receipt of written notice, with costs apportioned reasonably.

The plan explains that a charter school and authorizer may agree to be bound by the findings of the neutral third party, or may appeal such findings to the State board according to statutory requirements.

Any decision by the State board, pursuant to State law, shall be final and is not subject to an appeal.

3. Evaluation Rubric

- The dispute resolution plan shows a clear understanding for compliance with statutory requirements for both the charter school and the authorizer.
- The dispute resolution plan demonstrates reasonable method(s) for resolving disagreements, which arise between a charter school and its chartering district or authorizer, concerning governing policy provisions of the school's charter contract.

S. School Management Contracts (to be completed <u>only</u> if the proposed school intends to contract with an education service provider).

1. Component Description

If the proposed charter school intends to contract with an education service provider (ESP), such as a charter management organization, education management organization, or any other type of school management provider, address the following issues:

- An explanation of how and why the ESP was selected.
- Detailed explanation of the ESP's success in serving student populations similar to the targeted student population, including demonstrated academic achievement as well as successful management of non-academic school functions (e.g., back-office services, school operations, extracurricular programs).
- A term sheet setting forth the proposed duration of the management contract; roles and responsibilities; scope of services and resources to be provided by the ESP; performance evaluation measures and timelines; compensation structure including clear identification of all fees to be paid to the ESP; methods of contract

oversight and enforcement; investment disclosure; and conditions for renewal and termination of the contract.

- A draft of the proposed management contract including all of the above terms;
- Explanation of the relationship between the school governing board and the ESP, specifying how the governing board will monitor and evaluate the performance of

  the service provider, the internal controls that will guide the relationship, and how the governing board will ensure fulfillment of performance expectations, or have a means for severing the contract.
- Explanation of which staff will report to or be paid by the ESP.
- Evidence that the corporate entity is authorized to do business in Colorado.

Attach:

- Term sheet (described above)
- Proposed management contract
- Evidence that the service provider is authorized to do business in Colorado

2. Checklist for Comprehensive Application

Evidence is included that the service provider has successfully managed other schools.
Evidence is included that the other schools managed by the proposed service provider have demonstrated academic achievement for similar targeted student populations.
A term sheet for the proposed management of the charter school is included with clear performance measures and contract severance provision(s).
A draft of the proposed management contract with a clear Conflict of Interest Statement is included.
An explanation of which staff will be hired and terminated by the ESP or report to or be paid by the ESP.
Evidence that the ESP is authorized to conduct business in Colorado.
Clear understanding of financial obligation to ESP and if it increases, decreases or stays the same for the duration of the relationship. This includes building ownership if the developers are making payments to the ESP.

3. Evaluation Rubric

An excellent School Management Contract section will have the following characteristics:

- A logical explanation of how and why the ESP was selected.
- Demonstrated evidence that the ESP has been successful in the academic and business operations aspects of other schools.
- Reasonable management contract terms and fees along with clear performance measures and contract severing provisions.
- Clear evidence that the ESP is authorized to conduct business in Colorado.
- Details sufficient to assure there are no potential conflicts of interest between the ESP and the governing board; there is a clear plan for monitoring and evaluating performance of the ESP and adequate internal controls are in place.
- A clear description of which staff members will be hired, evaluated and terminated by the ESP, and any relationship with the governing board on these decisions.

OVERALL ASSESSMENT

Would you recommend approval of this application? Explain your recommendation in the Summary Comments section below.

___ No, incomplete application or does not meet minimum standards.

___ Yes, but only with additional information on:

___ Yes, with conditions such as:

___ Yes, unconditionally.

E-mail address: _____

8. Name of applicant team or founding entity:

A. Names, roles, and current employment of all persons on the applicant team:

B. Does the applicant team or any members of the team currently operate any other schools? □ Yes □ No

C. Explain the individual and collective qualifications of the applicant team members to establish a high-quality charter school, in particular the capacity to assume responsibility for public funds, administration and governance.

D. Include as attachments resumes for each individual on the applicant team.

E. Explain the circumstances and motivations that brought the applicant team together to propose this charter school.

F. Which applicant team members will become founding board members?

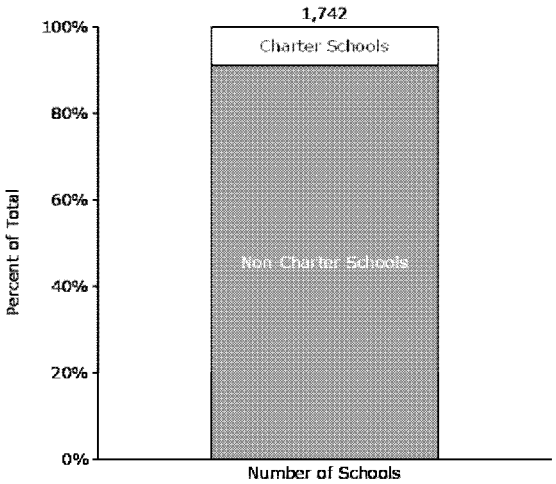
9. Identify any organizations, agencies, consultants or institutions of higher education that are partners in planning and establishing this charter school, along with a brief description of their current and planned role and any resources they have contributed or plan to contribute to the school's development.

Exhibit F-5: Number of Currently Operating Colorado Chrater Schools by Authorizer Type

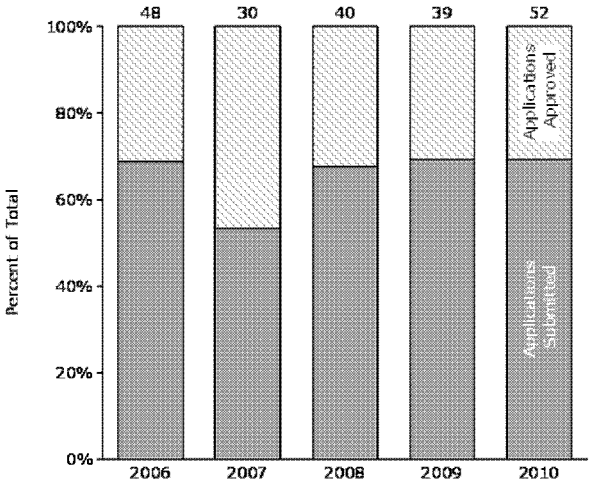
Colorado Law Does Not Currently Limit the Number of Charter School Applications Approved Within the State

- Pursuant to Colorado Statues C.R.S.22-30.5-109/22-30.5-504, neither the local board education of a school district nor the Charter School Institute should limit the approval of charter applications for charter schools within a given school district

Number of Currently Operating Charter Schools as a Percentage of Total Schools, 2009



Number of Charter School Application Submitted vs. Approved, 2006-10



Charter schools currently represent 9% of all schools in Colorado and 44% of charter school applications were approved in SY 2009-10

Note: SY 2009-10 Data
Source: CDE

3

Authorizer Type	Number of Charter Schools
Charter School Institute	23
District	130
TOTAL	**153**

Exhibit F-6: Option for Autonomous Schools in Colorado: A Handbook for School and District Leaders

August 2009

This report is the result of conversations among members of Colorado's education reform and business communities interested in encouraging the development of autonomous schools in Colorado. Participants include the Colorado Children's Campaign, the Donnell-Kay Foundation, and the Metro Organizations for People, and Colorado Succeeds. This report was funded by Communities for Public Education Reform.

- Colorado Children's Campaign. The Colorado Children's Campaign is the leading voice for children in Colorado. Established in 1985 as a Statewide nonpartisan organization, the Campaign focuses on research and advocacy that supports the expansion of access to quality health care, early childhood experiences, and K-12 education. For more information, visit www.coloradokids.org.

- Colorado Succeeds. Colorado Succeeds is a nonprofit, nonpartisan coalition of business leaders committed to improving education for workforce development and economic growth. As the business voice for education, it seeks to improve the caliber of the State education system and the competitiveness of its students. For more information, visit www.coloradosucceeds.org.

- Donnell-Kay Foundation. The Donnell-Kay Foundation is a private family foundation that seeks to improve public education and drive systemic school reform in Colorado through solid research, creative dialogue, and critical thinking. For more information, visit www.dkfoundation.org.

- Metro Organizations for People. Founded in 1979, MOP is comprised of 35 member congregations, schools, youth and neighborhood associations representing over 50,000 people in the six-county Denver metro area. The mission of MOP is to empower people to strengthen and transform their communities through community organizing. MOP trains volunteer community leaders to reweave the web of relationships in a community so they can effectively work together across race, class, and language barriers to rediscover a common good leading to a higher quality of life for our families, children, and neighbors. For more information, visit www.mopdenver.org.

- Communities for Public Education Reform: A Fund for Education Organizing. Communities for Public Education Reform (CPER) is a partnership of local and national foundations that support the growing field of education organizing through grants and technical assistance to community organizations working to ensure that parents and students have a strong voice in shaping the policies that affect their public schools. CPER promotes innovation and supports systemic reforms that address educational inequities. http://www. publicinterestprojects.org/projects/partner-and-collaborative-funds/cper

This report was researched and written by Kelly Hupfeld, research assistant professor at the School of Public Affairs, University of Colorado Denver. The Center for Education Policy Analysis at UCD conducts analysis of applied education policy issues that bring national perspectives and solutions to Colorado's education problems.
CEPA seeks to inform community leaders, policymakers, school and school system leaders, and the larger research community.

Overview

Colorado has long been a leader in innovative education reforms, and lately the reforms

have been coming at a fast and furious pace as educators, policymakers, the business community, and funders all look for new ways to help our children succeed.

In the category of "a good problem to have," the sheer number of recent reforms encouraging the development of autonomous schools has led to some confusion. What is an Innovation School? What is a Pilot School? How are these schools different from each other and how are they different from charter schools? If I want to open a new school or significantly reform an existing school, what are my options? How do I know which option is right for my school? If I am a district leader, what role can I play in encouraging the development of autonomous schools in my district?

Leaders in Colorado's education reform and business communities identified this confusion as a possible obstacle to the very result the reforms were intended to produce: increased numbers of schools that operate autonomously and are able to make key decisions at the building level that benefit their students.
The Colorado Children's Campaign, Metro Organizations for People, the Donnell-Kay Foundation, and Colorado Succeeds decided to commission a report that would clearly explain each of three major autonomous school options, so that school and district leaders who wanted to take advantage of these options would have a solid and comprehensive basis for making the right decisions. This report is the result of these conversations, and is intended to be a guide for school and district leaders.

Colorado –Encouraging

Innovation and Autonomy

Colorado has long been a leader in education reform, from the Charter Schools Act of 1993 to the development of the Denver ProComp system for paying teachers. Our State's high expectations for educating students, combined with district freedom to innovate in a local control environment, create a rich laboratory for reform.

One particularly popular reform, both in Colorado and nationwide, has been the devolution of decision-making authority to the school site. While school-based management is not a new concept, the current iteration of the reform focuses on pairing school accountability for student achievement with building-based authority to make decisions in areas that affect student achievement, such as curriculum, staffing, and the use of resources. Such autonomous schools thus are expected to have more flexibility to act in innovative ways that best serve the needs of their unique student populations.

What could a school gain through increased building-level autonomy? Every school leader should consider the unique needs and culture of his or her school in thinking about the benefits of autonomy, but here is a short list of some of the more frequently requested autonomies:

- Freedom to select staff members at the school so that all employees are actively in support of the school vision and culture
- Freedom to select curricula and instructional methods that meet the needs of the children in the school while still meeting State standards
- Freedom to remove staff members who are not well-matched with the school
- Freedom to make decisions about the use of resources at the building rather than simply administering resource decisions from the district
- Freedom to use time in ways that meet student needs and ensure that staff is highly skilled and collaborative
- Freedom to "comparison shop" for service providers

As of June 2009, Colorado school and district leaders interested in pursuing school autonomy have several different options. Some of these have been established by the legislature to apply to districts and schools across the State. The most well-established Statewide avenue to autonomy, charter schools, has existed for over 15 years. In 2008, the legislature passed the Innovation Schools Act, which provides a process for schools to request waivers from district policies and local collective bargaining agreements, as well as waivers from State laws and regulations.

A few metro-area urban districts are developing their own methods for encouraging innovations. For example, the Aurora Public Schools and their unions have agreed to a process for creating Pilot Schools, which are free from many district policies and provisions of the collective bargaining agreement. The Denver Public Schools has decided to cultivate a wide range of schools through its New Schools Office, ranging from autonomous schools like charter schools and Innovation Schools to Denver Performance Schools, which are solicited in response to a specific need of the district and which are likely to have varying levels of autonomy.

Colorado Race to the Top Phase 2 Appendix

Table: QUICK COMPARISON

School option	Method of operation	Waivers available
Charter School	Completely independent, charter school board contracts with the charter authorizer. Staff members are employed by the charter school. Funding follows student to the school, char-ter buys back selected services from district. Charters often use curriculum and schedule/ calendar that differ from the district.	Automatic waivers of many district and State regulations; not subject to district collective bargaining agreement
Innovation School	Terms negotiated with the district in which the school is located (e.g., funding, calendar, and curriculum). No separate board of directors. Staff members are employed by the school district.	Waivers may be requested from many district and State regulations and collective bargaining agreement provisions.
APS Pilot School	Memorandum of Understanding between district and union and Pilot School determines terms under which the school will operate. School leadership council has some degree of authority but not fiduciary responsibility. Staff members employed by district.	Memorandum of Understanding lists the district regulations and collective bargaining agreement provisions that may be waived.

These options can be confusing, and the best way to proceed is often not clear to school and district leaders. This handbook provides a summary of three major routes to school autonomy, together with a discussion of issues that school and district leaders may want to consider in making their choices. A side-by-side comparison of each route in operational terms is provided in the appendix at the back of this handbook.

The Path to Autonomy

To gain the benefits of true autonomy, a school will typically need to be freed from relevant district policies, State laws and regulations, and/or collective bargaining agreement provisions that apply to its employees. This path will be much easier for certain districts. For example, most of Colorado's 178 school districts do not have collective bargaining agreements, and so need not be concerned about contractual requirements. Districts have always been free to waive or modify their own policies with respect to schools in their districts, as long as they are not inconsistent with federal or State requirements.

The State has long provided a waiver process for State statutes and regulations (CRS 22-2-117). Districts with fewer than 3,000 students (all but 41 districts in the State) may petition the State Board of Education for a waiver of virtually any provision of the Education Code and its regulations, either as applied district-wide or to a specified school, as long as the district can show that the waivers are needed to enhance educational opportunity and quality and that the costs of complying with the requirements significantly limit educational opportunity. Districts with 3,000 or more students may also apply for these waivers, but these districts must also show that the waiver requests are supported by a majority of affected school accountability committees, a majority of licensed administrators, and a majority of teachers.

It must be noted that schools and districts cannot waive their way out of requirements imposed by federal law, unless the State has obtained a waiver through procedures in federal law.

State Avenuesto

School Autonomy in Colorado

Charter Schools

Charter schools are public schools that operate independently under a contract with their authorizer. Since the passage of the Charter Schools Act in 1993 (CRS 22-32.5-101 et seq.), their numbers have multiplied. As of the 2008-09 school year, 157 charter schools in Colorado served nearly 58,000 students Statewide.

The vast majority of these schools (134) are authorized by school districts. Persons interested in starting a district charter school apply to their local school district (the district in which a majority of their proposed students live, other than on-line students). If the district does not approve the application, the applicant may appeal to the State Board of Education, which may return the application to the district for reconsideration if it finds that the denial was not in the best interests of the students, school district, or community.

Charter schools may also be authorized by the State Charter School Institute (CRS 22-30.5-501 et seq.). An application may be submitted to the Charter School Institute only if the district in which the school is to be located has not received exclusive chartering authority; or, if the district has received exclusive chartering authority, the district passes a resolution that permits the applicant to apply to the Charter School Institute instead. To date, several districts have allowed charter applications to go forward to the CSI despite retaining exclusive authority. Districts that prove to the State Board of Education that they have a recent pattern of providing fair and equitable treatment to their charter schools are eligible for exclusive chartering authority. Currently, out of 178 school districts, just nine districts do not have exclusive chartering authority – these are Durango 9-R, Lewis Palmer 38, Mesa County Valley 51, Poudre R-1, Roaring Fork RE-1, Bayfield 10 JT-R, Cheyenne County RE-5, Julesburg RE-1, and Sierra Grande R-30. The Charter School Institute oversees 23 schools.

The State Board of Education may convert a consistently low-performing public school to a

so-called independent charter school. (See CRS 22-30.5-301 et seq. and CRS 22-7-609(5)). In that case, the State Board of Education issues a request for proposals to operate the converted school. This has only occurred once, in the case of Cole Middle School in Denver.

There are many benefits to using the charter school route to develop an autonomous school. The charter school statute permits anyone – parents, teachers, community groups, and charter management organizations – to apply to open a charter school. Although most charter schools use a national school reform model, such as Core Knowledge, Montessori, or Expeditionary Learning, they are free to use any school model, including a model invented by its founders. The Charter Schools Act provides for automatic waivers (if requested by the school) from many of the State statutes considered most onerous by entrepreneurial school leaders, including the State law governing tenure and dismissal for teachers. Charter school teachers are not covered by district collective bargaining agreements, unless the school wants them to be. Finally, charters receive 100 percent of funds available under the State School Finance Act, and are free to manage their own budgets.

Both the federal government and large national and local foundations have been interested in supporting charter schools, so there is a wealth of start-up funding sources and technical assistance materials. Colorado also benefits from the Colorado League of Charter Schools, a nonprofit organization dedicated to assisting and advocating for charter schools that is a model in the country.

One significant downside to opening a new charter school is the struggle to find appropriate and affordable facilities. Districts are not required to find facilities for their charter schools, and charters receive a relatively small amount of State funds for this purpose. Legislators sympathetic to charter schools have passed legislation requiring districts to include charter schools in district bond elections under certain circumstances; however, this has not yet equalized the playing field. A 2008 report by the Colorado League of Charter Schools, "Short-Changed Charters: How Funding Disparities Hurt Colorado's Charter Schools," provides greater details on the facilities issues faced by charter schools.

One of the strengths of the charter school process, namely the ability of parents and others who are not education experts to open and run charter schools, can also create difficulties. Many charter schools struggle to find people with expertise in running organizations and managing budgets to serve on their governing boards. In some cases this has led to serious financial difficulties for schools.

Finally, many charter schools perceive that their districts either are actively hostile to charter schools or tolerate their existence without providing any assistance. Depending on the needs of the school, this can be extremely difficult and isolating.

For more information about charter schools in Colorado, visit CDE's Schools of Choice office at www.cde.State.co.us/choice/index.h or the Colorado League of Charter Schools website at www.coloradoleague.org.

Innovation Schools

In 2008, the legislature created a new category of autonomous schools – Innovation Schools. Prompted by the efforts of a few schools in Denver to gain autonomy from district policies, the Innovation Schools Act creates a process by which a school may obtain waivers from district policies, State policies, and collective bargaining agreement provisions. Schools that share similar interests, such as a geographical area or feeder pattern, may band together to obtain these waivers through designation as an Innovation School Zone comprised of individual Innovation Schools. To date, two schools have been granted Innovation School status by their local school board, both in Denver Public Schools.

Because the Innovation Schools Act seeks to encourage innovations of all kinds, there is no one "package" of waivers associated with becoming an Innovation School. Instead, the statute contains a list of "suggested innovations," which range from innovations in the curriculum to innovations in teacher compensation and school governance and is intended to provide inspiration rather than boundaries as schools think about how to innovate.

The school community develops its own proposal, along with the identification of the waivers it requires to achieve its goals. Upon approval by majorities of the school's accountability committee, teachers, and administrators, the proposal is submitted to the local board of education. The local board is granted a great deal of discretion over these proposals, and is free to request amendments, to deny the plan, or to approve the plan. Unlike charter schools, there is no appeals process from the local board decision, although the school is free to resubmit its proposal.

If the Innovation Plan is approved by the local board, the requested waivers from district policies are granted simultaneously. The district then takes the proposal to the State Board of Education, where it applies for waivers of State laws and regulations on behalf of the Innovation School. The State Board of Education is required to approve the proposal (and grant the requested waivers) unless it is convinced that the plan will result in a decrease in academic achievement or is not fiscally feasible.

Upon approval by the State Board of Education, the district (now designated as a District of Innovation) and the union representing the district's employees then negotiate a new contract provision that permits employees at the Innovation School to vote to waive provisions of the collective bargaining agreement. According to the statute,

60 percent of covered employees must approve the waivers for them to become effective.

The Innovation Schools Act presents tremendous opportunities for both schools and districts. To the extent that the district is the final decision-maker on Innovation Plans, it can proactively shape Innovation School applications to meet student needs. For example, a district can incentivize schools to develop themselves into Innovation Schools that allow the district to have multiple "laboratories" in different approaches to education. The district can create an application package for schools that makes the cumbersome application process more appealing, and can essentially issue RFPs for certain types of Innovation Schools. (The Denver Public Schools may, for example, issue an RFP for a Performance School that will be organized as an Innovation School to benefit from certain waivers).

Some of the features that make Innovation Schools appealing to districts, such as the ability of the district to be strategic in soliciting applications and to review the school's academic performance for progress towards its goals, may make this option less appealing for schools that want to be completely independent of their districts. As Stated above, there is no guarantee that a board of education will approve an Innovation Plan, nor is there an appeals process from a denial. Employees at the school remain covered by collective bargaining agreement provisions unless they themselves vote to waive these provisions. Also, the newness of the statute and its relatively vague wording means that the first Innovation Schools will be guinea pigs for the process. Schools that do not receive extensive help from their districts will need to be painstakingly accurate and comprehensive in their review of laws, policies, and provisions to be waived, and it may be worthwhile for early applicants to hire legal assistance for this purpose.

Currently, facilities are not an issue for Innovation Schools converting from traditional school status. The statute is silent on whether a school may open as an Innovation School, although this would seem to be permitted under the broad intentions of the law.

District Routes to School Autonomy in Colorado

Because Colorado is a "local control" State, school districts have traditionally had a great deal of power to shape what happens in their schools. Several metro-area school districts, looking for new ways to serve diverse populations of students, have created routes to autonomy within their districts. While these options are not open to schools in other districts, they can be used as models or inspirations for other districts looking to encourage school autonomy and innovation.

Some districts are looking to foster autonomy through district-level decisions affecting all schools. For example, the Mapleton Public Schools intentionally converted its traditional schools to small schools that operate with a relative amount of autonomy according to each school's theme and design. The Poudre Valley School District is moving to a new system of funding its schools that will give school leaders greater control over their budgets.

Other districts have chosen to create processes by which individual schools can apply to receive greater autonomy. For example, in the Aurora Public Schools, the district and the union have created a process for schools with fewer than 500 students to convert into Pilot Schools, modeled after the highly-touted Pilot Schools in the Boston Public Schools. Aurora's partnership with its union allows Pilot Schools to receive immediate waivers from key district policies and collective bargaining agreement provisions. While teachers at Pilot Schools remain bargaining unit employees and are covered by salary and benefit provisions of the collective bargaining agreement, most conditions affecting their day-to-day employment are covered by an Election-to-Work Agreement created by the school's collaborative governing board. The principal has the ability to remove teachers who are not a good fit from the site, although they retain their district employee status. As the district puts it, teachers at Pilot Schools do not have the right to continue working at that particular school, although they have the right to remain employees of the district.

Pilot Schools also receive funds from the district in a lump sum, rather than through staffing formulas. This allows the school to make decisions about where to invest these resources. Schools may choose to receive services traditionally provided by the district, or they can opt to seek these services elsewhere and receive funds from the district representing the costs of the services.

Currently, the Memorandum of Understanding between the district and the union limits the number of Pilot Schools to four by 2011. Three schools have already been approved, meaning that there is only one slot left under the terms of the MOU. If the Pilot School project is successful, it is likely that the district and union will agree to expand the number of Pilot Schools. The Denver Public Schools are actively seeking to create a "portfolio" of schools that operate differently and are able to meet different needs of students and families. While the district is in the process of designing this approach, it is safe to say that charter schools and Innovation Schools will certainly be in the mix. The New Schools Office of DPS has developed a request for proposal process whereby DPS is able to solicit applications for schools that meet needs identified by the district. According to DPS' website, the schools created through this process will "embrace school-based decision- making, broad stakeholder engagement, and expanded autonomy, with clear accountability and high performance standards." Schools can respond to RFPs either as schools governed by the district (to be known as Performance Schools) or as charter schools. Seven new schools approved through this process will be opening in the fall of 2009.

In addition, the DPS New Schools Office also oversees proposals for School Improvement Grants and for Beacon Schools, both intended to promote reform in existing DPS traditional and alternative schools. While neither of these options expressly promotes autonomy, it would certainly be possible for a school site to use these routes to request a variety of autonomies should they be seen as necessary to the planned reforms. Theoretically, it is also possible for schools to simultaneously hold the status of a Beacon School and an Innovation School, for example.

Conclusion

School and district leaders seeking to encourage autonomy and innovation have a number of options from which to choose. The State hopes that this handbook provides some basic information about these different options.

The appendix contains a chart that illustrates the operational differences between three autonomous school options. These three were selected because they offer the most immediately obvious comparisons and are relatively well-defined

Appendix: School Types Comparison Chart

Please note: this chart is a summary for initial comparison purposes only. There are additional details about each type of school not contained in this chart. Please see the source documents (listed at the end) for a full description of procedures and requirements applicable to each type of school.

	Innovation School	District Charter School	APS Pilot Schools
THE APPLICATION PROCESS			
Are there any restrictions on who may apply to become this type of school?	Applicants must be "a public school of the school district" to which they apply. The law is silent on new schools that seek to start up as Innovation Schools, but if the district has approved the formation of the school, it would seem to be covered. Groups of schools with similar interests may apply to become an Innovation School Zone.	No, except that private schools and private home- based programs may not apply to convert into charter schools; charter school must be nonsectarian.	Three types of applicants: (1) Conversion of entire existing school (including charters); (2) Conversion of part of existing school; and (3) New start-up school with district-approved facilities. Resulting Pilot School must have fewer than 500 students.
Is there a cap on the number of schools allowed?	No	No, moratorium on number of schools prohibited by statute. Districts that set implicit moratoria are subject to losing exclusive chartering authority.	APS/AEA MOU limits to four Pilot Schools in district by 2011
What is the process for applying to operate this type of school?	School develops Innovation Plan and submits to local board of education (BOE)	Applicant submits application to local board of education (BOE) (or, if district does not have exclusive chartering authority, may submit to State Charter Institute)	Submission of letter of intent to APS/AEA Joint Steering Committee; creation of proposal with assistance of district facilitator; vote by licensed staff; if two-thirds approve, application is submitted to Joint Steering Committee

Does the application need to include certain components?	Yes – mission; need for Innovation School status; description of innovations to be implemented; list of programs, policies, or operational documents affected by innovations; expected improvements in academic performance; estimate of cost savings and efficiencies; Statements of support; description of State, local, and collective bargaining agreement waivers needed; additional information required by local BOE	Yes – mission; goals, objectives, and pupil performance standards; evidence of support; description of educational program; plan for evaluating pupil performance; budget and finance data; governance; school relationship with employees; insurance coverage; means for at-risk and community engagement; enrollment policies; transportation plans; food service plans; facilities; requested district waivers; discipline policies; academic achievement and accreditation; and special education services	Yes – overview of school; design team profile and planning process; school vision; key characteristics; governance structure; budget; curriculum and instruction; student assessment; leadership and staff selection; annual election-to-work agreement; professional learning and support; student support; family and community engagement; safe and secure campus
	Innovation School	District Charter School	APS Pilot Schools
THE APPLICATION PROCESS			
What Statements of support are required for the application?	Support for application must be shown by a majority of teachers employed at school; majority of administrators; and majority of school advisory council Statement of the level of support from other employees, parents, and surrounding community must also be submitted	Must show evidence that an "adequate number" of parents, teachers, students, or any combination of the above, support the formation of the school	Two-thirds of teachers must approve submission of application to Joint Steering Committee
What is the timeframe from time application is submitted to school approval to school opening?	Maximum of 60 days from submission of plan to BOE approval or disapproval	Applications must be submitted by date set by local BOE; BOE must hold public hearing within 75 days after receipt of application and rule by resolution; all negotiations must be completed within 90 days of BOE resolution	Approximately 6 months from application to board of education (BOE) approval
Who is involved in the review and who makes the final decisions about which schools to approve?	BOE reviews application and is final decision maker	Application is reviewed by District Accountability Committee; BOE makes final decision (in district with exclusive chartering authority)	Joint Steering Committee makes recommendation to Board of Education; BOE has final approval authority
Is an appeal available from a denial of the application?	No, although BOE must issue written Statement of reasons for denial and school may resubmit an amended plan	Yes, the school may appeal to the State BOE, which may reverse denial on grounds that it is contrary to the best interests of students, the district, or the community	No
	Innovation School	District Charter School	APS Pilot Schools
STRUCTURE AND GOVERNANCE			
Is the school a separate legal entity from the district?	No	Yes and no – charter schools may incorporate and operate as nonprofit corporations, but remain public schools of district by statute	No

Is the school required to have a fiduciary governing board?	No	Yes	No
If the school is required to have a fiduciary board, what is the configuration of this entity?	n/a	Determined by application	n/a
If the school is required to have a fiduciary board, what is the role of this governing body?	n/a	Governing board responsible for governance and operation of school; details set by application	n/a
If the school is not required to have a fiduciary governing board, is it required to have any type of site-based leadership or oversight entity?	School Advisory Council (SAC) (already required for all schools by CRS 22-7-105)	School Advisory Council (unless waived by State BOE)	Yes – a Governing Board that operates according to a shared decision-making model The Governing Board is intended to take the place of the statutory SAC
If yes, what is the configuration of this entity?	Seven members of SAC: Principal or designee; teacher elected by faculty at school; three parents or guardians elected by parents/guardians; one adult elected by PTSA; community business person appointed by principal. No more than three members may be employed by district or relatives of district employees.	Seven members of SAC: Principal or designee; teacher elected by faculty at school; three parents or guardians elected by parents/guardians; one adult elected by PTSA; community business person appointed by principal. No more than three members may be employed by district or relatives of district employees. The governing board of the charter school may also serve as the SAC, if appropriate membership is specified.	Minimum of 12 members: principal; 4 AEA member teachers; at least 1 classified employee representative; at least 4 parents; at least 2 non-parent community members. If membership grows beyond 12, one-third are to be AEA members
If yes, what is the role of this governing body?	The SAC makes recommendations to principal about prioritizing spending; discussing decisions affecting student achievement; reporting school performance data; and discussing safety issues.	The SAC makes recommendations to principal about prioritizing spending; discussing decisions affecting student achievement; reporting school performance data; and discussing safety issues.	Decisions regarding the operations of the school, including program, enrollment, class size, schedules, and professional learning, terms of election-to-work agreement
What assurances does the school have that if district leadership changes or school leader changes, the school can continue to operate in this format?	BOE may only revise or revoke Innovation School status based on academic performance results	School operates according to contract, district cannot terminate except for cause	Contingent on continued agreement of APS and AEA
	Innovation School	District Charter School	APS Pilot Schools
ACCOUNTABILITY			

Can the school be closed or have their status changed based on performance?	Yes, if not attaining or making sufficient progress towards goals set out in Plan	Yes – for material violation of contract, failure to make progress towards achievement goals, fiscal management deficiencies, or violation of any provision of law applicable to the school	Yes – APS expects Pilot Schools to make sustained progress in first two years and to outperform district averages after three years of operation. Schools must also meet other agreed-upon responsibilities. For schools not meeting this requirement, Joint Steering Committee may recommend to the BOE that the school transition out of Pilot School status in the fourth year
Is there a contract or MOU between the school and the district?	Not formally, but see below	Yes	Not formally, but see below
If yes, who negotiates the terms of the agreement and thus holds school accountable for results?	School's approved Innovation Plan serves as terms and conditions	Board of Education and applicant negotiate based on charter application	School's application documents serve as terms and conditions, and the Joint Steering Committee holds schools accountable
If yes, what is the term of the agreement and the process for renewal?	School is reviewed by BOE every three years; Plan may be revised (with staff and SAC approval) or revoked based on academic performance.	At least three years; may be renewed for successive terms	Every three years, Joint Steering Committee will make recommendation to BOE for continuing status as a Pilot School
Is there a district liaison with special authority to monitor and/or support these schools?	Depends on district	Depends on district	Yes – Joint Steering Committee consisting of AEA president, UniServ Director, superintendent, Division of Instruction representative, three teachers, three administrators, one parent, and one classified employee representative.
Are there additional reviews that the schools are required to undergo?	No, other than any required by the Innovation Plan.	No, other than any required by the contract	Yes – Pilot Schools have annual reporting requirements and oversight reviews by the Joint Steering Committee, and undergo extensive School Quality Review process every three years.
	Innovation School	District Charter School	APS Pilot Schools
STATE AND DISTRICT WAIVERS			
Is the school automatically granted waivers from district or State statutes, rules or regulations?	Once application is approved by BOE, district policies requested in Plan are waived	Yes – waivers granted from 13 State statutes automatically by State BOE; school only subject to district policies according to charter	Yes, within parameters contained in Pilot Schools Manual

If yes, which ones?	Those requested in Plan; districts are free to set up lists of "automatic" waivers	Generally, provisions relating to hiring, evaluation, and termination of staff. See CDE waiver application for complete list.	District policies identified in the Pilot Schools Manual or those granted as part of the approval process. Policies mandated by the State cannot be waived.
If yes, are there policies that the school CAN'T waive? If so, which ones?	District policies mandated by the State; districts may also advise applicants of policies that it will not waive	State BOE not allowed to waive provisions related to CSAP, school accountability reports, School Finance Act, or the Children's Internet Protection Act	District policies mandated by the State; State statutes and regulations
May the school request waivers from district and State policies?	Yes, in Innovation Plan	Yes, additional waivers may be requested in charter school application and submitted to State BOE	Yes, a school may request waivers from district policies not identified in the Pilot Schools Manual
If yes, are there policies that they CAN'T waive? If so, which ones?	State BOE is not permitted to waive statutes specified in CRS 22-2-117(1) (b) (School Finance Act, Exceptional Children's Education Act; provisions related to data required for school accountability reports; provisions related to background checks for employees; and the Children's Internet Protection Act); provisions related to retirement systems; and provisions not contained in the State education code.	See above	District policies mandated by the State; State statutes and regulations
What is the process for approving waiver requests and who makes the ultimate decisions?	Waivers from requested district policies granted upon approval of Plan by BOE; request for waivers from State policies must be made by BOE to State Board of Education, which grants requests upon designation of district as District of Innovation; request for waivers from collective bargaining agreements obtained upon designation of district as District of Innovation AND approval by 60% of members of bargaining unit employed at school	State BOE makes decision about additional State waivers that are requested by the district on behalf of the school	Automatic district waivers upon granting of status by BOE; after initial approval, additional waivers may be requested from the BOE
	Innovation School	District Charter School	APS Pilot Schools
EMPLOYMENT TERMS AND CONDITIONS			

Are staff members of the school employees of the district or the school?	District	May be employed by either. If employed by district, may take up to three one-year leaves of absence to work at charter schools, then district decides whether employee will remain a district employee.	District
Do staff members have individual contracts with the school?	No, unless part of Innovation Plan	Depends on charter	Yes – Annual election-to- work agreements cover site- based terms and conditions
Is the school required to use the district salary schedule for teachers?	This may be a waiver requested in the Innovation Plan	No	Yes, but may provide additional compensation within the school budge
Is the school required to use the district salary schedule for principals?	This may be a waiver requested in the Innovation Plan	No	Yes
Are teachers in the school required to hold CO teacher licenses?	Yes	No, except for special education teachers	Yes
Who makes decisions about hiring and evaluating teachers at this school?	Depends on Innovation Plan	School is responsible for personnel issues; process will depend on charter	School may select its own teachers from inside or outside APS. Principal has final authority, although teachers expected to be involved. Principal evaluates teachers.
What authority does the principal have to remove teachers?	Depends on Innovation Plan	School is responsible for personnel matters; process will depend on charter	May require transfer out of school if teacher is not a match; or may terminate consistent with evaluation process
Who hires and evaluates the principal of the school?	Depends on Innovation Plan	Governing Board	Governing Board selects principal; district hires. GB has input into annual evaluation conducted by district, annually recommends retention or termination
Do staff members of these schools participate in district benefit and retirement programs? Fully? Partially?	Depends on Innovation Plan	Employees are covered by public employee retirement system. Teachers and schools contribute appropriate respective amounts as required by programs.	Yes, fully
	Innovation School	District Charter School	APS Pilot Schools
COLLECTIVE BARGAINING			
Can the school opt out of the district's collective bargaining agreement?	Yes	Yes	No

If yes, is this automatic or does the school have to ask to opt out of the agreement?	Provisions of CBA may be waived once district attains District of Innovation status and negotiates contractual waiver provision with union; waiver of specified provisions occurs then waiver is approved by 60% of bargaining unit members through a secret ballot	Automatic	n/a
Can the school waive portions of the district's collective bargaining agreement?	Yes	n/a	Yes – the MOU specifies waivers
If yes, are there some portions of the agreement that the school CAN'T waive?	No, unless bargaining unit members fail to ratify waiver	n/a	Salary, benefits, seniority, transfer rights
If yes, what is the process by which schools ask for waivers from the agreement?	Provisions of CBA may be waived once district attains District of Innovation status and waiver of specified provisions is approved by 60% of bargaining unit members through a secret ballot	n/a	Automatic upon granting of status; BOE may consider additional subsequent waivers
Is there a separate/ different collective bargaining agreement for this type of school (as compared to the agreement for other schools in the district)?	No, although nothing would prevent the district and union from agreeing on automatic packages of waivers for Innovation Schools	No, unless one is negotiated between the school and its employees	Subject to terms and conditions in MOU negotiated between district and union

	Innovation School	District Charter School	APS Pilot Schools
CURRICULUM AND ASSESSMENT			
Is the school required to use the district- approved curriculum?	This may be a waiver requested in the Innovation Plan. The statute encourages innovation in curriculum.	No, the school can use any program that is effective and not prohibited by State law	No, the Governing Board can choose any curriculum as long as there is a core curriculum for all students
If the school chooses a different curriculum, does the district need to approve it first? If so, how does this process work?	District approves through approval of Innovation Plan	No	See above

Is the school required to participate in district professional development? If so, which trainings & development days are required?	This may be a waiver requested in the Innovation Plan. The statute encourages innovation in professional development.	No	No
Are there instructional approaches that school is required to use?	No	No	No
In addition to State- mandated assessments such as CSAP, is the school required to use any other types of assessments (e.g., district benchmarking or other types of diagnostic or interim assessments)?	This may be a waiver requested in the Innovation Plan. The statute encourages innovation in assessments.	No	School can opt out of additional district assessments if it can demonstrate commensurate assessments
	Innovation School	District Charter School	APS Pilot Schools
FINANCING AND BUDGET			
the following choices, which is the closest description of the funding model for this type of school: (1) More than 95% of the PPOR follows student to school & school pays for all expenditures & services; (2) Some PPOR follows student to school for selected expenses, remainder is withheld by district in exchange for services; (3) District provides majority of services and pays for most expenditures & school has relatively small discretionary budget for selected expenses/ needs. (4) Other	The funding model may be any of these or some other model, depending on the terms of the Innovation Plan.	100% of PPOR goes to school; district may retain up to 5% for actual costs of administration School may contract with district or third parties for services. In districts that retain exclusive chartering authority and where at least 40% of district enrollment consists of at-risk pupils, the district may only retain actual administrative costs up to 5%	Schools receive a lump sum that is equivalent to the district average for the grade level (elementary, middle, K-8, high, or alternative high)
If school employees are employees of the district, does the school budget reflect average or actual teacher salaries? What is the process used to determine how much money for staffing and/ or teachers the school receives?	The contents and structure of the school budget depend on the terms of the Innovation Plan. The statute encourages innovation in compensation.	n/a	The school receives a lump sum representing average salaries, but may make expenditures based on real salaries. Pilot Schools are held harmless for BOE- approved increases in salaries, including general salary increases and steps in the salary schedule.
Are there services that the schools are required to purchase or receive from the district?	The services to be provided by the district depend on the terms of the Innovation Plan.	No, except as required by the contract	APS publishes a list of discretionary district services that Pilot Schools can purchase; if the school opts to not purchase the service, the school receives that additional amount in its lump sum

How does the school access federal revenue (e.g., Title dollars)? Are there restrictions on how federal funds can be used? If so, please describe.	These terms may be contained in the Innovation Plan.	Under State law, the district must pass along a proportionate share of federal categorical aid Federal grant programs specifically for charter schools may also be available through the State department of education	The MOU provides that the school will receive its "fair share" of district grants if it adopts the district initiative
	Innovation School	District Charter School	APS Pilot Schools
FINANCING AND BUDGET			
How does the school access other State or district-level funds and which ones do they receive automatically (e.g.,. State grant programs, district mill levy)?	These terms may be contained in the Innovation Plan.	Charter schools may be part of district bond and mill levy elections under specified circumstances Access to other State or district-level funds depends on the situation	School must coordinate grant applications and grant activity with the district's grant management department, and must follow district policies relevant to grants, leases, and contract arrangements
Are additional funds available for "high-cost" students such as English language learners?	These terms may be contained in the Innovation Plan.	Depends on contract.	Yes, APS provides ELL and special education services to Pilot Schools outside the lump sum, at the same level provided to other schools
Are additional funds available for preschool programs or extended day programs at the school?	These terms may be contained in the Innovation Plan.	Depends on contract.	No
Is there start-up funding available for these types of schools?	Not at present, although statute encourages schools and districts to seek gifts, grants, and donations for the purpose of planning and implementation	Yes, start-up grants of $150,000 to $175,000 are available through the Colorado Charter School Grant program; some assistance also available from foundations	Start-up funds are provided to new schools like any new district school; district provides 24 hours of facilitator time to both new and conversion schools
Is the school required to purchase its own insurance?	No	Yes	No
	Innovation School	District Charter School	APS Pilot Schools
FACILITIES			
Is the school guaranteed use of a district facility	These terms may be contained in the Innovation Plan.	No	No. School must have secured "district-approved" facility prior to application.
If yes, does the school pay the district for use of the facility? If so, how does this financial arrangement work?		If a district-owned building is "available," the school does not have to pay rent, but typically will pay for maintenance, utilities, and custodial costs	

What happens if the district does not have a suitable facility for the school's use?	These terms may be contained in the Innovation Plan.	School may purchase or lease another facility	School may use another facility, as long as it is district-approved.
Does the school have access to district bond funds or other funds to offset facility-related expenses?	These terms may be contained in the Innovation Plan.	Yes, school may request inclusion on district bond issue; may apply for funds appropriated under State's Charter School Capital Construction program	Not known
	Innovation School	District Charter School	APS Pilot Schools
SCHEDULES			
Is the school required to follow the district annual calendar?	This may be a waiver requested in the Innovation Plan.	No	No, but must meet minimum instructional hours
Is the school required to follow the district's daily schedule for similar schools or can it set its own daily/weekly schedule?	This may be a waiver requested in the Innovation Plan.	No	No
	Innovation School	District Charter School	APS Pilot Schools
ADMISSIONS AND ENROLLMENT			
Is this a school of choice or are kids assigned to it (e.g., neighborhood school, catchment zone)?	These terms may be contained in the Innovation Plan.	School of choice	First open to students within boundary, then open to students of district in a way that reflects the diversity of the district
Does the school handle its own admissions process or is it handled by the district?	These terms may be contained in the Innovation Plan.	Depends on charter	Combined effort between school and district
Must the school accept applications from students with special needs?	Yes	Yes	Yes
What happens if the number of applicants exceeds available slots? Must the school run an admissions lottery? If so, can it give preferences in the lottery (e.g., siblings, children of staff, board, targeted populations to ensure diversity, etc.)?	These terms may be contained in the Innovation Plan.	Enrollment decisions must be made in a nondiscriminatory manner as specified in the charter application; however, to access federal grants, school should have a lottery process	A lottery is used; schools may not screen on the basis of academic achievement and must enroll students who are representative of the district as a whole
	Innovation School	District Charter School	APS Pilot Schools
CHOICES ABOUT SERVICES AND PROVIDERS			

Can the school affiliate with or contract with external education service providers or management organizations? If so, do they need district permission to enter into these contracts?	These terms may be contained in the Innovation Plan. The statute encourages innovation in the provision of services.	Yes	Yes. If school chooses not to use district services approved as discretionary, it notifies the district so that it will receive funds equivalent to the value of these services.
Do students in this school receive district transportation services? If so, is there an added cost for this service?	These terms may be contained in the Innovation Plan.	Charter may choose not to offer transportation services, or to offer it through the district of a private provider. School may charge fee.	Yes. Added cost to school only if school's schedule requires special accommodations.
Do students in this school receive district food services?	These terms may be contained in the Innovation Plan.	Students may receive district food service (and have access to federal nutrition programs); receive food services from the district or another caterer ala carte; or bring their own meals from home	Depends on Pilot School Application.
Who is responsible for ensuring that special education services are available?	Administrative Unit for Special Education (district or BOCES)	Administrative Unit for Special Education (district or BOCES)	Administrative Unit for Special Education (district)
Who provides special education services to students?	These terms may be contained in the Innovation Plan. The statute encourages innovation in the provision of services.	Depends on contract. May be school, district, or third- party provider. Under federal law, district must pass along proportionate share of special education funding, but may be in cash or in service.	District staff – all responsibility for special education services is retained by the district and district provides services at no additional cost to the schools
If the district provides the services, does the school pay a fee to the district for these services? If so, how much and what does it cover?	These terms may be contained in the Innovation Plan. The statute encourages innovation in the provision of services.	Depends on contract.	No
If the school provides its services does it receive special education revenue to offset these costs? If so, how much?	These terms may be contained in the Innovation Plan.	Depends on contract.	n/a
If a parent complaint or lawsuit is brought forward re: special education at the school, which entity is legally responsible (district or school)?	District as Administrative Unit for Special Education	District as Administrative Unit for Special Education	District as Administrative Unit for Special Education

Exhibit F-7: Innovation Schools Act of 2008 Fact Sheet

Colorado Department of Education
201 East Colfax Ave. Denver,
CO 80203-1799
Phone: 303-866-6631

Fact Sheet

Innovation Schools Act of 2008

The Act allows a public school or group of public schools to submit to its school district board of education an innovation plan to allow a school or group of schools to implement innovations within the school or group of schools. The innovations may include but are not limited to innovations in:

- delivery of educational services,
- personnel administration and decision-making, and
- budgeting.

The Act requires the local board to review each submitted plan and approve the school as an innovation school or the group of schools as an innovation school zone or reject the plan.

The Act also allows a local board to initiate creation of a plan in collaboration with one or more schools of the school district. The law specifies the minimum contents of a plan, including the level of support needed from the personnel employed at the affected schools.

The Act encourages schools, groups of schools, and local boards to consider innovations in specified areas and to seek public and private funding to offset the costs of developing and implementing the plans.

Following creation or approval of one or more plans, the law allows a local board to submit the plan to the commissioner of education and the State board of education and seek designation as a district of innovation.

The Act directs the commissioner and State board to review and comment on the plan, and directs the State board to make the designation unless the plan would likely result in lower academic achievement or would be fiscally unfeasible. The law requires the State board to provide a written explanation if it does not make the designation.

The Act directs the State board to grant any statutory and regulatory waivers requested in the plan for the district of innovation, however, certain statutes may not be waived by the State board.

A district of innovation must demonstrate how the affected schools will comply with the intent of the waived statutes or rules. The law further allows for modification of the waivers based on modifications made to the plan over time.

The Act requires the collective bargaining agreement for each district of innovation to allow for waiver of identified terms of the agreement for personnel at an innovation school or a school within an innovation school zone. The law allows a district of innovation to hold elections in innovation schools and in each school within an

innovation school zone to approve the waivers, and requires waivers to be approved by a vote of at least 60 percent of the personnel at the affected school who are members of the collective bargaining unit.

The Act specifies that a district of innovation is not required to seek waivers of terms of the agreement. If an employee of a school that receives a waiver of a term of an agreement requests a transfer, directs the district to make every reasonable effort to transfer the employee.

The Act allows for modification of the waivers, with a vote, based on revisions to the plan for the innovation school or innovation school zone.

The Act requires the local board of a district of innovation to review the performance of each innovation school or school within an innovation school zone every 3 years following approval of the plan to determine whether the school is achieving or making adequate progress toward achieving the academic performance results specified in the plan.

The Act allows the local board to revise the plan in collaboration with the affected school and subject to the consent of specified personnel at the affected school and affected school accountability committee(s).

The Act allows a local board to revoke a plan and a school's innovation status or the designation of an innovation school zone if student academic performance at the affected school or schools does not improve at a sufficient rate.

Beginning March 2010, the law requires the commissioner and the State board annually to report to the governor and the education committees of the general assembly concerning implementation of the Act and to post the report on the department of education's web site.

The Act allows the local board of a district of innovation to delegate to an innovation school or a school in an innovation school zone certain duties and powers relating to personnel.

EFFECTIVE May 28, 2008

Added 22-32.5-101 (entire article); amended 22-32-109(1)(f)(I); 22-32-110(1)(h).

Exhibit F-8: Choice and Innovation: Stimulating Education Reform

CHOICE AND INNOVATION

Stimulating Education Reform

DWIGHT D. JONES

COLORADO COMMISSIONER OF EDUCATION

APRIL 6, 2009

The Urgency for Change

There are more than 47,800 teachers in 1,771 schools in 178 districts across Colorado who are dedicated to teaching our children. I have seen them in action; I have visited classrooms and spoken to principals and administrators. Literally thousands of people are focused on raising student achievement in Colorado. All of them are working hard. And students are learning. But are all of our students learning enough?

Consider these facts:

- Colorado ranks 46th in the nation with respect to the high school completion rate.
- Hispanic students graduate from high school at *half* the rate of white students.
- Colorado's gap between postsecondary degree attainment of white students and Hispanic students is the largest in the United States.
- For the first time in history, American young people are less likely than their parents to complete high school.

At a time when nations like India and China are producing more and more college-educated citizens, industries with the greatest potential for future job growth in the United States are requiring more postsecondary education. And Colorado is persistently lowest-achieving to get many students through high school.

As resources decline and the economy remains uncertain, our success will depend on our ability to provide students with the knowledge and skills they need to thrive in college, the incentives and motivation to work hard in the marketplace, and the opportunities and outcomes to contribute to society.

To ensure the State's prosperity (or regain it, in some cases), the State must change the way one teaches to match the many contexts of student learning. The State must be innovative and expand our notion of school choice to improve capabilities, incentives, opportunities and outcomes for students in Colorado. The innovation grant program included in the American Recovery and Reinvestment Act of 2009 provides an extraordinary opportunity for us in this regard. Our mission is clear: The State must reform education.

Choice as Education Reform

Education reform is easy to talk about, and harder to do. By definition, *reform* means doing something better. If Colorado reform educations, the State must not only do things better and/or the State must get better results.

One way to begin the reform process is to rethink our view of choice.

For me, the notion of choice in public education has more to do with every child's right to an education that prepares each of them for success, and less to do with freedom to pick the style of school you like best. I believe that to deliver on the promise of success for all students, the State must cultivate new ideas and find ways to expand and sustain effective options. In a world of growing diversity, no single approach to schooling works for all students.

While schools must be well-adapted to current conditions, they also must be adaptable to changing conditions. Though resources shrink, expectations continue to rise. Changes in demography, law and technology should prompt us to rethink basic assumptions about how schooling is carried out – especially in light of the emerging economies that challenge America's leadership position in the world.

Choice and Innovation

To expand options for parents, students and educators in Colorado, the State needs a system that supports and provides incentives for innovation. Clayton Christensen, author of *The Innovator's Dilemma,*[i] argues for two types of innovation: one that improves on existing processes, and one that boldly changes an entire system. He suggests that this combination is necessary because it drives improvement and transforms operations.

Most existing school reform consists of process improvement. And when implemented well, process improvement can indeed yield positive results. However, substantial reform requires system redesign – anything less is like sailing to find new lands but hugging the shoreline. To find new lands you must cut across open water, which is risky and thus viewed as undesirable by the mainstream. But it also offers the greatest potential for attaining the goal. Thus, bold leadership is required to commit the resources necessary for successful implementation. In the words of Frederick Hess, "Solving new problems or more effectively addressing stubborn problems has been the province of new entrants. The challenge is not simply promoting best practices or loosening regulations but encouraging new ventures that can solve problems more effectively." [ii]

By encouraging these "new ventures," the State recognizes that innovation and choice are inextricably intertwined. Only with innovation are meaningful options created; greater incentive for innovation exists because of the opportunities to choose from these options. In Colorado, open enrollment has allowed parents to select schools best suited to their children's needs, while the charter school and innovative school acts, as well as the creation of alternative teacher certification pathways, have led to even more options for parents, students and educators.

Choice and innovation present themselves in a variety of ways:

For parents and students:

- Gender-specific schools.
- Home schools.
- Charter schools.
- Online schools and learning centers.
- Alternative schools.
- Virtual schools that provide customized curricular interventions.
- Residential schools.

For educational delivery:

- Postsecondary trade schools, colleges and universities.
- Education management companies.
- Charter management organizations.

- Proprietary schools that businesses develop as alternatives to traditional school settings.
- Industry-partner schools that provide students the opportunity to study within a given field.

Incentives for innovation:

- Developing creative funding solutions by increasing collaboration between the public and private sectors.
- Establishing incentive funding for schools and districts that show exceptional improvement in student performance.
- Developing new incentives to reward students for educational performance.
- Partnering with existing institutions to develop performance-based compensation systems

Choice and Innovation in Colorado

Recently I visited with the superintendent in Aurora Public Schools to learn about new career-pathways programs the district has implemented to engage students within science, math, engineering and technology fields. The Galaxy Initiative[iii] is designed to guide students to STEM-related professions through rigorous academic programs and associated field experiences beginning in elementary school and continuing through high school and into college. Aurora's LIGHT's program[iv] provides career-pathway experiences for students in the health sciences. This program has been developed in partnership with the University of Colorado Health Sciences Center and the Community College of Aurora. The career-pathways programs include specialized training, tutoring, mentoring, field experiences and college counseling. The district is also developing a P-20 integrated-instruction campus[v] that provides a seamless education from preschool to graduate school. The P-8 school is scheduled to open in 2010; the high school, in 2011. The physical site also allows for the construction of a college facility.

I was reminded of the power of online learning opportunities when I attended the Hope Online Learning Academy graduation ceremony in June 2008. The valedictorian, the first in her family to graduate from high school, spoke of her difficult road to graduation. With a full-time job and financial responsibilities not commonly required of a 17-year-old, she would not have been able to succeed without the opportunity to learn outside a traditional classroom setting and schedule.

In 2007-08, Denver Public Schools used a licensing waiver to implement the alternative teacher program Teach For America[vi] to recruit, train, place and mentor teachers to teach in hard-to-fill positions in schools with high poverty and low achievement growth. TFA develops a national corps of top college graduates who commit to teach for two years in under-resourced public schools. Working in collaboration with the Colorado Department of Education's licensing department, TFA has become an approved alternative teacher-preparation program. (The 2009 Colorado General Assembly is considering legislation that would allow non- profit groups like TFA to receive designation as Statewide teacher-preparation programs.)

At the Denver School of Science and Technology,[vii] each student has his or her own advisory group of 14 peers and an advisor. As DSST's first senior class gets ready to graduate in May 2009, 96.5 percent of seniors have been accepted into four-year colleges (the goal is 100 percent). A large sign shaped like a thermometer hangs in the entryway, displaying the school's progress toward that goal.

Highline Academy Charter School[viii] in Denver uses "benchmark grading" to provide each student and his or her teachers and parents a 12- to 15-page report card detailing specific areas on which that learner needs to focus. Beginning in kindergarten, all students are taught Spanish. A partnership with Denver University involves 50 graduate students who help teachers identify students requiring specific intervention plans and who assist with one-on-one student tutoring.

The Job Corps[ix] residential center in Collbran is making a tremendous difference in young lives. Job Corps is a

true last-chance option for students who have been expelled, detained in juvenile corrections and the like. Students follow a regimented plan in this strict setting, and are paired with staff mentors who meet with them weekly. In the end, each student who graduates from the program receives both a high school diploma and a professional certificate in a trade such as culinary arts, carpentry, masonry or painting.

Some Colorado districts are fostering relationships with their charter schools to promote healthy change. Lamar School District is one such example of a district charter school and district leadership working in close collaboration to meet the needs of students and their families. In fact, when I visited the district with the superintendent, Alta Vista Charter School was our first stop.

Blueprint for Change

Innovation and choice are necessary, but insufficient, to successfully redesign public education. Once innovative choice models are proven effective, the system is responsible to take these effective practices to scale. Finding solutions that work on a small scale and using them to produce improvement in performance on a large scale is the challenge. And this challenge can be daunting.

Effective change depends on the system's ability to learn. As Frederick Hess Stated, "The longer organizations exist and the more they thrive, the more difficult it can be to step away from established practices and adapt to changed circumstances."[X] Public education, a well-established system, is a difficult one to change.

In broad strokes, the goal is to generate new ideas and then generalize them. There are four steps in this process.

> Step One: Generate innovative ideas by engaging people with multiple perspectives. Thinking about complex systems in new ways results in new ideas.
>
> Step Two: Incubate promising practices and allow them to
>
> grow. Step Three: Take successful practices to scale.
>
> Step Four: Sustain success by tenacious implementation over time.

Step 1: Generate Innovative Ideas

When it comes to improving public education in Colorado, the State must have the courage to do just that. If the State participant, the State wants students to be truly prepared for their futures, traditional schools of the last century won't cut it. For innovation and an expanded view of choice to benefit public education, certain conditions must exist. Prescriptions for change follow from basic assumptions:

1. To address root causes, the State first must be explicit about the purpose. The purpose of public education goes beyond preserving access and opportunity. Equity of opportunity must be matched by equity of outcomes to ensure young people have what it takes to earn a living, live full lives and be contributing members of society in tomorrow's world. Success is – or should be – a birthright.

2. The State must confront the facts and correct the mismatch between assumptions and how the world works. The State is faced with a variety of mismatches. The skills schools teach are not well-aligned with workplace requirements – content proficiency, while necessary, is not sufficient. The way students are taught in school often does not match how today's students learn. If the State is in the business of success for all students, our education system must recognize that today's students learn differently than did yesterday's. Similarly, the system Colorado needs is one where students are the drivers of their education system, as opposed to the receivers of an inherited system. Districts need to recognize and leverage the increasing role of technology in

learning and in social interaction.

3. The need to intentionally introduce innovative educational approaches. Adam Urbanski, a nationally recognized leader in education reform, had it right. "If we always do what we've always done, we'll always get what we've always got." The system in Colorado is perfectly designed to produce the results for the current system. When it comes to improving schools, this much is certain: To expect better results, the State has to do things differently.

   Examples of efforts to generate new ideas, take effective innovations to scale and support their sustainability follow:

- Leadership Center: Research shows leadership is second only to instruction in factors that impact student achievement. The Colorado State Legislature agreed when it established the School Leadership Academy Program (H.B. 08-1386) and directed me to appoint a School Leadership Academy Board [xi] to provide advice on the implementation of a State leadership development center for superintendents, school board members, principals and school leaders. Strategic leadership development models being considered in Colorado include innovative entrance pathways, job-embedded training, mentoring, fellowships and networking opportunities.

- The Colorado Math, Science and Creativity Academy: Seventeen States have a residential high school that fosters the development of math and science. I propose establishing the Colorado Math, Science and Creativity Academy to provide an environment to grow the math, science and creative talents of Colorado students, thus reinforcing our capacity for Statewide, national and global competitiveness. Such a school would also serve as a laboratory for teaching and learning.

  The vision for the academy is a place where high school, higher education and business partnerships thrive and produce innovative efforts to improve math, science and creative education. Exceptionally gifted students from across Colorado would have the opportunity to learn, create and conduct research alongside Colorado's most talented scientists, mathematicians and Nobel laureates. Teachers would be able to "intern" and gain professional development in a culture-rich environment.
  More, students would create relationships with local and State organizations and corporations, which would increase the likelihood of placing Colorado talent in the State's fastest growing industries.

- Online Learning: How well prepared are States to lead, guide and support the shift of education delivery to online? According to some reports, by 2019 nearly half of all high school courses will be delivered online.[xii]

  Colorado needs to make a larger commitment to grow fledgling online programs across the State. As more and more Colorado families choose online learning as either the primary means of education for their children or as a supplement to brick-and-mortar education, the State is responsible for ensuring a level of accountability in order to deliver a high-quality educational program.

  According to the 2008 *Keeping Pace With K-12 Online Learning* report by Evergreen Consulting Associates, a total of 44 States offer some type of online learning option for K-12 students. There are currently 25 State-led programs and eight State-led initiatives across the nation. Full-time online schools are the second most common online learning option, and 21 States have these types of

  programs, most often as charter schools. Of those 21 States, only six – including Colorado – have no State-led program directly under the department of education (though they do have numerous multi- district, full-time online schools).

  Research, Development and Information Management: I believe a State department should be an outstanding source for high-quality research and information about critical aspects of the performance of our

educational system. The reality is, the State does not have all the answers. Our ability to reach a high standard for capacity in this area requires that the State partner with others. To that end, the State is sponsoring efforts to make educational data more easily accessible to researchers. Through public and private partnerships, the State is developing new information management tools for educators to manage the performance of their classrooms, schools and districts. These systems, such as the Colorado Growth Model and the forthcoming education identifier system, will allow us to more accurately make meaningful connections about successes and failures so necessary adjustments can be made.

- International Benchmarking: A recent publication on international benchmarking States, "We are living in a world without borders. To meet the realities of the 21st century's global economy and maintain America's competitive edge into the future, we need students who are prepared to compete not only with their American peers, but with students from across the globe for the jobs of tomorrow." [xiii]

  Further, "Around the globe, governments are eagerly comparing their educational outcomes to the best in the world. Their goal is not just to 'see how they rank.' Rather, they want to identify and learn from top performers and rapid improvers. … While education may not be the only lever for ensuring prosperity in an age of globalization, it is a tremendously important one."[xiv]

  One example of how Colorado acknowledges the value of this global competition, if you will, is in an International Baccalaureate (IB) education. IB high school students in Colorado are guaranteed 24 college credits with an IB diploma. There are many IB programs being offered around the State: 19 primary programs, 27 middle year programs and 23 diploma programs.

4. The State must set sensible boundaries for our creativity and inventiveness. Innovation is much more than just a big idea. Innovation requires creativity tied to a purpose. When schools are successful in providing an education that yields increased achievement for all students and decreased achievement gaps, they should have greater autonomy. When schools persistently underperform, they should be shuttered. While Colorado as a society wants to promote success for the individual student, the State also wants to enhance the common good. To effectively manage such choice and innovation, local school boards may be well-served to consider their role as education portfolio managers. The State should support school district capacity to carry out this role, placing greater emphasis on performance management and oversight of student outcomes.

5. The State's need to identify effective models and take them to scale.
   When choice models result in improved student learning and higher levels of academic achievement, the State should encourage the expansion of these models into schools and districts across the State. Mechanisms to broaden the impact of effective ideas include the following:

   Expansion of local success stories: Local education leaders are conducting research and piloting practices within their districts and schools to determine what works, as well as what doesn't. Replicating local models Statewide would expand the scope of their work.

   Leveraging existing resources to expand effective practices: At present, Title I funding does not provide incentives for implementing proven practices. Repositioning Title I to ensure schools and districts with the greatest need provide the appropriate, educational choice for students is one example. Establishing a portability process for Title I, so that funding follows the student who qualifies for it, is another.

   Funding: Under the current system, funding for a given year is based on the annual Oct. 1 student count. To provide the proper incentives, dollars should follow both student need and student results. While adjustments should be made to ensure greater funding for schools and districts with high poverty and other challenges, such funding streams should continue to flow only in the presence of increased academic performance.

Richard Elmore says, "For every increment of performance I demand from you, I have an equal responsibility to

provide you with the capacity to meet that expectation."[xv] In a local-control State like Colorado, the challenge is to provide State-level support that takes into account local needs while expanding the capacity for innovation and improvement. As the State uses these assumptions to provide direction and guide action, the State's objective emerges clearly: Capacity building is central to the mission of the Colorado Department of Education.

In Closing

The Colorado Department of Education's commitment to inviting, supporting and expanding effective innovations in education stems from a belief that what matters most is learning – for students and those who teach and care for them. An atmosphere that fosters innovation recognizes that both success and failure are part of learning, and that the generation of new ideas is systematically followed by the pursuit of promising practices and implementing what works.

To be a great State, one must be an educated one. I believe that creating an open sector in Colorado public education – one in which innovators are able to try new forms of school and schooling – will better serve our students and their learning. Such a system will not come without risks, but faced with the current economic challenges, the State must stand firm in our investment in choice and educational reform.

Innovative approaches are the answer to difficult times. They are the bridge between today's challenges and tomorrow's opportunities. Responsible leadership requires that State to take what is known and learn, and apply it in ways that raise achievement of all students, especially those who are currently underachieving.

It is *this* kind of educational reform that will produce citizens who are all knowledgeable and skilled, empowered with high expectations and truly prepared to create a successful future. ∟

Exhibit P-1: Description of the Colorado STEM Network

The Colorado STEM Network

In 2006, National Governors Association chose Colorado and five other States to promote STEM activities in the State, creating the Colorado STEM Network. CSN was among the grantees and serves today in the vital role as an intermediary among all of stakeholders including workforce and economic development, business and industry, K-12, higher education, and informal education organizations. The Colorado Stem Network (CSN) was organized for the charitable and educational purposes to promote systemic, continuous and sustainable improvement of Science, Technology, Engineering and Mathematics (STEM) education in Colorado and to leverage those partnerships to enhance the 21st Century workforce. The organization is comprised of an Executive Director, Nicole L. McGee, and a 16-member Board of Directors. CSN's membership and activities are designed to advance sustainable improvement of STEM education for all students.

The Colorado STEM Network has two components: a State-level coordinating center and a network of regional STEM compacts. CSN oversees the activities of the STEM compacts, who are working to identify the assets and gaps in STEM education across the State and provide a feedback loop to State policymakers and educators. In this proposal, the CSN would serve as the oversight organization for STEM in Action and other STEM related activities. CSN would provide the structure for the State's SchoolView system and coordinate the efforts to populate the system with video and educator materials. CSN affiliate STEM Centers would be responsible for disseminating information, train educators to the use the site, and connect educators to organizations that provide live opportunities as well as real-time data and models.

Exhibit P-2: Description of STEM in Action

STEM in Action

In 2007, the Denver Museum of Nature & Science (DMNS) launched an interactive Distance Learning program to give students a window into the world of scientists, to help students realize their own scientific abilities, to open their eyes to science careers, and to highlight the work of DMNS scientists and their colleagues. In this proposal, Race to the Top funds would be utilized to replicate and expand this program with DMNS and other informal science organizations. Funding would allow for content expansion to include all the elements of STEM (science, technology, engineering, and mathematics) and connect the broadcasting system to SchoolView.

Combining real science with digital technology offers the students a rare opportunity to become immersed in the world of scientific research, if only for awhile. This program is designed to promote critical thinking, build technology and communication skills, foster general scientific literacy, and allow students to see first-hand what it's like to be a scientist.

The genuine experience of interacting with a scientist, engineer, mathematician, or technology expert and his or her research cannot be replicated in books, videos or other media. The combination of authentic artifacts and specimens, compelling new research, and highly-skilled education staff help students understand why complex scientific information has direct relevance to their daily lives. STEM in Action works to dispel misconceptions of STEM by having students see professionals in realistic settings across content areas, and showing diversity among these professionals with regard to gender and ethnicity.

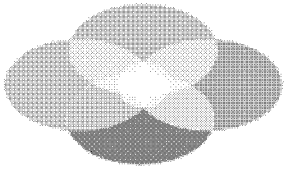
Teachers receive a pre-visit video profiling the scientist and their research. Classroom time is then used to develop informed questions to ask the scientists during the live broadcast. The students then interact directly with that scientist during the live session. Participants interact with the scientist from their school classrooms, or from one of the museum sites. The goal is to continue to have a high ratio of students participating (i.e. standing up and asking a question of the scientist) versus having students watching passively – thus creating a more impactful learning opportunity. This program focuses on providing participants multiple experiences through various media (DVD, classroom discussion and live broadcast) to scaffold learning around the same content area. Offered together these experiences develop relevant science process skills and habits of mind activities, all critical steps to becoming scientifically literate.

This proposal would also utilize DMNS' current approach to broadcasting, or "field casting" STEM in Action live from multiple and often remote locations to through IP-based communications over a satellite transport. To accomplish this, the State uses a narrow-band portable satellite system combined with an IP-based video-conferencing system – one unit located at the remote field site and one unit at the school site. The satellite service provides a fixed bandwidth of 512kbps while the video-conferencing system manages two-way video and audio communications. The State typically uses two video cameras, wireless microphones and other basic a/v equipment to provide multiple video angles, maximum mobility and near-HD production quality while in the field.

Exhibit P-3: Early Childhood Colorado Framework

Early Childhood Colorado Framework

A COLLECTIVE VISION ON BEHALF OF COLORADO'S YOUNG CHILDREN AND THEIR FAMILIES.



EARLY CHILDHOOD COLORADO PROVIDES A **FRAMEWORK** THAT:

- Recognizes the needs of the whole child and family.
- Communicates the vision for comprehensive early childhood work.
- Focuses on specific measurable outcomes.
- Guides, organizes, and focuses the actions and accountability of public and private stakeholders.

THIS WORK IS GUIDED BY THE FOLLOWING **PRINCIPLES**:

- Be child-focused and family-centered.
- Recognize and respond to variations in cultures, languages, and abilities.
- Use data to inform decisions.
- Build on strengths of communities and families.
- Focus on children from birth to age 8.
- Promote partnerships.
- Act at state, local, and statewide levels.

GOALS

- Children have high quality early learning supports and environments and comprehensive health care.
- Families have meaningful community and parenting supports.
- Early childhood professionals have the knowledge, skills, and supports to work effectively with and on behalf of families and children.
- all children are valued, healthy, and thriving

OUTCOMES

	EARLY LEARNING	FAMILY SUPPORT AND PARENT EDUCATION	SOCIAL, EMOTIONAL, AND MENTAL HEALTH	HEALTH
ACCESS OUTCOMES	• Increased availability of formal education and professional development opportunities for early childhood professionals related to early learning standards. • Increased access to high quality early learning, birth through third grade.	• Increased availability and family use of high quality parenting/child development information, services, and supports. • Increased parent engagement and leadership at program, community, and policy levels.	• Increased availability and use of high quality social, emotional, and mental health training and support. • Increased number of supportive and nurturing environments that promote children's healthy social and emotional development.	• Increased access to preventive oral and medical health care. • Increased number of children covered by consistent health insurance.
QUALITY OUTCOMES	• Increased number of children meeting developmental milestones to promote school readiness. • Increased number of programs that are accredited and/or quality rated. • Increased number of schools that have leadership and educational environments that support young children's success. • Increased availability of community resources and support networks for early childhood practitioners, professionals, and programs.	• Increased number of children who live in safe, stable, and supportive families. • Improved family and community knowledge and skills to support children's health and development. • Increased family ability to identify and select high quality early childhood services and supports.	• Increased number of environments, including early learning settings, providing early identification and mental health consultation. • Improved knowledge and practice of nurturing behaviors among families and early childhood professionals.	• Increased number of children who receive a Medical Home approach. • Increased number of children who are fully immunized. • Increased knowledge of the importance of health and wellness (including nutrition, physical activity, medical, oral, and mental health).
EQUITY OUTCOMES	• Increased number of children with special needs who receive consistent early learning services and supports. • Decreased gaps in school readiness and academic achievement between populations of children.	• Increased availability and use of family literacy services and supports. • Increased availability of resources and supports, including financial and legal, to promote family self-sufficiency. • Increased coordination of services and supports for families and children who are at-risk or have special needs.	• Increased number of mental health services for children with persistent, serious challenging behaviors. • Decreased number of out-of-home placements of children.	• Increased percentage of primary care physicians and dentists who accept Medicaid and Child Health Plan Plus. • Increased percentage of women giving birth with timely, appropriate prenatal care. • Decreased number of underinsured children.

STRATEGIES FOR ACTION

- Develop and support use of early learning standards by families, programs, and professionals.
- Evaluate and recognize high quality programs with a comprehensive rating and reimbursement system.
- Develop, promote, and support high quality professional development and formal education for adults who work with young children.
- Monitor children's learning and development through screening and on-going assessments.
- Improve financial sustainability and governing efficiency of early learning programs and infrastructure.

- Strengthen coordinated efforts of public and private stakeholders to meet the needs of children and families.
- Strengthen and support family leadership through effective training models.
- Provide tools and information to families to strengthen their own engagement and involvement in their children's lives.
- Provide information to families to facilitate connection to services and supports.

- Promote caregivers' knowledge of the social, emotional, and mental health of young children.
- Provide early childhood professionals with effective practices that promote children's social-emotional development and mental health.
- Strengthen and support community-based mental health services that identify and serve young children.

- Enroll more children in health insurance programs.
- Promote and support use of standards for a Medical Home approach (including medical, oral, and mental health, as well as developmental, vision, and hearing screening and services).
- Strengthen coordinated efforts of public and private stakeholders to support health and wellness.

FOUNDATIONS

- Build and Support Partnerships
- Fund and Invest
- Change Policy
- Build Public Engagement
- Share Accountability
- Generate Education and Leadership Opportunities

Exhibit P-4: Description of Results Matter

Results Matter in Colorado

Results Matter is Colorado's early childhood assessment and accountability system, serving more than 44,000 children Statewide. Early childhood professionals in a multitude of diverse programs are actively engaged in: Assessing children's learning and developmental progress; Working with families to collect family outcomes information **and** Using child and family outcomes data to inform decision-making. Providers in the Results Matter system effectively use valid and reliable assessment tools such as the Creative Curriculum Developmental Continuum, the Work Sampling System, the High/Scope COR and the AEPS to assess learning and development in Language and Literacy, Social-Emotional Skills, Mathematics, Science, Creative Arts, Physical Development and Approaches to Learning. Through authentic assessment strategies such as ongoing observation, portfolio documentation and completion of developmental checklists, they identify and plan for the instructional needs of young children in their care.

Unique Features of Results Matter

Utility! From the beginning, Colorado has aimed for a system that provides useful information to support teachers and administrators in their day-to-day work as well as one that can meet accountability reporting needs. Through a commitment to ongoing professional development activities including technical assistance, the high quality of Colorado's assessment data indicates that Results Matter has been successful in using an ongoing, observation based assessment system that documents child progress in ways that inform teachers, interventionists and administrators AND that supplies automated reports for accountability purposes. Results Matter has succeeded in identifying one assessment process that is used as both a formative and a summative evaluation tool.

Inclusiveness! As State leaders and local stakeholders came together in 2004 to plan a Statewide system of assessment and outcomes measurement, one thing was clear—the strong desire for a single system for all children. Gone are the "silo days" where separate systems are developed for children based on funding sources. The Results Matter system is available and appropriate for all young children and families in Colorado, regardless of need or funding source. Participants include 100% of State funded preschool and IDEA funded programs, Head Start and numerous private child care programs. This means that the positive outcomes achieved through ongoing observation and timely teacher response to child need are impacting professional development and child progress in all kinds of early childhood settings. It means that assessment results can follow a child who moves to a new program. And, it also means that large amounts of data are being generated that provide an opportunity to study child and family outcomes in order to help inform planning at the child, program, community and State level.

Technology! All assessment information for Results Matter is recorded on secure online systems that allow the CDE immediate access to classroom, program, county and State level reports. Families can be given secure access to their child's records and can review and complete developmental checklists about their child. The newest phase of implementation includes training and support for teachers to use pocket digital video cameras to document child learning and development and to make those files part of the electronic portfolio in the online system. To make observation notes more readily accessible to families and team members, the option to use digital pens will be introduced in spring of 2010.

Visit us online: www.cde.State.co.us/resultsmatter/ or **email:** vendegna_n@cde.State.co.us

Exhibit P-5: P-3 Professional Development Task Force Work Plan

P-3 Professional Development Task Force Work Plan

The P-3 Subcommittee of the P-20 Council created a Professional Development Task Force to develop a 3 year plan to advance the effectiveness of early childhood teachers. The **Professional Development (PD) Task Force** will consist of 25-30 members, representing a broad range of stakeholders involved with the professional preparation of teachers, development and support of early education teachers who work with children birth to 8 years of age. Each member of the Task Force will serve on at least one Work Group.

Task Force Roles and Responsibilities

- Develop a common understanding of the current system for EC teachers in Colorado
- Propose a guiding vision and goals for a comprehensive professional development system for Colorado's early education teachers
- Identify and recommend strategies for implementing the plan and achieving goals
- Coordinate and integrate recommendations of the Work Groups into a coherent comprehensive plan
- Present the plan to the P-3 Subcommittee for approval

Four **Work Groups** will be established to develop recommendations in specific areas related to the development of a comprehensive professional development system. Work Groups can have representation from individuals not on the Task Force. Each Work Group will select co-chairs and a secretary who must be members of the Task Force. The co-chairs will facilitate the meetings and serve on the Steering Committee of the Task Force. The secretary will be responsible for taking minutes at each meeting and making sure all members have been notified of meeting times and place.

Staff support

The Director of the Head Start State Collaboration Office will be the lead staff person for the Task Force and will coordinate the work of four interns: 3 from the Buell Early Childhood Leadership Program and 1 graduate student at the Marsico Institute.

The Four Work Groups

Teacher Preparation (i.e. professional standards, credentials, licensure, endorsements, articulation; system structure)

1. Recruitment and Retention (i.e. teacher characteristics/disposition, qualifications, career pathways, outreach, compensation; incentives)
2. Financing and Policy (i.e. access and equity)
3. Accountability (i.e. data, teacher evaluation, child outcomes, educator identifier)

Work Group Roles and Responsibilities

- Provide background on the current landscape in Colorado
- Develop expertise related to research on best practices and outstanding models in area of focus
- Explore "outside the box" ideas
- Develop specific recommendations for goals and action steps related to the group's areas of focus
- Recommend priorities and establish timelines within and among goals and action steps
- Determine resources needed to achieve goals
- Identify potential barriers and strategies for eliminating barriers
- Present recommendations to the Task Force

Exhibit P-6: State Collaboration Agreement on Longitudinal Data Systems

State Collaboration: Longitudinal Data Systems, Data Visualization, Research and Development

Agreement for Execution - Effective Date: April 13, 2010

The terms on these two pages outline the initial agreement for a collaborative effort to co-locate state longitudinal growth data sets for the purpose of creating common data visualizations that build upon the Colorado Growth Model.

1. ***Agreement to Participate***. Each Chief State School Officer signs on to the collaborative research and development effort and agrees to the participation of the Chief's designee, chief information officer, and state assessment director or director of research and evaluation.

2. ***Common Longitudinal Growth Measure***. Each state agrees to calculate growth percentiles in the same manner using R (programming language) to allow common cross-state comparisons and data visualization development related to normative and criterion-referenced growth.

3. ***Common Display Platform***. Each state agrees to use the Colorado Growth Model Version 1.0 or 1.5 display layer as an initial common visualization platform.

4. ***State Branding***. Each state may rebrand the display layer (e.g., "The Indiana Growth Model") and will provide mutually agreed upon attribution to Colorado and the National Center for the Improvement of Educational Assessment.

5. ***Common Development Environment***. To the extent practicable, each state agrees to load its longitudinal data set into a common, standardized data storage environment with appropriate security. This storage environment may be a cloud-based, virtual environment. The purpose is to permit common cross-state enhancement of the data visualization tools by the application developers. The application developers for Versions 1.5 and 2.0 will be the Colorado Department of Education, the National Center for the Improvement of Educational Assessment, and Universal Mind.

6. ***Enhancements to the Display Layer.*** Each state agrees to collaborate in the development of a common Version 2.0 of the Growth Model Display Layer. Such modifications will include, but not be limited to, postsecondary metrics, multi-year visualization and animation, inclusion of teacher identifiers, multiple axis selection, enhanced mapping functionality. Each state may fund the development of different enhancements of the display layer. For example, a state may fund development of displays incorporating unique teacher identifiers and interim assessment data. Enhancement priorities will be established through consensus among the participating states.

7. ***Modifications Shared***. Each state agrees to collaborate in, and contribute know-how and financial resources to, the development of modifications and enhancements, which will be shared freely among each participating state, subject to the Creative Commons Attribution-

Non-Commercial-Share Alike 3.0 Public License (http://creativecommons.org/licenses/by-nc-sa/3.0legalcode).

8. ***Communications and Publicity***. Each state will collaborate on communications and publicity related to the collaborative effort, including an initial press release announcing the agreement.

9. ***Race to the Top and SLDS***. Pending each state's determination of the success and viability of the effort, each state agrees to include language in its Statewide Longitudinal Data Systems (SLDS) Grant and Race to the Top Proposal referencing the collaborative effort as part of the invitational priority related to enhancements of longitudinal data systems and include a budget item to support the collaborative.

10. ***Collaboration with CCSSO's LEARN Effort***. Pending each state's determination of the viability of the proposed CCSSO effort, each state agrees to associate this collaborative effort with the LEARN effort. In doing so, each state agrees to request that CCSSO make funding from the State Education Data Center available to maintain and enhance the initial collaboration, including funding for a common, standardized storage environment.

The undersigned parties agree to the terms outlined above.

The undersigned parties agree to the terms outlined above.

Signature _____ Date 11-2-09
Dwight D. Jones, Commissioner, Colorado Department of Education

Signature _____ Date 11-12-09
Tony Bennett, Superintendent of Public Instruction, Indiana Department of Education

Signature _____ Date 4/30/2010
Tom Horne, Superintendent, Arizona Department of Education

Signature _____ Date 4/20/2010
Tony Evers, State Superintendent, Wisconsin Department of Public Instruction

Exhibit P-7: Executive Order Creating Governor's P-20 Education Coordinating Council

EXECUTIVE ORDER B003 07

Creating the Governor's P-20 Education Coordinating Council

Pursuant to the authority vested in the Office of the Governor of the State of Colorado, I, Bill Ritter, Jr., Governor of the State of Colorado, hereby issue this Executive Order regarding the creation of the Governor's P-20 Education Coordinating Council, to be known as the P-20 Council.

1. Background, Need, and Purpose

Education is the foundation of Colorado's economy. For this reason, the development of a highly trained workforce is both a compelling State interest as well as a collective, inter- sector responsibility. Moreover, though considerably strained in recent years, Colorado's educational systems, if given the tools necessary to flourish, aligned appropriately, and financed adequately, have the potential to successfully satisfy all of the State's short- and long-term educational needs.

The preservation and expansion of Colorado's economy will require a substantially expanded workforce possessed of technical dexterity, creative industriousness, and scholarly talents comparable to those developed anywhere else in the world. Accordingly, State policies should not only emphasize the assessment of competencies needed for success in the 21st century economy, but also facilitate students' progress through the numerous pathways to college and careers while not presupposing occupational outcomes.

Unless reversed in the near-term, however, the ever-widening achievement gaps and postsecondary participation and completion rates among certain classes of students, especially those who are members of impoverished and historically underserved communities, will result in deepened economic disparities and lasting—though otherwise avoidable—strains on a variety of State-provided services.

As a State, Colorado cannot delay action. However, achieving the pledges found in the *Colorado Promise*, such as halving the high school dropout rate and doubling the production of postsecondary certificates and degrees by 2017, will require more than simply aligning education standards and assessments, it will require attentive, inclusive, ongoing conversations to understand and thoughtful, earnest actions to address the needs of and interconnections among the early childhood, K-12, and postsecondary educational systems; to correct current activities and potentially rethink State policies and expectations; to provide meaningful, detailed, and constructive measures of accountability; to embrace innovative approaches to education while strengthening traditional methods and ensuring high quality outcomes for all; to maximize the effectiveness of the State's investments in education; and align the products of the State's educational systems with the expressed needs of current and potential future businesses throughout the State. For these reasons, a Statewide P-20 Council is essential.

2. Mission and Scope

A. The purpose of the P-20 Council will be to provide a forum for considering options and providing recommendations for the achievement of the education oriented initiatives found in the *Colorado Promise*.
B. The P-20 Council shall facilitate Statewide conversations and convene sub- committees as needed to discuss and formulate the legislative and policy remedies needed to accomplish the *Colorado Promise*.
C. Topics to be addressed by the P-20 Council shall include, but not be limited to the following topics found in the *Colorado Promise*:
i. identifying options for expanding, monitoring, and effectively coordinating early childhood education;

ii. methods for engaging and retaining all students, thereby reducing the number of students who drop out of high school;
iii. approaches for recovering high school dropouts and adults in need of retraining;
iv. improving transitions between high school and postsecondary education, including establishing common high-school level expectations for competencies within certain content areas such as English, mathematics, and science;
v. identifying various methods to demonstrate attainment of the abovementioned objectives;
vi. developing innovative options for postsecondary matriculation, retention, and completion;
vii. improving the recruitment and retention of and supporting innovative approaches to competitively compensate high quality teachers;
viii. aligning federal and State financial aid policies in order to widen college access and maximize the utility of State-level resources;
ix. examining appropriate levels and potential sources of funding, including the resources needed to ensure the long-term sustainability of the State's educational systems;
x. enhancing accountability practices and improving Statewide data systems;
and,
xi. connecting regional and Statewide workforce needs with current and future educational capacities.
D. The P-20 Council shall make recommendations to the Governor regarding potential legislation, policies, and programs that will make progress toward the implementation of goals found in the *Colorado Promise*. Recommendations requiring legislative responses should be finalized no later than the last working day of November preceding the commencement of each legislative session.

E. The P-20 Council shall meet regularly at the discretion and direction of the Governor. Subcommittees formed by the P-20 Council shall determine their own meeting schedules.

3. Membership
A. The P-20 Council shall be composed of members appointed by and serving at the pleasure of the Governor B. The P-20 Council may create subcommittees as needed to address specific issues.

4. Duration
This Executive Order shall remain in force until further modification or rescission by the Governor.

5. Staffing and Resources
The Office of Policy and Initiatives within the Governor's Office shall provide to the P-20 Council necessary support, information, data, analytical information, and administrative support.
The P-20 Council shall have the power to accept money and in-kind contributions from private entities and persons only to the extent such donations are necessary to cover its expenses. Any money contributed to the P-20 Council shall be directed to the Office of the Governor and deposited with the Treasurer of the State of Colorado in an account within the Office of the Governor's budget. Members of the P-20 Council shall serve without compensation, but may, at the discretion of the chair and approval of the Office of the Governor, be reimbursed for any actual expenses incurred.

6. Directive

The Governor's P-20 Education Coordinating Council is hereby created.

GIVEN under my hand and the Executive Seal of the State of Colorado, this 24th day of April, 2007.

Bill Ritter, Jr. Governor

Exhibit P-8: P-20 Council Recommendations

SUMMARIES OF AND RELEVANT BACKGROUND FOR RECOMMENDATIONS CREATED BY THE GOVERNOR'S P-20 EDUCATION COORDINATING COUNCIL, APRIL – DECEMBER 2008

EDUCATOR LICENSURE RECOMMENDATIONS

1. **Revision of the State's performance based teaching standards**
   a. Subcommittee of Reference: Educator (and Preparation and Transitions)
   b. Summary of Recommendation: To modify the State's teacher performance based standards, as defined in SBE rule (per 22-60.5-203), to reflect the needs and issues facing teachers in this State, such as the socioeconomic and cultural diversity of pupils, the needs of English language learners and special needs students, the ability to differentiate instruction, and workforce and postsecondary readiness.

2. **Consolidation of alternative teacher preparation and program accountability**
   a. Subcommittee of Reference: Educator
   b. Summary of Recommendation: To consolidate alternative teacher preparation routes (defined by SBE per 22-60.5-205 for alternative licensure programs and 22-32-110.3 for "Teachers In Residence") into a single alternative route to reduce confusion for potential teachers about how to enter an alternative route, increase flexibility in creating alternative routes, and ensuring that such programs are reviewed periodically by the State for evidence that teacher candidates are competent in the Colorado Performance Based Standards for Teachers.

3. **Alignment of content requirements for all licensure programs (traditional, alternative, TIR)**
   a. Subcommittee of Reference: Educator and Systems Transformation
   b. Summary of Recommendation: To both ensure that new teacher content knowledge requirements among all types of licensure programs—traditional, teacher in residence, and alternative—are consistent in rigor and application and to ensure that the process for verifying licensure candidates' content knowledge is uniformly rigorous while maintaining maximum administrative flexibility to candidates.

4. **Permission to offer college majors in "Elementary Education" and "Early Childhood Education"**
   a. Subcommittee of Reference: Educator
   b. Summary of Recommendation: To allow institutions of higher education to offer and award majors in elementary education and early childhood education.

5. **Modification to State teacher preparation program licensure rules to expressly accommodate national teacher accreditation (National Council for the Accreditation of Teacher Education [NCATE] and Teacher Education Accreditation Council [TEAC])**
    a. Subcommittee of Reference: Educator
    b. Summary of Recommendation: To synchronize State and national teacher education accreditation/authorization visits.

6. **Support for the forthcoming Teacher and Principal Unique Identification pilot program legislation**
    a. Subcommittee of Reference: Educator & Systems Transformation
    b. Summary of Recommendation: To support the development of a unique education identifier pilot program.

7. **Creation of a State-level teacher institute**
    a. Subcommittee of Reference: Educator
    b. Summary of Recommendation: To create a short-term (three-year), State-level teacher quality institute. The institute would address teacher quality issues facing the State including teacher shortages, teacher content knowledge, quality of induction programs, coordination of teacher recruitment strategies, feedback between school districts and teacher preparation institutions, and strategies for supporting teacher quality.

8. **Additional funding for the professional services (educator licensure) division in the Colorado Department of Education**
    a. Subcommittee of Reference: Educator
    b. Summary of Recommendation: To provide additional resources to the educator licensing division in the department of education in order to expedite the processing of license applications, increase the use of automated licensure processes, and improve data collection and analytical capacities.

DATA COLLECTION, DATA USE, AND DATA SYSTEMS RECOMMENDATIONS

9. **Prioritize the Colorado Growth Model and Provide Greater Access to Data and Analytical Capacity to School Districts**
    a. Subcommittee of Reference: Data and Accountability
    b. Summary of Recommendation: To provide additional resources for improving the operability of the data systems supporting the Colorado Growth Model and increasing access to and training on the model for practitioners in the field. Such services would be targeted to school administrators, classroom teachers, students and parents. And, to provide additional resources, such as extra site licenses (system-level access), and data mining/analytical training and support to users of the CEDAR system. Before expanding the CEDAR system, the CDE should engage with local districts to leverage their expertise and experience in providing data analysis capabilities and to ensure that CEDAR,

or any subsequent State system, will be compatible with and support the locally-developed systems in place in many districts.

10. **Develop a new, next generation State education data system in the Colorado Department of Education**
    a. Subcommittee of Reference: Data and Accountability
    b. Summary of Recommendation: Using the North Highland Report as a guide, to replace the department's existing education data system with one that would accommodate the needs of an education system envisioned in CAP4K, ensuring that such a system could interface with data systems in other State departments, such as the SURDS system in the Department of Higher Education, enable the longitudinal tracking of all students from preschool through postsecondary education, and permit effortless exchanges of data between and among school districts.

11. **Creation of a data coordinating council in CDE**
    a. Subcommittee of Reference: Data and Accountability
    b. Summary of Recommendation: To create an internal council as recommended in the North Highland Report to assist the department with the full implementation of the North Highland Report and look for ways to improve the effectiveness of data collection.

12. **Authorize the Data Protocol Development Council created in HB 1364, or a successor committee, to continue work on the development of an integrated P-20 education data system and create a State "P-20" education data coordinating council to advise this work**
    a. Subcommittee of Reference: Data and Accountability
    b. Summary of Recommendation: To create a stakeholder-based data coordinating council to advise the ongoing work of the Data Protocol Development Council and provide recommendations to the Governor's Office of Information Technology on current and future data collection, system integration, and dissemination practices.

POSTSECONDARY PREPARATION AND PARTICIPATION RECOMMENDATIONS

13. **Concurrent enrollment ("Preferred Program")**
    a. Subcommittee of Reference: Preparation and Transitions
    b. Summary of Recommendation: To create a "preferred program" for concurrent enrollment, a State-coordinated program that would be universally accessible, standards-based, and financially and academically accountable. Such a program would authorize career and technical education (CTE) programs as well as basic skills courses for certain students. Further, this recommendation would create a State-level advisory committee to coordinate its implementation.

14. Individual career and academic plans (ICAPs)

a. Subcommittee of Reference: Preparation and Transitions

b. Summary of Recommendation: To have the State Board of Education adopt standards for Individual Career and Academic Plans, which districts would have to meet or exceed as soon as is practicable. Such standards would be incorporated into the State Board of Education's accreditation policies.

15. Creating and cultivating postsecondary aspirations in public schools

a. Subcommittee of Reference: Preparation and Transitions

b. Summary of Recommendation: To provide State-level staff support, professional development and technical assistance to administrators and teachers, recognition programs for schools, and adopt accreditation standards for "postsecondary access/success plans."

16. Postsecondary attainment accountability and reporting

a. Subcommittee of Reference: Preparation and Transitions

b. Summary of Recommendation: For the departments of education and higher education to share student enrollment data, create reports on student participation and achievement, and, for higher education in particular, track students' progress into public and private colleges and universities (e.g., subscribing to the National Student Clearinghouse, a national system that verifies enrollment and degree attainment). Moreover, for the Department of Higher Education to modify future performance contracts to include institutions' contributions to supporting postsecondary preparation in K-12 schools.

17. Incentive funding for postsecondary readiness

a. Subcommittee of Reference: Systems Transformation

b. Summary of Recommendation: To provide incentive funding (e.g. $500 per case) to K-12 schools that successfully graduate postsecondary and workforce ready students who are otherwise at risk for not completing high school.

EDUCATION REFORM, PERFORMANCE, AND ACCOUNTABILITY RECOMMENDATIONS

18. Creation of a division of education reform accountability

a. Subcommittee of Reference: Systems Transformation

b. Summary of Recommendation: To provide at least one FTE in an appropriate State department for the purpose of monitoring and reporting on the progress and effectiveness of education reform efforts.

19. Modifications to the Innovations Schools Act

a. Subcommittee of Reference: Systems Transformation

b. Summary of Recommendation: To amend the Innovation Schools Act to broaden its scope and provide incentives for its use among schools and districts.

20. Encouraging the CDE and the Colorado Department of Higher Education to incorporate recommendations developed by the Graduation Guidelines Development Council (GGDC)

a. Subcommittee of Reference: Systems Transformation

b. Summary of Recommendation: To encourage the Colorado Department of Education and the Colorado Department of Higher Education to use the report created by the Graduation Guidelines Development Council (GGDC) to help guide the creation of new content standards, assessments, and definitions of postsecondary and workforce readiness.

21. K-12 Incentive Funding to Reduce High School Dropout Rates

a. Subcommittee of Reference: Systems Transformation

b. Summary of Recommendation: To provide matching grants school districts participating in the "Statewide Dropout Initiative" in order to implement targeted dropout prevention initiatives and create early warning dropout systems.

Endnotes

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i Clayton M. Christensen, The Innovator's Dilemma. Harvard Business School Press, 2003.
ii Frederick Hess. The Future of Educational Entrepreneurship. Harvard Education Press, 2008. iii Galaxy Initiative: http://www.aps.k12.co.us
iv Aurora LIGHTS: http://www.aps.k12.co.us/community/aurora_lights.h
v Aurora's P-20/CAP4K Campus: http://apscms.net/departments/bond/bond-projects/aps-ed-campus/
vi Teach For America: http://www.teachforamerica.org/newsroom/documents/TeachForAmerica_News_20070208.h
vii Denver School of Science and Technology: http://www.scienceandtech.org
viii Highline Academy Charter School: http://www.highlineacademy.org/
ix Job Corps: http://collbran.jobcorps.gov/
x Hess, 2008.
xi School Leadership Academy: http://www.cde.State.co.us/scripts/reforms/detail.asp?itemid=657725
xii Clayton M. Christensen, Disrupting Class: How disruptive innovation will change the way the world learns. McGraw-Hill, 2008.
xiii Nation Governors Association and Council of Chief State School Officers, "Benchmarking for Success: Ensuring U.S. Students Receive a World Class Education", NGA, CCSSO, and Achieve, December 19, 2008.
xiv Nation Governors Association and Council of Chief State School Officers, 2008
xv Richard Elmore. The Price of Accountability, 2002

BUDGET PART I: BUDGET SUMMARY TABLE

Budget Part I: Summary Budget Table (Evidence for selection criterion (A)(2)(i)(d))					
Budget Categories	**Project Year 1**	**Project Year 2**	**Project Year 3**	**Project Year 4**	**Total**
1. Personnel	$ 3,850,000	$ 4,457,500	$ 4,955,375	$ 5,037,769	$ 18,300,644
2. Fringe Benefits	$ 770,000	$ 891,500	$ 991,075	$ 1,007,554	$ 3,660,129
3. Travel	$ 588,525	$ 609,496	$ 625,096	$ 641,163	$ 2,464,280
4. Equipment	$ 397,005	$ -	$ -	$ -	$ 397,005
5. Supplies	$ 29,710	$ 29,710	$ 30,335	$ 30,335	$ 120,090
6. Contractual	$ 6,277,900	$ 9,235,392	$ 8,381,592	$ 7,208,933	$ 31,103,817
7. Training Stipends	$ -	$ 600,000	$ 630,000	$ -	$ 1,230,000
8. Other	$ 2,751,850	$ 4,508,767	$ 5,684,847	$ 6,468,181	$ 19,413,645
9. Total Direct Costs (lines 1-8)	$ 14,664,990	$ 20,332,364	$ 21,298,320	$ 20,393,935	$ 76,689,610
10. Indirect Costs*	$ 646,457	$ 733,965	$ 786,264	$ 805,293	$ 2,971,978
11.Funding for Involved LEAs	$ -	$ -	$ -	$ -	$ -

12. Supplemental Funding for Participating LEAs	$ -	$ 2,500,000	$ 2,500,000	$ -	$ 5,000,000
13. Total Costs (lines 9-12)	**$ 15,311,447**	**$ 23,566,329**	**$ 24,584,584**	**$ 21,199,229**	**$ 84,661,588**
14. Funding Subgranted to Participating LEAs (50% of Total Grant)	$ 15,173,000	$ 26,737,045	$ 27,079,683	$ 21,348,684	$ 90,338,412
15. Total Budget (lines 13-14)	**$ 30,484,447**	**$ 50,303,374**	**$ 51,664,267**	**$ 42,547,912**	**$ 175,000,000**

All applicants must provide a break-down by the applicable budget categories shown in lines 1-15.

Columns (a) through (d): For each project year for which funding is requested, show the total amount requested for each applicable budget category.

Column (e): Show the total amount requested for all project years.

*If you plan to request reimbursement for indirect costs, complete the Indirect Cost Information form at the end of this Budget section. Note that indirect costs are not allocated to lines 11-12.

BUDGET PART I: BUDGET SUMMARY NARRATIVE

Colorado's Race to the Top $175 million budget is oriented toward each of the State priorities in the application. The size and scope of the budget reflects strong statewide support for Colorado's education reform plans fostered through the public outreach process, and demonstrated by broad participation in the Race to the Top proposal (participating LEAs represent approximately 90% of students). The diversity of participating LEAs and the students they serve (91% of students eligible for free or reduced lunch, high as well as persistently low achieving students in urban, suburban and rural LEAs) is critical to create significant and sustainable improvements in student achievement. Consequently, the budget includes substantial support from the State portion of grant funds to support those participating LEAs that will not receive adequate funding through their Title I-based allocation of the grant to execute the State's plan. Additionally, the budget includes several State-level activities that will distribute funds across the State as part of the roll out of new standards, assessments, data systems, educator evaluation systems and school turnaround activities.

Project #	Project	Description	Funding from State Portion
1	**RttT Implementation**	State-level capacity building and temporary Project Management Office (PMO) to implement the State's Race to the Top plan. Temporary consultants to assist with initial launch activities, including procurement, staffing and completion of final LEA Scope of Work agreements. Additional temporary State staff to conduct qualitative analysis of program results and coordinate with external evaluators and the Colorado Education Research Consortium (CERC). Funding for the CERC and external evaluation consultants to conduct independent program evaluation.	$ 13,570,505
2	**Transitioning to Enhanced Standards and Use of Data to Improve Instruction**	Content Collaboratives and Regional Support Teams encompassing both the roll out and support for new standards and assessments and the roll out and populating of content for the SchoolView instructional improvement system. Regional Support Teams will also support overall implementation among small and rural districts with limited funding resulting from the Title I-based allocation	$ 13,052,220

		formula. Content peer review teams and implementation peer review teams will review local implementation of enhanced standards, aligned assessments and instructional improvement systems to drive instruction. Incentive awards targeted at expanding and accelerating student proficiency in the areas of Science, Math, Technology and Engineering. Incentives to expand the use of blended learning that combines multi-media and technology-based instructional practices with face-to-face instruction.	
3	**High-Quality Instructional Materials and Development of Formative and Interim Assessments**	Subsidies and incentives for LEAs and educators to create and share curricula, instructional materials and content, including digital content items. Partial subsidies for the purchase of formative items and assessments. State-level review and validation of available interim assessments and partial subsidies for LEA purchase of validated interim assessments	$ 5,804,990
4	**SchoolView – Implementation**	Build out and annual support for an integrated instructional improvement system (IIS) including: teacher, principal, administrator, and other portals; augmentation of the Colorado Growth Model with postsecondary attainment, educator effectiveness, early warning reporting, and financial measures; educator preparation program dashboard; new educator evaluation visualizations; and provision of a P-20 research data mart. Includes incentives for effective educators to provide high-quality instructional materials for identified content areas, and funds for training and implementation.	$15,193,591

5	**Colorado Department of Education (CDE) Educator Effectiveness Unit**	Team of State personnel and external consultants, who will provide technical assistance to LEAs in developing and implementing new systems to evaluate, promote, support, compensate and remove educators. Additionally, the Unit will oversee alignment of existing and planned State initiatives to ensure they directly support and advance the reform plan, manage the biennial administration of the TELL statewide survey on school-level teaching and learning conditions, direct the State's Alternative Compensation Grants program, and coordinate with the various state committees, including the State Council for Educator Effectiveness, the Quality Teachers Commission and the School Leadership Academy Board, among others. Unit personnel will work with the Office of Performance and Policy to support the work of the State Council in identifying high-quality measures of educator effectiveness, including measures of student longitudinal growth in currently untested subjects and grades. Award $1,000 royalties to teachers from across the State that upload instructional resources onto SchoolView and receive highest peer ratings from other educators who access and use their resources.	$ 8,006,806
6	**Roll Out of High-Quality Educator Evaluation Systems**	Stipend to State Council for Educator Effectiveness to support additional meetings. Supplemental funds to LEAs to identify, develop, and implement high-quality educator evaluation systems. Each participating LEA will use Race to the Top funds to provide temporary full-time staff positions or engage consultants to direct the selection and implementation of these new evaluation systems and to provide extensive training and support to teachers and principals on these new systems. Small and rural LEAs may work collaboratively through the Regional Support Teams to develop these systems.	$5,100,000

7	**Developing a Pipeline of Effective Teachers and Principals**	Colorado will deploy a variety of strategies to increase the number of effective teachers and principals statewide. A limited number of proven strategies will be immediately targeted at serving high-poverty schools: 50 slots in residency-based preparation programs, stipends for up to 200 teachers to earn National Board Certification, and, over the course of the 4 year-period, up to 1,100 Teach for America corps members . Beginning in year 2 as enhanced information about the impact of individual preparation programs and gaps in the equitable distribution of educators becomes available, incentive awards will be available to improve local induction, subsidize the cost of effective educators in high-poverty and rural schools to receive endorsements in hard-to-staff subjects, and develop, document and disseminate data-driven plans to improve teaching and learning conditions in high-poverty and other hard-to-staff schools. The results of all Colorado educator preparation pathways will be evaluated and, beginning in year 3 of the grant period, additional grants will be made to expand a limited number of the in-state programs proven to be most successful at preparing teachers and principals to be effective, particularly in the State's hard-to-staff schools and subjects.	$ 4,100,000
8	**School Leadership Academy (SLA)**	State-level office created within the CDE under existing statutory authority to provide training and support of principals and teacher leaders. Focus is upon training leaders for schools in turnaround status, and upon disseminating proven models of leadership training and support statewide. The SLA will develop and direct the Turnaround Leaders Academy in coordination with the CDE Turnaround and Intervention Unit.	$ 4,311,857

		The SLA will coordinate with the CDE Educator Effectiveness Unit to award a limited number of incentive grants to schools and LEAs to develop, document and disseminate innovative models of career ladders for effective teachers to earn more responsibility for more pay without having to leave the classroom.	
9	**Colorado Legacy Schools (Advanced Placement)**	Program to provide training, teacher and student support, and incentives to dramatically increase the number of students taking and passing AP math, science, and English exams, and expand access to rigorous, college-preparation coursework to traditionally under-represented students. Over the four-year grant period, this initiative will train 400 teachers in schools and serve more than 16,000 students.	$ 3,196,701
10	**Dropout Prevention Program and Student Re-Engagement**	State-level office within CDE created by statute in 2009 to analyze student data related pertaining to high school dropout, completion, truancy, suspension and expulsion rates, safety and discipline incidences and student academic growth. Race to the Top funding will be used to accelerate efforts to identify priority school districts and award incentive grants to those districts to create and implement data driven plans to increase high school graduation and completion plans.	$ 884,000

11	**Colorado Department of Education (CDE) Turnaround and Intervention Unit**	State-level office within the CDE that will mobilize the full authority vested in the State by the Colorado Education Accountability Act and its control of Federal and State dollars to create local conditions that are conducive to successful turnaround efforts. The CDE Turnaround and Intervention Unit will coordinate with the School Leadership Academy to train 20 principals to lead turnaround schools. In addition, the office will administer incentive grants to attract highly effective teachers to turnaround schools, and performance bonuses to teachers and principals who demonstrate the greatest success at improving student outcomes at these schools. Administer grants to LEAs to seed the start-up of up to 9 new schools to be located in geographic regions with high concentrations of poor performing schools and modeled upon other schools with proven results. The CDE Turnaround and Intervention Unit will coordinate with MassInsight to deploy the partnership zone model of multi-school turnaround efforts. .	$ 11,050,730

As discussed in Sections (A)(2)(i)(d) and (A)(3)(i) of the proposal, Colorado Race to the Top (RttT) projects are aligned with the State's strategic plan for educational reform, and as such the funding request for RttT intersects in several ways with other funding streams. Most notably:

1) The SchoolView Implementation project will significantly improve the user functionality of the state's instructional improvements systems. SchoolView's efficiency, data capture features and inter-agency operability will be built-out using the $17.4 award recently received from the Statewide Longitudinal Data Systems fund program. In addition, LEAs will leverage local funds for ongoing support to sustain the system and refresh content development. It is the State's expectation that the ongoing maintenance costs, will be funded by a combination of State appropriations and a percentage of per-pupil funding provided to LEAs through Colorado's school finance formula.

2) The Effective Educator Pipeline project involves Colorado partnering with Teach For America (TFA) to supply hundreds of teachers to Colorado's neediest schools. As part of this effort, TFA has agreed to share the code of their teacher evaluation and instruction management platforms to accelerate Colorado's SchoolView Implementation project, and roll out of teacher evaluation systems. Additionally, TFA has agreed to raise significant private funds in the amount of no less than $1.50 for each $1 of Race to the Top funding provided to support the expansion of their corps members in Colorado.

3) Plans developed using funds from the Alternative Compensation Grants project will be supplemented by funding from Teacher Incentive Fund (TIF) grants which will be applied for concurrently.

4) Colorado's Legacy Schools project will be sustained beyond the four-year grant period through private funding raised by the non-profit board of the entity in which the project is housed. Additional funds to launch this effort are being provided by the National Math Science Initiative (NMSI), which has dedicated private funds to match the Race to the Top investments. NMSI has also applied for a grant under the Investing in Innovation Fund program to accelerate the expansion of Advanced Placement courses in several states, including Colorado.

BUDGET PART II: PROJECT-LEVEL BUDGET NARRATIVE – RACE TO THE TOP IMPLEMENTATION

The implementation of the Race to the Top grant in Colorado will be executed through significant investment in State-level capacity to coordinate, manage and monitor the projects which comprise the State's plan. The overall responsibility for implementation will rest with the Commissioner of Education, who will hire a Race to the Top Project Management Office Director to oversee and manage the day-to-day execution of the grant. Initially, external consultants will be hired for a limited engagement to assist with initial launch operations, including procurement and staffing needs, as well as completion of the LEA final Scope of Work agreements. The structure of the teams and consultants to be hired to execute the grant is summarized on the following page.

Budget Part II: Project-Level Budget Table

Project Name: Race to the Top Implementation

(Evidence for selection criterion (A)(2)(i)(d))

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total (e)
1. Personnel	$ 1,050,000	$ 1,102,500	$ 1,157,625	$ 1,215,506	$ 4,525,631
2. Fringe Benefits	$ 210,000	$ 220,500	$ 231,525	$ 243,101	$ 905,126
3. Travel	$ 60,000	$ 60,000	$ 60,000	$ 60,000	$ 240,000
4. Equipment	$ 95,520	$ -	$ -	$ -	$ 95,520
5. Supplies	$ 8,000	$ 8,000	$ 8,000	$ 8,000	$ 32,000
6. Contractual	$ 1,500,000	$ -	$ -	$ -	$ 1,500,000
7. Training Stipends	$ -	$ -	$ -	$ -	$ -

8. Other	$ 1,401,400	$ 1,401,400	$ 1,401,400	$ 1,401,400	$ 5,605,600
9. Total Direct Costs (lines 1-8)	$ 4,324,921	$ 2,792,400	$ 2,858,550	$ 2,928,008	$ 12,903,878
10. Indirect Costs*	$ 159,587	$ 161,952	$ 168,898	$ 176,191	$ 666,628
11.Funding for Involved LEAs	$ -	$ -	$ -	$ -	$ -
12. Supplemental Funding for Participating LEAs	$ -	$ -	$ -	$ -	$ -
13. Total Costs (lines 9-12)	$ 4,484,508	$ 2,954,352	$ 3,027,448	$ 3,104,198	$ 13,570,505

Budget Narrative – Race to the Top Implementation

1) Personnel

Description/Rationale	Year 1 Salary (+ 5% Annual Increase)	Allocation per year	# of FTEs	Total
Race to the Top PMO Director Director will oversee and coordinate the State's overall plan; reports to the Commissioner of Education for delivery of the State's plan; liases with Office of the Governor, General Assembly and other external stakeholders; salary based on State pay scales	$ 125,000	Incurred annually (years 1-4)	1 FTE	$ 538,766

LEA Outreach Consultant – Temporary staff responsible for identifying and managing all LEA implementation issues and concerns; reports to the PMO Director; salary based on State pay scales	$ 75,000	Incurred annually (years 1-4)	1 FTE	$ 323,259
Community Collaborative and Regional Support Team Coordination – Temporary staff responsible for coordinating all activities of the learning communities; reports to the PMO Director; salary based on State pay scales	$ 75,000	Incurred annually (years 1-4)	1 FTE	$ 323,259
External Partnerships Coordinator – Temporary staff responsible for negotiating all external private and public partnerships, and monitoring performance; reports to the PMO Director; salary based on State pay scales	$ 75,000	Incurred annually (years 1-4)	1 FTE	$ 323,259
Technology Support – Temporary staff to ensure technology needs of PMO; provide support to virtual meeting and collaboration activities; ;salary based on State pay scales	$ 75,000	Incurred annually (years 1-4)	1 FTE	$ 323,259
Operations and Support - ARRA Compliance and Management – Temporary staff responsible for ensuring compliance with all applicable federal reporting and compliance requirements during the grant period; salary based on State pay scales	$ 75,000	Incurred annually (years 1-4)	2 FTE	$ 646,519
Operations and Support - Grant Administration – Temporary staff to ensure efficient administration of all grant funds, including submission of funding requests; appropriate disbursement of reimbursement requests, contract payments and other financial agreements; salary based on State pay scales	$ 75,000	Incurred annually (years 1-4)	1 FTE	$ 323,259

Operations and Support - Performance Monitoring and Support – Temporary staff responsible for monitoring compliance by participating LEAs of final scope of work agreements; resolving performance issues and recommending interventions as appropriate; salary based on State pay scales	$ 75,000	Incurred annually (years 1-4)	1 FTE	$ 323,259
Director of External Communications – Responsible for ensuring consistent and frequent communications are disseminated to all stakeholders; liase with external communications directors and associations; salary based on State pay scales	$ 75,000	Incurred annually (years 1-4)	1 FTE	$ 323,259
Research Directors to provide temporary capacity to conduct qualitative analysis of all program activities and lead monitoring of student impact, make recommendations for project changes, and guide the efforts of subcontractors and the Colorado Education Research Consortium (CERC)	$ 80,000	Incurred annually (years 1-4)	2 FTE	$ 689,620
Project Assistants to support the scheduling, coordination and day-to-day operations of the PMO	$ 45,000	Incurred annually (years 1-4)	2 FTE	$ 387,911

2) Fringe Benefits

Description/Rationale	Applicable Salaries	State Employee Benefits Rate	Total
Employee State Benefits for Personnel – calculated at 20% of base salary	$4,525,631	20%	905,126

3) Travel

Description/Rationale	Travel Cost per Meeting	Meetings per Year	Total
In-state travel costs for PMO Team members to travel to regional meetings with participating LEAs; national conferences; includes 3% annual travel rate increase; based on FY10 federal rates in CO; incurred annually; average of 4 meetings per year per FTE; $1,500 cost per meeting reflects blended rate of in-state meetings with associated mileage and per diem, together with out-of-state travel including airfare, hotel and applicable per diem.	$1,500	60	$ 240,000

4) Equipment

Description/Rationale	Unit Cost	# of FTEs	Total
Computers: to supply the needs of new employees; based on current equipment costs within the CDE (one-time expense in Y1; 1 per FTE)	$ 2,200	16 FTEs	$ 35,200
Computer software suite: to supply the needs of new employees; based on current equipment costs within the CDE (one-time expense in Y1; 1 per FTE)	$ 330	16 FTEs	$ 5,280
Office equipment (desk, chair) for each new employee; based on current equipment costs within the CDE (one-time expense in Y1; 1 per FTE)	$ 3,440	16 FTEs	$ 55,040

5) Supplies

Description/Rationale	Unit Cost	# of FTEs	Total
Basic consumable office supplies costing $500 per FTE, based on current supply costs within the CDE; Incurred annually	$ 500	16 FTEs	$ 32,000

6) Contractual

Description/Rationale	Unit Cost	Rate	Total
Scope of Work consultants: consultancy that will assist in executing the scopes of work with participating LEAs and jump-start the hiring process for CDE staff and the implementation teams; $250K per month; based on benchmarking of costs of proposals from strategy consulting firms	$250,000 per month	2 months in Year 1	$500,000
Launch Team – Temporary external consultants to provide additional capacity to PMO during initial launch including staffing, procurements and external partnerships; most of activities will end during Year 1, and remaining activities will be transferred to PMO staff.	$100,000 per month for 10 months and then transition to State CDE staff	10 months in Year 1	$1,000,000

7) Training Stipends - None

8) Other

Description/Rationale	Unit Cost	Rate	Total
Commercial Office Space Rent: 250 square feet per person x $30 fixed rent cost per SF per year (based on Downtown Denver benchmarking); incurred annually	$ 7,500	16 FTEs	$ 480,000
Telephone service, including landline and mobile service, per FTE; based on current CDE telephone rates; incurred annually	$ 1,650	16 FTEs	$ 105,600
Advisory Committee and Leadership Investment Board meeting costs; includes space rental and meeting supplies; five meetings per year for four years	$ 1,000	5 meetings per year incurred annually	$ 20,000
Colorado Education Research Consortium (CERC) – Costs cover limited organizational costs, qualitative research of program activities and limited quantitative and research analysis. See Exhibit A-5 in this Appendix for a complete description of Colorado's comprehensive program evaluation plan.	Average cost of $1,250,00 per year	Incurred Years 1 - 4	$5,000,000

9) Total Direct Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Direct Costs (lines 1-8)	$ 4,324,921	$ 2,792,400	$ 2,858,550	$ 2,928,008	$ 12,903,878

10) Indirect Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Indirect Cost – 10.5% of applicable direct costs (including all personnel-related costs and meeting costs)	$ 159,587	$ 161,952	$ 168,898	$ 176,191	$ 666,628

11) Funding for Involved LEAs - None

12) Supplemental Funding for Participating LEAs - None

13) Total Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Costs (lines 9-12)	$ 4,484,508	$ 2,954,352	$ 3,027,448	$ 3,104,198	$ 13,570,505

BUDGET PART II: PROJECT-LEVEL BUDGET NARRATIVE – TRANSITIONING TO ENHANCED STANDARDS AND USE OF DATA TO IMPROVE INSTRUCTION

The purpose of this project is to: 1) identify and develop a needs assessment of participating LEAs to transition to enhanced standards and aligned assessments, 2) develop and deliver high-quality professional development to support the transition to new standards and the use of data to improve instruction, and 3) create sustainable peer communities of standards-based, data-driven instruction.

The project has four major activities: 1) development of learning communities (Content Collaboratives and Regional Support Teams) to develop standards and assessments content, input into the development of SchoolView user dashboards, and provide differentiated professional development, including blended learning and online options, 2) implementation of an integrated training plan for all users and stakeholders, 3) development and deployment of 20 fellows from participating LEAs to conduct initial needs assessment and implementation plan that ensures adoption by LEAs and other stakeholders, and 4) provision of expert and LEA peer reviews to ensure the quality and impact of project deliverables.

Funding also supports targeted funding to develop and STEM-related content, incentives to expand blended instruction and related professional development supports, and support to Colorado K-12 student groups to ensure project products are relevant and engaging to students.

$6.7 million of LEA RttT subgrants provide for additional incentive awards to support STEM-related content and funding for participants from contributing LEAs to support to fund this project.

Budget Part II: Project-Level Budget Table

Project Name: Transitioning to Enhanced Standards and Use of Data to Improve Instruction

Associated with Criteria: (B)(3), (C)(3), (D)(2)(iv), (D)(5)

(Evidence for selection criterion (A)(2)(i)(d))

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total (e)
1. Personnel	$ 1,085,000	$ 1,139,250	$ 1,196,213	$ 1,256,023	$ 4,676,486
2. Fringe Benefits	$ 217,000	$ 227,850	$ 239,243	$ 251,205	$ 935,297
3. Travel	$ 297,025	$ 305,936	$ 315,114	$ 324,567	$ 1,242,642
4. Equipment	$ 107,460	$ -	$ -	$ -	$ 107,460
5. Supplies	$ 9,960	$ 9,960	$ 9,960	$ 9,960	$ 39,840
6. Contractual	$ 680,400	$ 868,400	$ 1,047,600	$ 1,047,600	$ 3,644,000
7. Training Stipends	$ -	$ -	$ -	$ -	$ -
8. Other	$ 382,400	$ 320,800	$ 328,800	$ 328,800	$ 1,360,800
9. Total Direct Costs (lines 1-8)	$ 2,779,245	$ 2,872,196	$ 3,136,929	$ 3,218,155	$ 12,006,525
10. Indirect Costs*	$ 252,559	$ 255,549	$ 264,530	$ 273,058	$ 1,045,695
11.Funding for Involved LEAs	$ -	$ -	$ -	$ -	$ -

12. Supplemental Funding for Participating LEAs	$ -	$ -	$ -	$ -	$ -
13. Total Costs (lines 9-12)	$ 3,031,804	$ 3,127,744	$ 3,401,458	$ 3,491,213	$ 13,052,220

Budget Narrative – Transitioning to Enhanced Standards and Use of Data to Improve Instruction

1) Personnel

Description/Rationale	Year 1 Salary (+ 5% Annual Increase)	Allocation per year	# of FTEs	Total
Project Assistant will provide support for operational and organizational needs of the Content Collaboratives and Regional Support Teams, including communications, and events scheduling; salary based on State pay scales	$ 45,000	Incurred annually (years 1-4)	1 FTE	$ 193,956
Twelve (12) Regional Support Team managers; provide overall direction and staff support to Regional Support teams to implement the State's proposal; salary based on State pay scales	$70,000	Incurred annually (years 1-4)	12 FTE	$3,620,505
Five (5) half-time additional content specialists; support transition to enhanced standards in additional content areas (world languages, literacy, health/physical education; school readiness and post-secondary and workforce readiness); $80,000 FTE salary based upon State pay scales.	$40,000 per content specialists	Incurred annually (years 1-4)	2.5 FTE	$862,025

2) Fringe Benefits

Description/Rationale	Applicable Salaries	State Employee Benefits Rate	

			Total
Employee State Benefits for Regional Support Team managers and Project Assistant – calculated at 20% of salary	$ 4,676,486	20%	$ 935,297

3) Travel

Description/Rationale	Travel Cost per Day (+3% annual increase)	Attendees per Meeting	Meetings per Year	Total
In-state travel stipend for Regional Support Team members (LEA staff) to travel to summer academy (ten days) + two in-person meetings per year in support of the transition to new standards and assessments; $225 per day for summer academy; $100 per day for in-person meetings; includes 3% annual travel rate increase; based on FY10 federal rates in CO; incurred annually	$225/day for summer academy; $100 per day for in-person meetings	40 Regional Support Team members	12 per year (10 summer academy; 2 in-person) over 4 years	$ 493,668
Cost of travel/lodging of Regional Support Team managers to provide on-site trainings for each Regional Support Teams for a total of 50 day trips at $100 and 50 overnight trips at $225; includes 3% annual rate increase; based on FY10 federal rates in CO; incurred annually	$225/day for overnight trips; $100 per day for day trips	8 Regional Support Teams	50 overnight/ 50 day per region	$ 627,544

Travel costs for nine CDE content specialists to attend summer academies, Content Collaborative meetings, and Regional Support Team meetings as needed; ten summer academy days and one Regional Support Team meeting @ $225; two in-person Content Collaborative meetings @ $100; includes 3% annual rate increase; based on FY10 federal rates in CO; incurred annually	$225/day for overnight trips; $100 per day for day trips	9content specialists	11 overnight travel days; 2 day trips per year incurred annually	$ 121,430

4) Equipment

Description/Rationale	Unit Cost	# of FTEs	Total
Computers: to supply the needs of new employees; based on current equipment costs within the CDE; 1 per FTE; one time cost in year 1 only	$ 2,200	18 FTEs	$39,600
Computer software suite: to supply the needs of new employees; based on current equipment costs within the CDE; 1 per FTE; one time cost in year 1 only	$ 330	18 FTEs	$5940
Office equipment (desk, chair) for each new employee; based on current equipment costs within the CDE; 1 per FTE; one time cost in year 1 only	$ 3,440	18 FTEs	$ 61,920

5) Supplies

Description/Rationale	Unit Cost	Rate	Total
Basic consumable office supplies costing $500 per FTE; based on current supply costs within the CDE; incurred annually	$ 500	18 FTEs	$ 36,000
Training session supplies (chart pads, etc.) for the two annual on-site trainings per Regional Support Team ; incurred annually	$40 per training day	2 training days per region per year x 12 regions x 4 years	$ 3,840

6) Contractual

Description/Rationale	Unit Cost	Rate	Unit Count	Total
Costs for content development in preparation for the facilitation of in-person and virtual meetings as part of the summer academies, Content Collaboratives, and Regional Learning Communities (80 total days of content development per year over 4 years); contract with vendors; rate based on previous contracts; incurred annually years 1-4	$1,000 per day	--	80 days per year over 4 years	$ 320,000
Costs for expert facilitation and training as part of the Content Collaborative and Regional Support Team meetings and summer academies; 80 Content Collaborative facilitation and training days; 80 Regional Learning Communities facilitation and training days; 60 days summer academy facilitation and training days; contract with vendors; rate based on previous contracts; incurred annually	$1,500 per facilitator	220 meetings/ year over 4 years	1 facilitator per meeting	$ 1,320,000

years 1-4				
Funding for implementation partners (CTLT and other vendors) to coordinate among key stakeholders, including the Implementation Leads for Standards & Assessments and Data Systems, the Project Manager, Collaborative members, LEA participants , and the CDE; contract with CTLT and other vendors; rate based on previous contracts; incurred annually years 1-4	$1,000 per day	--	20 days per year over 4 years	$ 80,000
Provision of professional development (training) to LEA staff that participate in Content Collaboratives in translating standards and assessments into classroom practice; incurred annually years 1-4	$3,000 annual training cost participant	Incurred annually over 4 yrs	40 participants	$ 480,000
STEM in Action funding for development of applied STEM content by industry experts, museums, universities, research centers and STEM-related community partners; content will be made available statewide via SchoolView, used by STEM content collaborative, as well as available for blended learning; incurred years 2-4	$200,000 annually	Incurred annually starting in year 2	--	$ 600,000
Costs for virtual meetings of Content Collaboratives and Regional Support Teams, including software licensing, virtual meeting capability costs (meeting/software), and meetings costs (meeting space and supplies) to support translation of standards and assessments into classroom practice; costs estimates based upon current State rates; incurred annually years 1-4	$300 per meeting	Incurred annually Years 1-4	128 virtual meetings per year	$ 153,600
Virtual collaboration training costs (12 days with one trainer per day @ $1,000 per trainer); year 1 only	$1,000 per trainer per day	12 days of training in year 1	1 trainer per day	$ 12,000

Implementation peer review teams to review LEA implementation of standards-based and data-driven instruction (20 reviews per year x one week per review x six reviewers per team x $1100 per week per reviewer); years 3 and 4 only	$6,600 per review (6 reviewers x $1,100 each)	1 week per review for 2 years (years 3 & 4 only)	20 reviews per year	$ 264,000
Training costs for implementation peer review teams; trainings in years 3 & 4 (four cohorts x two day trainings = 8 trainer days)	$1,500 per trainer (1 per day)	2 days per cohort per year (years 3 & 4 only)	4 cohorts (20 reviewers per cohort)	$ 24,000
Subsidy for 80 implementation peer reviewers to attend two days of training in years 3 and 4	$220 subsidy per reviewer per day	2 days per year (in years 3 & 4)	80 reviewers	$ 70,400
Contract with student organizations to train and support student involvement in the Content Collaboratives and Regional Support Teams; incurred annually years 1-4; estimates based upon quoted rates	$80,000 annual cost	Incurred annually	--	$ 320,000

7) Training Stipends - None

8) Other

Description/Rationale	Unit Cost	Rate	Unit Count	Total
Meeting costs for space and materials for 26 days of Content Collaborative meetings and 26 days of Regional Support Team	$2,500 per		4 years	$ 600,000

meetings in support of transition to new standards and assessments; urban rate of $2,500 per meeting [(96 Content Collaborative facilitation and training days (12 days x 8 Content Collaboratives; 144 Regional Support Teams facilitation and training days (12 days x 12 regions)]; incurred annually	meeting			
Meeting costs for implementation peer review team trainings (four trainings/year x two days per training); rural rate of $1,000 per meeting; incurred in years 3 & 4	$1,000 per meeting	2 days per meeting	4 meetings per year in years 3 & 4	$ 16,000
Release time for Content Collaborative and Regional Support Team members to attend a one-day training in year 1 on effective virtual collaboration (280 members at $220 per day)	$220 per person	1 day in Year 1 only	280 members	$ 61,600
Incentive awards to expand proven or promising initiatives aligned with the State's agenda to ensure all students have a rigorous course of study in Science, Technology, Engineering and Math (STEM) and related fields, partner with industry experts and community organizations, and increase representation of minorities and females in STEM-related careers.	$250,000 Per Year	Years 1 - 4	5 to 10 awards per year, ranging from $25,000 to $50,000 each	$1,000,000
Office space rent: annual cost of renting office space for each FTE; based on current CDE rent rate; incurred annually. Prorated for start dates. 7 FTE – Regional Representatives will be housed in local offices.	$ 2,300	--	7 FTEs	$ 64,400
Telephone service, including landline and Mobile service, per FTE; based on current CDE telephone rates; incurred annually. . Prorated for start dates.	$ 1,650	--	18 FTEs	$ 118,800

9) Total Direct Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Direct Costs (lines 1-8)	$ 2,779,245	$ 2,872,196	$ 3,136,929	$ 3,218,155	$ 12,006,525

10) Indirect Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Indirect Cost – 10.5% of applicable direct costs (including all personnel, content development, change agents, travel, meeting, and personnel costs)	$ 252,559	$ 255,549	$ 264,530	$ 273,058	$ 1,045,695

11) Funding for Involved LEAs - None

12) Supplemental Funding for Participating LEAs – None

Description/Rationale	Unit Cost	Incurred	Total
Investment in blended learning, through acquisition of materials and associated professional development. "Blended learning" refers to the use of both online and digital instruction in combination with traditional face-to-face instructional materials and investments include production of videos capturing innovative and effective practice on standards-based instruction and using data from assessments to drive classroom practice; use of online, digital and other multi-media materials; and online access to supplemental educational resources.	$334,00 per year	Years 2 - 4	$ 1,002,000

13) Total Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Costs (lines 9-12)	$ 3,031,804	$ 3,127,744	$ 3,401,458	$ 3,491,213	$ 13,052,220

BUDGET PART II: PROJECT-LEVEL BUDGET NARRATIVE – HIGH-QUALITY INSTRUCTIONAL MATERIALS AND DEVELOPMENT OF FORMATIVE AND INTERIM ASSESSMENTS

The purpose of this project is to work with LEAs to develop and acquire high-quality instructional materials and assessments to support the statewide transition to the common core of internationally benchmarked standards that build toward college and career readiness by the time of high school graduation, including Colorado's P-12 Academic Standards adopted by the Colorado State Board of Education on December 10, 2009. Formative assessments and instructional materials are interdependent and will be developed together. Colorado will use learning communities of educators from LEAs (Content Collaboratives) to identify and develop these materials. Regional Support Teams will deliver professional development using a combination of face-to-face and virtual meetings, as well as digital content.

LEA RttT subgrants ($13.5 million) will be used to support educator time in the learning communities and to subsidize the purchase of aligned instructional materials as well as interim and formative assessments. State expenses are focused on professional development, expert technical assistance and management of the learning communities, quality-control review of materials, and incentives for effective educators to submit high-quality instructional materials and assessments. All of these materials will be disseminated through the SchoolView platform.

Budget Part II: Project-Level Budget Table

Project Name: High-Quality Instructional Materials and Development of Formative and Interim Assessments

Associated with Criteria: (B)(3), (D)(2), (D)(5)

(Evidence for selection criterion (A)(2)(i)(d))

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total (e)
1. Personnel	$ 125,000	$ 131,250	$ 137,813	$ 144,703	$ 538,766
2. Fringe Benefits	$ 25,000	$ 26,250	$ 27,563	$ 28,941	$ 107,753
3. Travel	$ -	$ -	$ -	$ -	$ -
4. Equipment	$ 17,910	$ -	$ -	$ -	$ 17,910
5. Supplies	$ 1,125	$ 1,125	$ 1,125	$ 1,125	$ 4,500
6. Contractual	$ 75,000	$ 75,000	$ 25,000	$ 25,000	$ 200,000
7. Training Stipends	$ -	$ -	$ -	$ -	$ -
8. Other	$ 10,613	$ 1,617,279	$ 1,617,279	$ 1,617,279	$ 4,862,450
9. Total Direct Costs (lines 1-8)	$ 254,648	$ 1,850,904	$ 1,808,779	$ 1,817,048	$ 5,731,379
10. Indirect Costs*	$ 17,779	$ 17,770	$ 18,597	$ 19,465	$ 73,611
11.Funding for Involved LEAs	$ -	$ -	$ -	$ -	$ -
12. Supplemental Funding for	$ -	$ -	$ -	$ -	$ -

Participating LEAs					
13. Total Costs (lines 9-12)	$ 272,427	$ 1,868,674	$ 1,827,376	$ 1,836,513	$ 5,804,990

Budget Narrative – High-Quality Instructional Materials and Development of Formative and Interim Assessments

1) Personnel

Description/Rationale	Year 1 Salary (+ 5% Annual Increase)	Allocation per year	# of FTEs	Total
Standards Implementation Director will supervise the development, coordination, and facilitation of the Content Collaboratives and Regional Support Teams, effective educators, and review teams that are developing high-quality instructional materials and formative assessments; salary based on State pay scales	$ 80,000	Incurred annually (years 1-4)	1 FTE	$ 344,810
Project Assistant will provide support for operational and organizational needs, including communications, and events scheduling; salary based on State pay scales	$ 45,000	Incurred annually (years 1-4)	1 FTE	$ 193,956

2) Fringe Benefits

Description/Rationale	Applicable Salaries	State Employee Benefits Rate	Total
Employee State Benefits for Personnel – calculated at 20% of salary (based on CDE benchmarks)	$ 538,766	20%	$193,956

3) Travel

Description/Rationale	Travel Cost	Rate	Meetings per Year	Total
Travel for Standards Implementation Director to support Content Collaboratives and Regional Support Teams; includes average of 2 four-day trips per year costing a total of $1,000 per trip ($225 per day for lodging and meals/incidentals + $100 mileage/other travel expenses), plus mileage reimbursement for single-day travel; 3% annual travel cost increase; based on FY10 federal per diem rates in Colorado; incurred annually	$1,000 per overnight trip (4 days each)	1 person per meeting	4 overnight and 5-10 same-day travel meetings per year over 4 years	$ 11,350

4) Equipment

Description/Rationale	Unit Cost	# of FTEs	Total

Computers: to supply the needs of new employees overseeing instructional materials and formative assessment development; based on current equipment costs within the CDE; 1 per FTE; one-time expense in year 1	$2,200 per FTE (year 1 only)	2 FTEs	$ 4,400
Computer software suite: to supply the needs of new employees; based on current equipment costs within the CDE; 1 per FTE; one-time expense in year 1	$330 per FTE (year 1 only)	2 FTEs	$ 6600
Office equipment (desk, chair) for each new employee; based on current equipment costs within the CDE; 1 per FTE; one-time expense in year 1	$3,440 per FTE (year 1 only)	2 FTEs	$6,880

5) Supplies

Description/Rationale	Unit Cost	# of FTEs	Total
Basic consumable office supplies costing $500 per FTE, based on current supply costs within the CDE; incurred annually	$500 per FTE per year	2 FTEs	$ 4,000

6) Contractual

Description/Rationale	Unit Cost	Rate	Unit Count	Total
Technical review and analysis of formative items that are made available on the SchoolView platform; review to be conducted by existing partners with national technical expertise (e.g., WestEd, NCIEA, or LEARN); funded at 25% FTE @ $100K; incurred in years 3 & 4 only	$100,000 per reviewer	25% FTE over years 3 & 4	1 reviewer (@ 25% FTE)	$ 50,000
Contract with national experts to validate interim assessments for alignment with Colorado's internationally benchmarked content standards, partners could include WestEd, NCIEA, or LEARN; Year 1 focused on vetting tested subjects; Year 2 focused on vetting non-tested subjects	$75,000	Contract	Years 1 - 2	$150,000

7) Training Stipends - None

8) Other

Description/Rationale	Unit Cost	Rate	Unit Count	Total
Incentives to highly-effective educators to contribute content in each of six subject areas. Content to be contributed will consist of following two items: 1) instructional materials and 2) formative assessment materials to the SchoolView platform; incurred in years 2-4	$2,500 incentive per teacher	6 subjects x 2 types of content items	20 teachers per subject per year (years 2-4)	$ 1,800,000
Expert reviewers responsible for vetting materials developed or identified by the Content Collaboratives; years 2-4	$100,000 annual cost per reviewer	2 months per year; years 2-4	10 reviewers	$ 500,000
Office space rent: cost of renting office space for each FTE; based on current CDE rent rate; incurred annually	$2,300 per FTE per year	--	2 FTEs	$ 18,400
Telephone service, including landline and mobile service, per FTE; based on current CDE telephone rates; incurred annually	$1,650 per FTE per year	--	2 FTEs	$ 13,200
Partial subsidy of the annual cost of acquiring and administering interim assessments aligned to new enhanced content standards.	$840,000	3 years	Years 2 - 4	$ 2,520,000

9) Total Direct Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Direct Costs (lines 1-8)	$ 254,648	$ 1,850,904	$ 1,808,779	$ 1,817,048	$ 5,731,379

10) Indirect Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Indirect Cost – 10.5% of applicable direct costs (including all personnel and related costs)	$ 17,779	$ 17,770	$ 18,597	$ 19,465	$ 73,611

11) Funding for Involved LEAs - None

12) Supplemental Funding for Participating LEAs - None

13) Total Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Costs (lines 9-12)	$ 272,427	$ 1,868,674	$ 1,827,376	$ 1,836,513	$ 5,804,990

BUDGET PART II: PROJECT-LEVEL BUDGET NARRATIVE – SCHOOLVIEW – IMPLEMENTATION

The SchoolView - Implementation project vastly enhances the SchoolView platform by providing complete P-20 longitudinal data and incorporating an extensive instructional improvement system (IIS) into its open architecture. SchoolView will serve as the common platform for a variety of views organized by user needs and interests and accessed through customized dashboards for LEA leaders, principals, teachers and administrators (either directly or through local instructional improvement systems), for researchers (via data marts), and for students, parents, policymakers and the general public.

IIS build-out as well as support and maintenance funding will be supplemented by $19 million from LEA RttT subgrants.

Budget Part II: Project-Level Budget Table

Project Name: SchoolView – Implementation

Associated with Criteria: (C)(2), (C)(3)

(Evidence for selection criterion (A)(2)(i)(d))

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total (e)
1. Personnel	$ 220,000	$ 231,000	$ 242,550	$ 254,678	$ 948,228
2. Fringe Benefits	$ 44,000	$ 46,200	$ 48,510	$ 50,936	$ 189,646

3. Travel	$ 4,500	$ 4,500	$ 4,500	$ 4,500	$ 18,000
4. Equipment	$ 17,910	$ -	$ -	$ -	$ 17,910
5. Supplies	$ 1,500	$ 1,500	$ 1,500	$ 1,500	$ 6,000
6. Contractual	$ 3,100,000	$ 3,606,159	$ 3,131,159	$ 2,560,500	$ 12,397,817
7. Training Stipends	$ -	$ -	$ -	$ -	$ -
8. Other	$ 11,850	$ 211,850	$ 652,010	$ 602,010	$ 1,477,720
9. Total Direct Costs (lines 1-8)	$ 3,399,760	$ 4,101,209	$ 4,080,229	$ 3,474,123	$ 15,055,320
10. Indirect Costs*	$ 30,391	$ 36,230	$ 37,686	$ 33,964	$ 138,271
11.Funding for Involved LEAs	$ -	$ -	$ -	$ -	$ -
12. Supplemental Funding for Participating LEAs	$ -	$ -	$ -	$ -	$ -
13. Total Costs (lines 9-12)	$ 3,430,151	$ 4,137,439	$ 4,117,914	$ 3,508,087	$ 15,193,591

Budget Narrative – SchoolView – Implementation

1) Personnel

Description/Rationale	Year 1 Salary (+ 5%	Allocation	# of FTEs	

	Annual Increase)	per year		Total
Project Managers (2) will be responsible for overseeing the development and implementation of the SchoolView platform and associated functionality as well as working with external vendors and internal resources to ensure accuracy and timeliness of development work; salary based on state pay scales	$ 80,000	Incurred annually (years 1-4)	2 FTEs	$ 689,620
Content Support Manager, will be responsible for supporting content providers (educators, third party providers, et. al.) to upload and share content on the SchoolView platform; salary based on state pay scales	$ 60,000	Incurred annually (years 1-4)	1 FTE	$ 258,608

2) Fringe Benefits

Description/Rationale	Applicable Salaries	State Employee Benefits Rate	Total
Employee Benefits – calculated at 20% of salary (based on CDE benchmarks)	$ 948,228	20%	$ 189,646

3) Travel

Description/Rationale	Travel Cost per Meeting	Meetings per Year	Total
Travel to national conferences; includes 3% annual travel rate increase; average of 1 out-of-state meeting per year per FTE; $1,500 cost per meeting reflects airfare, hotel and applicable per diem.	$1,500	3	$ 18,000

4) Equipment

Description/Rationale	Unit Cost	# of FTEs	Total
Computers: to supply the needs of new employees; based on current equipment costs within the CDE; 1 per FTE; one-time expense in year 1	$ 2,200	3FTEs	$ 6,600
Computer software suite: to supply the needs of new employees; based on current equipment costs within the CDE; 1 per FTE; one-time expense in year 1	$ 330	3FTEs	$ 990
Office equipment (desk, chair) for each new employee; based on current equipment costs within the CDE; 1 per FTE; one-time expense in year 1	$ 3,440	3FTEs	$ 10,320

5) Supplies

Description/Rationale	Unit Cost	# of FTEs	Total
Basic consumable office supplies costing $500 per FTE, based on current supply costs within the CDE; incurred annually	$ 500	3FTEs	$ 6,000

6) Contractual

Description/Rationale	Unit Cost	Rate	Unit Count	Total
National Student Clearinghouse (NSC) data contract - Provides data on the postsecondary enrollment and completion status across the nation of recent Colorado high school graduates; queries graduates from the last eight years; supports goal of complete P-20 tracking; estimates obtained from the NSC; incurred in each of years 2 - 4	$50,000 annual cost + 10% annual increase	--	Incurred in years 2 - 4	$ 165,500
Instructional Improvement System Deployment / Content Management: Complete build out of IIS; provision of all stakeholder portals incorporating collaboration tools, content / knowledge management and business intelligence, student assessment reporting, individual educational plan implementation, STEM interface development, and single sign-on functionality; includes system integration, customization, and deployment; estimates based on vendor quotes for IIS functionality and historical costs of expanding SchoolView.	$20 per student	50% subsidized per year for years 1 & 2	Average of 800,000 students	$3,2000,000

Phase 1 Deployment: Accountability measurement functionality - Implementation of a new educator accountability system that matches unique educator identifiers to course identifiers to student identifiers for reporting of student performance measures. Provides to all stakeholders all state and federally required performance information in a transparent, engaging, useful manner with drill down, export, and social collaboration tools. Key components include the school and LEA performance reports against Colorado's four key performance indicators and federal metrics. Results will be available on SchoolView and be used to hold educators accountable within and across LEAs. Supports goals of implementing an IIS based on foundation of rich longitudinal data, available to LEA administrators and researchers; estimate based on CDE cost experience with similarly sized systems providing similar functionality; incurred over years 1 and 2	$1,500,000 one-time cost incurred over two years	--	Incurred over years 1 & 2	$ 1,500,000
Phase 2 Deployment: Implementation of the educator pipeline functionalities, including a customized dashboard for educator preparation programs, and customized dashboard of educator pipeline data for participating LEAs - Funds will be used to develop the pipeline and equitable distribution of educators through the creation of a shared technology resource / platform on SchoolView. Supports goal of providing data that can be used to improve educator performance; estimates are based on historical cost experience of building SchoolView to-date and functionality anticipated to be added.	$2,000,000 total cost	--	50% incurred per for 2 years	$ 2,000,000
Phase 2 Deployment: Capacity for reporting / analysis on financial data including return on investment analysis at the LEA-, school-, and classroom-levels; contractor rate of $750K per year based on similar	$750,000 annual cost	--	Incurred in years 3 & 4	$1,500,000

current contracts; incurred in years 3 & 4				
Development and implementation of enhancements to Colorado Growth Model that presents linked P-20 / cross-agency longitudinal data, as well as assessment, educator effectiveness, financial and post-secondary attainment, and other metrics of analysis. Multidimensional visualizations will allow users to understand relationships in data. Supports goal of providing rich longitudinal data as a basis for identifying instructional improvement needs and also early warning detection of at-risk students; estimates are based on historical cost experience of building SchoolView to-date and scope of functionality to be added; incurred annually	$750,000 annual cost	--	Incurred annually over 4 years	$ 3,000,000
Provide a data mart of P-20 longitudinal data via dedicated researcher and administrator portals for the development of research-based school improvement strategies and investments to improve student outcomes; estimates based on assumption that data mart can be relatively easily populated from the CDE data warehouse; includes requirements, design, development, customization, and related software; incurred in year 3 only	$ 200,000 one-time cost	--	1 year (year 3 only)	$ 200,000
Training costs for all data systems training for all data coaches on new application. Supports the execution of an integrated training strategy to foster utilization of investments in SchoolView IIS to their full potential – Years 2 - 3. State Share. Total Program = $ 1,698,400	$86, 159 Per Year	-	Incurred in Years 2 & 3	$172,317

Data Coaches: costs of data coaches to provide training on IIS and data-driven instruction for all LEAs; average of 2.5 data coaches within each Regional Support Team; supports execution of an integrated training strategy to foster utilization of investments in the SchoolView platform to their full potential; assumes 10% of total build out cost; incurred in years 2 and 3 only; Additional LEA subgrants support this function in Years 3 and 4.	Year 1 = $370,000 Year 2 = 290,000		Incurred in Years 2 - 3	$660,000

7) Training Stipends - None

8) Other

Description/Rationale	Unit Cost	# of FTEs	Total
Annual support and maintenance costs. Assumed7.5% annual cost for the IIS System. LEA sub-grants are also used to cover entire cost of $3,000,000	$4,000,000	Incurred in Years 2 – 4 (50% in Year 2)	$750,000
Office space rent: cost of renting office space for each FTE; based on current CDE rent rate; incurred annually	$2,300 per FTE per year	3FTEs	$ 27,600
Telephone service, including landline and mobile service, per FTE; based on current CDE telephone rates; incurred annually	$1,650 per FTE per year	3FTEs	$ 19,800

Incentive grants awarded to educators and third parties to provide high-quality content to seed the SchoolView platform with content in years 2 & 3 (e.g., lesson plans, curriculum maps, subject matter, etc.). Total Program = 200 grants for a total of $500,000, of which $400,000 is provided by LEA subgrants.	$2,500 per grant	20 grants per year (over years 2 & 3)	$ 100,000
Release time for educators from LEAs to participate in data training – assume a blended rate of participating Principals ($40/hours) and 1/2 teachers ($20 per hour). State share. Total Program = $ 2,901,600	$290,160 Per Year	Years 3 & 4	$580,320

9) Total Direct Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Direct Costs (lines 1-8)	$ 3,399,760	$ 4,101,209	$ 4,080,229	$ 3,474,123	$ 15,055,320

10) Indirect Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Indirect Cost – 10.5% of applicable direct costs (including all personnel and related costs)	$ 30,391	$ 36,230	$ 37,686	$ 33,964	$ 138,271

11) Funding for Involved LEAs - None

12) Supplemental Funding for Participating LEAs - None

13) Total Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Costs (lines 9-12)	$ 3,430,151	$ 4,137,439	$ 4,117,914	$ 3,508,087	$ 15,193,591

BUDGET PART II: PROJECT-LEVEL BUDGET NARRATIVE – COLORADO DEPARTMENT OF EDUCATION - EDUCATOR EFFECTIVENESS UNIT

The Colorado Department of Education (CDE Educator Effectiveness Unit will align the educator-related activities of the CDE under a common strategy and set of state effectiveness goals and will provide technical assistance to LEAs in developing and implementing new educator evaluation and performance management systems. The Unit will manage the biannual administration of the statewide TELL survey of school-level working conditions, direct the State's Alternative Compensation Grants program, and coordinate with the various state committees, including the State Council for Educator Effectiveness, the Quality Teachers Commission and the School Leadership Academy Board, among others . Office personnel will work with the Office of Performance and Policy to support the work of the State Council in identifying high-quality measures of educator effectiveness, including measures of student longitudinal growth in currently untested subjects and grades. Administers SchoolView royalties: teachers from across the State will be able to upload instructional resources onto SchoolView and those that receive highest peer ratings from other educators who access and use their resources will receive $1,000 awards. The CDE Educator Effectiveness Unit will also manage a team of effectiveness experts who will provide training (as part of the Race to the Top integrated training strategy), resources, and hands-on support to LEAs for activities including the development and implementation of new educator evaluation systems, the use of TELL survey data to drive programmatic improvements, alignment of professional development spending with evaluation and effectiveness data, and the design of new effectiveness-based systems for hiring, promoting, retaining and compensating educators.

LEA RttT subgrants of $2.8 million will be used to support technical assistance consultants in making evaluation a core function, assist in developing and implementing alternative compensation systems and revising human resources policies and practices to ensure that all key decisions are informed by evaluation results.

Budget Part II: Project-Level Budget Table

Project Name: Colorado Department of Education Educator Effectiveness Unit

Associated with Criteria: (A)(2), (D)(2), (D)(3), (E)(2)

(Evidence for selection criterion (A)(2)(i)(d))

Budget Categories	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total

	(a)	(b)	(c)	(d)	(e)
1. Personnel	$ 520,000	$ 891,000	$ 1,010,550	$ 895,703	$ 3,317,253
2. Fringe Benefits	$ 104,000	$ 178,200	$ 202,110	$ 179,141	$ 663,451
3. Travel	$ 133,000	$ 136,990	$ 141,100	$ 145,333	$ 556,422
4. Equipment	$ 65,670	$ -	$ -	$ -	$ 65,670
5. Supplies	$ 1,375	$ 1,375	$ 2,000	$ 2,000	$ 6,750
6. Contractual	$ 322,500	$ 995,833	$ 905,833	$ 745,833	$ 2,970,000
7. Training Stipends	$ -	$ -	$ -	$ -	$ -
8. Other	$ 125,163	$ 125,163	$ 115,800	$ 115,800	$ 481,925
9. Total Direct Costs (lines 1-8)	$ 1,271,708	$ 2,328,561	$ 2,377,393	$ 2,083,809	$ 8,061,470
10. Indirect Costs*	$ 48,444	$ 94,086	$ 97,009	$ 95,984	$ 335,523
11.Funding for Involved LEAs	$ -	$ -	$ -	$ -	$ -
12. Supplemental Funding for Participating LEAs	$ -	$ -	$ -	$ -	$ -
13. Total Costs (lines 9-12)	$ 1,320,151	$ 2,422,647	$ 2,474,402	$ 2,179,793	$ 8,396,993

All applicants must provide a break-down by the applicable budget categories shown in lines 1-15.

Columns (a) through (d): For each project year for which funding is requested, show the total amount requested for each applicable budget category.

Column (e): Show the total amount requested for all project years.

*If you plan to request reimbursement for indirect costs, complete the Indirect Cost Information form at the end of this Budget section. Note that indirect costs are not allocated to lines 11-12.

Budget Narrative – Colorado Department of Education Educator Effectiveness Unit

1) Personnel

Description/Rationale	Year 1 Salary (+ 5% Annual Increase)	Allocation per year	# of FTEs	Total
Executive Director of Educator Effectiveness Unit will be the key coordinator with other units within CDE and between the CDE, and the State Council for Educator Effectiveness and liaison to participating LEAs. The individual will direct and manage the educator effectiveness goals and strategy for the CDE, direct educator effectiveness programs including the alternative compensation grants program, and manage the team of effectiveness technical assistance consultants; salary based on state pay scales	$ 100,000	Incurred annually (years 1-4)	1 FTE	$ 431,013
Data Analyst: Provides analysis of student achievement, school and LEA performance data to validate and support the implementation	$75000	Incurred Annually –	1 FTE	$ 323,259

of high-quality educator evaluations, and their use in informing LEA decisions concerning hiring, promotion, retention, compensation and dismissal of educators.		Years 1- 4		
Evaluation Implementation Consultants: Temporary CDE staff to support implementation of educator evaluation systems that comply with SB 191; work with LEAs statewide to identify, document and disseminate assessments, processes, tools and policies that an LEA may use to implement a compliant evaluation system; 2 FTE in years 2 and 3; 1 FTE in year 4 to monitor ongoing implementation.	$75,000	Incurred Annually in Years 2-4	2 FTE in Years 2 & 3; 1 FTE in Year 4	$390,188
Project Assistants: Supports the operational and organizational needs of the Educator Effectiveness Unit, including communications, and events scheduling.	$45,000	Incurred annually (1 FTE years 1-4 and 1 FTE Years 2 - 4)	2 FTE	$335,818
Educator Compensation Consultant :Temporary CDE staff to support LEA adoption of new compensation systems informed by evaluation results; oversees external consultant to provide financial modeling and other implementation support to small and rural districts; administer alternative compensation planning grants to larger LEAs; years 3 & 4	$75,000	Years 3 - 4	1 FTE	$153,750
Performance Management and Staffing Consultant :Temporary CDE staff to support LEA revision of human resources policies and practices to support effective recruitment and retention practices, and adoption of policies to ensure that promotion, retention and dismissal decisions are informed by evaluation results; identify, document and disseminate model policies and practices; oversees external consultant to provide related implementation support. 2	$75,000	Years 2-4	2 FTE in Years 2 & 3; 1 FTE in Year 4	$390,188

FTE in Years 2-3; 1 FTE in Year 4				
Policy Associate : CDE staff conducts ongoing review and analysis of existing statue, rules and regulations and identifies potential changes in support of the State's overall objectives to improve educator effectiveness, and LEA activities to achieve these objectives.	$100,000	Incurred annually (years 1-4)	1 FTE	$431,013
Director of Educator Preparation: CDE staff to oversee various initiatives to improve the impact of Colorado's educator pipeline; work with Data Analyst to identify effective and ineffective programs; liaise with external partners engaged in pilot programs intended to improve educator preparation and pre-service performance predictors; primary contact with institutions of higher education and alternative preparation program; manages incentives grants to expand effective educator programs.	$100,000	Incurred annually (years 1-4)	1 FTE	$431,013
Director of Educator Supports: CDE staff responsible for ensuring proven and promising professional development is available to all educators statewide; works with Content Collaboratives and Regional Support Teams to ensure high-quality educator supports are available to implement new standards, formative items and assessments; manages peer collaborative and other educator supports.	$100,000	Incurred annually (years 1-4)	1 FTE	$431,013

2) Fringe Benefits

Description/Rationale	Applicable Salaries	State Employee Benefits Rate	Total
Employee Benefits – calculated at 20% of salary (based on CDE benchmarks)	$3,317,253	20%	$663,451

3) Travel

Description/Rationale	Travel Cost (+3% annual increase)	Rate	Meetings per Year	Total
Travel for Executive Director of Educator Effectiveness Unit to meet with LEA leaders; includes 4 four-day trips per year costing a total of $1,000 per trip ($225 per day for lodging and meals/incidentals + $100 mileage/other travel expenses); 3% annual travel cost increase; based on FY10 federal per diem rates in Colorado; incurred annually	$1,000 per trip (4 days each)	1 person per meeting	4 meetings per year over 4 years	$ 16,735

Travel stipends for consultants to visit regions to conduct trainings and provide hands-on technical assistance; 30 total two-day trips per year to each of the 8 regions @ $250 per day ($225 per day for lodging and meals/incidentals + $25 per day mileage/other travel expenses); 3% annual travel cost increase; based on FY10 federal per diem rates in Colorado; incurred annually	$250 per day	30, 2-day trips per year per region (years 1-4)	8 regions	$ 502,035
CDE Educator Effectiveness Unit staff attendance at regional meetings/Conferences, assumed to be 4 meetings per year @ $1,000 per meeting. Meetings may consist of regional meetings in Colorado to share research findings / recommendations with LEAs, or may include education industry conference attendance	$1,000 per meeting	Years 1 - 4	%9,000 in Year 1 with 3% inflation	$37,653

4) Equipment

Description/Rationale	Unit Cost	# of FTEs	Total
Computers: to supply the needs of new employees; based on current equipment costs within the CDE; 1 per FTE; one-time cost in year 1	$ 2,200	11 FTEs	$24,200
Computer software suite: to supply the needs of new employees; based on current equipment costs within the CDE; 1 per FTE; one-time cost in year 1	$ 330	11 FTEs	$3,360
Office equipment (desk, chair) for each new employee; based on	$ 3,440	11 FTEs	$37,840

current equipment costs within the CDE; 1 per FTE; one-time cost in year 1			

5) Supplies

Description/Rationale	Unit Cost	# of FTEs	Total
Basic consumable office supplies costing $500 per FTE, based on current supply costs within the CDE; incurred annually	$500 per FTE per year	11 FTE	$ 6,750

6) Contractual

Description/Rationale	Unit Cost	Rate	Unit Count	Total
TELL Survey Coordinator - Years 2 & 4: Manages logistical aspects of conducting a working conditions survey, including staffing of the working conditions survey help desk, troubleshooting technical difficulties, and conducting outreach to increase survey response rate; based on benchmarking of external survey vendors	$60,000 annual cost	Incurred in years 2 & 4 only	--	$ 120,000

TELL Survey Development / Analysis Vendor – Years 2 & 4: External vendor to develop statewide survey of school-level teaching and learning conditions; provides an online platform for survey administration; provides school- and LEA-level reports on survey results; analyzes survey results to assess the connection between survey results, educator effectiveness and student achievement; and produces training materials for LEAs and schools in the use of TELL survey data; based on benchmarking of survey vendors	$30,000 annual cost	Incurred in years 2 & 4 only	--	$ 60,000
Technical Assistance Consultants: Translate available research and practices into tools for implementation to be used by participating LEAs; aggregate and analyze available evidence for use by the State Council for Educator Effectiveness in developing its recommendations; and provide targeted technical assistance on increasing effectiveness to high-need schools; t based on current technical assistance consultancy contracts (	$172,500per year	Incurred annually over 4 years		$ 1,290,000
Support for state committees: limited support for existing state committees to expand their work to support the implementation of Race to the Top initiatives, including the State Council for Educator Effectiveness, the Quality Teachers Commission and the School Leadership Academy Board.	$50,000 Per Year	Incurred annually over 4 years	-	$200,000
Royalty Payment: Teachers from across the state will be able to upload instructional resources onto SchoolView™ and those that receive the highest peer ratings and/or 1,000 hits or more from other educators who access and use their resources will receive $1,000 awards. Assumption is that starting in Year 2, teachers will start using SchoolView	$1,000 Per Payment	Incurred in Years 2 - 4	1,000	$1,000,000

Expert consultant to conduct financial modeling; facilitate development and implementation planning of performance based educator compensation systems for small districts	$250,000 Per Year	Incurred in years 2 and 3	-	$500,000
Expert consultants to assist in identification of valid measures of student academic growth to be used for educator evaluations. State Share. Total program = $800,000	$100,000 Per Year	Years 1 – 4		$400,000

7) Training Stipends – None

8) Other

Description/Rationale	Unit Cost	# of FTEs	Total
Office space rent: cost of renting office space for each FTE; based on current CDE rent rate; incurred annually	$ 2,300	11 FTE	$ $31,050
Telephone service, including landline and mobile service, per FTE; based on current CDE telephone rates; incurred annually	$ 1,650	11 FTE	$ 22,275

9) Total Direct Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Direct Costs (lines 1-8)	$ 1,271,708	$ 2,328,561	$ 2,377,393	$ 2,083,809	$ 8,061,470

10) Indirect Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Indirect Cost – 10.5% of applicable direct costs (including all personnel and related costs)	$ 48,444	$ 94,086	$ 97,009	$ 95,984	$ 335,523

11) Funding for Involved LEAs - None

12) Supplemental Funding for Participating LEAs - None

13) Total Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Costs (lines 9-12)	$ 1,320,151	$ 2,422,647	$ 2,474,402	$ 2,179,793	$ 8,396,993

BUDGET PART II: PROJECT-LEVEL BUDGET NARRATIVE –
ROLL OUT OF HIGH-QUALITY EVALUATION SYSTEMS

$5 million of the State's share of Race to the Top funds will be used to accelerate and enhance the adoption of high-quality educator evaluation systems consistent with SB 191in small districts whose allocation of RttT funds is insufficient to fully implement evaluations in a manner that fully implements the terms of the proposal. Each LEA will use Race to the Top funds to provide temporary staff or consultants to direct the selection and implementation of these new evaluation systems and to provide extensive training and support to teachers and principals in these new systems. LEAs may also use their RttT funds to support the transition to the use of evaluation data to inform educator development, compensation, promotion, retention, and dismissal.

$7.5 million of LEA subgrants will support local efforts to adopt and implement educator evaluation systems that comply with SB 191, including the provision of significant initial training and monitoring of implementation efforts.

Budget Part II: Project-Level Budget Table

Project Name: Roll Out of High-Quality Evaluation Systems

Associated with Criteria: (A)(2), (D)(2), (D)(3), (D)(4)

(Evidence for selection criterion (A)(2)(i)(d))

Budget Categories	**Project Year 1 (a)**	**Project Year 2 (b)**	**Project Year 3 (c)**	**Project Year 4 (d)**	**Total (e)**
1. Personnel	$ -	$ -	$ -	$ -	$ -
2. Fringe Benefits	$ -	$ -	$ -	$ -	$ -
3. Travel	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 100,000

4. Equipment	$ -	$ -	$ -	$ -	$ -
5. Supplies	$ -	$ -	$ -	$ -	$ -
6. Contractual	$ -	$ -	$ -	$ -	$ -
7. Training Stipends	$ -	$ -	$ -	$ -	$ -
8. Other	$ -	$ -	$ -	$ -	$ -
9. Total Direct Costs (lines 1-8)	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 100,000
10. Indirect Costs*	$ -	$ -	$ -	$ -	$ -
11.Funding for Involved LEAs	$ -	$ -	$ -	$ -	$ -
12. Supplemental Funding for Participating LEAs	$ -	$ 2,500,000	$ 2,500,000	$ -	$ 5,000,000
13. Total Costs (lines 9-12)	$ 25,000	$ 2,525,000	$ 2,525,000	$ 25,000	$ 5,100,000

All applicants must provide a break-down by the applicable budget categories shown in lines 1-15.

Columns (a) through (d): For each project year for which funding is requested, show the total amount requested for each applicable budget category.

Column (e): Show the total amount requested for all project years.

*If you plan to request reimbursement for indirect costs, complete the Indirect Cost Information form at the end of this Budget section. Note that indirect costs are not allocated to lines 11-12.

Budget Narrative – Roll Out of High-Quality Evaluation Systems

1) Personnel - None

2) Fringe Benefit - None

3) Travel

Description/Rationale	Annual Cost	Incurred	Total
Reimburse costs of members of the State Council for Educator Effectiveness to participate in additional meetings in order to accelerate implementation of SB 191	$25,000 Per Year	Incurred in Years 1 - 4	$100,000

4) Equipment - None

5) Supplies - None

6) Contractual - None

7) Training Stipends - None

8) Other – None

9) Total Direct Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Direct Costs (lines 1-8)	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 100,000

10) Indirect Costs - None

11) Funding for Involved LEAs - None

12) Supplemental Funding for Participating LEAs

Description/Rationale	Annual Cost	Incurred	Total
Additional funding to small LEAs to ensure adequate support to complete the adoption of high-quality educator evaluation systems that comply with SB 191 in accordance with the State's Race to the Top Proposal	**$2,500,000**	**Years 3 – 4**	**$5,000,000**

13) Total Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Costs (lines 9-12)	$ 25,000	$ 2,525,000	$ 2,525,000	$ 25,000	$ 5,100,000

BUDGET PART II: PROJECT-LEVEL BUDGET NARRATIVE – DEVELOPING A PIPELINE OF EFFECTIVE EDUCATORS

Colorado will deploy a variety of strategies to increase the number of effective teachers and principals statewide. A limited number of proven strategies will be immediately targeted at serving high-poverty schools: 50 slots in residency-based preparation programs, stipends for up to 200 teachers to earn National Board Certification, and, over the course of the 4 year-period, up to 1,000 Teach for America corps members . Beginning in year 2 as enhanced information about the impact of individual preparation programs and gaps in the equitable distribution of educators becomes available, incentive awards will be available to improve local induction, subsidize the cost of effective educators in high-poverty and rural schools to receive endorsements in hard-to-staff subjects, and develop, document and disseminate data-driven plans to improve teaching and learning conditions in high-poverty and other hard-to-staff schools. The results of all Colorado educator preparation pathways will be evaluated and, beginning in year 3 of the grant period, additional grants will be made to expand a limited number of the in-state programs proven to be most successful at preparing teachers and principals to be effective, particularly in the State's hard-to-staff schools and subjects.

State funding will be supplemented by $14.2 million from LEA RttT sub-grants to support subsidizing the cost of effective educators obtaining endorsements in hard-to-staff subjects, as well as incentive awards to develop data-driven plans to improve teaching and learning conditions, improve induction and expand residency-based preparation pathways.

Budget Part II: Project-Level Budget Table

Project Name: Developing a Pipeline of Effective Educators

Associated with Criteria: (C)(3), (D)(2), (D)(3), (D)(4), (F)(2)

(Evidence for selection criterion (A)(2)(i)(d))

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total (e)

1. Personnel	$ -	$ -	$ -	$ -	$ -
2. Fringe Benefits	$ -	$ -	$ -	$ -	$ -
3. Travel	$ -	$ -	$ -	$ -	$ -
4. Equipment	$ -	$ -	$ -	$ -	$ -
5. Supplies	$ -	$ -	$ -	$ -	$ -
6. Contractual	$ 500,000	$ 500,000	$ -	$ -	$ 1,000,000
7. Training Stipends	$ -	$ -	$ -	$ -	$ -
8. Other	$ 200,000	$ 200,000	$ 933,333	$ 1,766,667	$ 3,100,000
9. Total Direct Costs (lines 1-8)	$ 700,000	$ 700,000	$ 933,333	$ 1,766,667	$ 4,100,000
10. Indirect Costs*	$ -	$ -	$ -	$ -	$ -
11.Funding for Involved LEAs	$ -	$ -	$ -	$ -	$ -
12. Supplemental Funding for Participating LEAs	$ -	$ -	$ -	$ -	$ -
13. Total Costs (lines 9-12)	$ 700,000	$ 700,000	$ 933,333	$ 1,766,667	$ 4,100,000

All applicants must provide a break-down by the applicable budget categories shown in lines 1-15.

Columns (a) through (d): For each project year for which funding is requested, show the total amount requested for each applicable budget category.

Column (e): Show the total amount requested for all project years.

*If you plan to request reimbursement for indirect costs, complete the Indirect Cost Information form at the end of this Budget section. Note that indirect costs are not allocated to lines 11-12.

Budget Narrative – Developing a Pipeline of Effective Educators

1) **Personnel - None**
2) **Fringe Benefit - None**
3) **Travel - None**
4) **Equipment - None**
5) **Supplies - None**
6) **Contractual**

Description/Rationale	Total
Funds will be used to develop pipeline of teachers with Teach For America (TFA) as a partner to ensure their equitable distribution; funds also cover shared technology resources and platforms. State Share is $1,ooo,ooo– Total Program = $5,000,000	$1,000,000

7) Training Stipends - None

8) Other

Incentive grants to expand residency based preparation programs that prepare teachers and principals to serve in high-poverty and turnaround schools and/or hard-to-staff subjects; grants to expand slots by up to 50 educator candidates; average size of each grant is $10,000 per year; any funds unused by Year 4 may be re-directed into grants to effective educator preparation programs. -State Share. Total Program is $3,000,000	$200,000 in Years 1 - 2 $100,000 in Years 3 - 4	Years 1 - 4	$600,000
In RTTT grant years 3 and 4, the Educator Effectiveness Unit will analyze data on effectiveness of graduates of preparation programs (gathered during Years 1-2 of RTTT grant period) to identify the most effective programs among Colorado's educator preparation programs, both alternative pathways as well as those based within institutions of higher education. 5 - 10 grants will be made in each of years 3 and 4 to expand the most effective programs. The goal is to impact both high need and rural areas of the State. Total program: $5,000,000	Year 3 = $833,333 Year 4 = $$1,666,667	Years 3 - 4	$2,500,000

9) Total Direct Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Direct Costs (lines 1-8)	$ 700,000	$ 700,000	$ 933,333	$ 1,766,667	$ 4,100,000

10) Indirect Costs - None

11) Funding for Involved LEAs - None

12) Supplemental Funding for Participating LEAs - None

13) Total Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total

Total Costs (lines 9-12)	$ 700,000	$ 700,000	$ 933,333	$ 1,766,667	$ 4,100,000

BUDGET PART II: PROJECT-LEVEL BUDGET NARRATIVE – SCHOOL LEADERSHIP ACADEMY

The School Leadership Academy (SLA) will provide development capacity for current and future Colorado school leaders. The SLA will provide capacity and support to the CDE Educator Effectiveness Unit **in developing and training teacher and principal leaders. The SLA will direct the Turnaround Leaders Academy and will collaborate with the State Council for Educator Effectiveness to develop a statewide definition of "principal effectiveness" and support valid, transparent and fair multiple measures of Colorado public school principals.**

The SLA will select curriculum and a provider for the Turnaround Leaders Academy in consultation with the CDE Turnaround Unit. The Turnaround Leaders Academy will recruit, select, and train 20 high potential leaders using customized leadership development models similar to national exemplars. Funding will pay the tuition and fees of high-potential turnaround leaders as well as stipends that enable candidates to spend a year preparing to lead failing schools. Candidates completing the program will have a three-year obligation to serve in a turnaround leadership role in the state.

Budget Part II: Project-Level Budget Table

Project Name: School Leadership Academy

Associated with Criteria: (D)(3), (D)(5), (E)(2)

(Evidence for selection criterion (A)(2)(i)(d))

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total (e)
1. Personnel	$ 135,000	$ 141,750	$ 148,838	$ 156,279	$ 581,867

2. Fringe Benefits	$ 27,000	$ 28,350	$ 29,768	$ 31,256	$ 116,373
3. Travel	$ -	$ 6,000	$ 6,180	$ 6,365	$ 18,545
4. Equipment	$ 11,940	$ -	$ -	$ -	$ 11,940
5. Supplies	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 4,000
6. Contractual	$ -	$ 360,000	$ 378,000	$ -	$ 738,000
7. Training Stipends	$ -	$ 600,000	$ 630,000	$ -	$ 1,230,000
8. Other	$ 382,900	$ 382,900	$ 382,900	$ 382,900	$ 1,531,600
9. Total Direct Costs (lines 1-8)	$ 557,840	$ 1,520,000	$ 1,576,685	$ 577,801	$ 4,232,326
10. Indirect Costs*	$ 18,476	$ 19,425	$ 20,337	$ 21,294	$ 79,532
11.Funding for Involved LEAs	$ -	$ -	$ -	$ -	$ -
12. Supplemental Funding for Participating LEAs	$ -	$ -	$ -	$ -	$ -
13. Total Costs (lines 9-12)	$ 576,316	$ 1,539,425	$ 1,597,022	$ 599,095	$ 4,311,857

All applicants must provide a break-down by the applicable budget categories shown in lines 1-15.

Columns (a) through (d): For each project year for which funding is requested, show the total amount requested for each applicable budget category.

Column (e): Show the total amount requested for all project years.

*If you plan to request reimbursement for indirect costs, complete the Indirect Cost Information form at the end of this Budget section. Note that indirect costs are not allocated to lines 11-12.

Budget Narrative – School Leadership Academy

1) Personnel

Description/Rationale	Year 1 Salary (+ 5% Annual Increase)	Allocation per year	# of FTEs	Total
Academy Director to ensure expanded capacity to implement the Race to the Top initiatives; Director will serve as a coordinator between the CDE Turnaround Unit and the CDE Educator Effectiveness Unit. The SLA Director will coordinate with a volunteer Advisory Board created in state statute; salary based on state pay scales	$ 90,000	Incurred annually (years 1-4)	1 FTE	$ 387,911
Project Assistant will support the operational and organizational needs of the SLA, including accounts payable and receivable, payroll and human resources, communications, and events scheduling; salary based on state pay scales	$ 45,000	Incurred annually (years 1-4)	1 FTE	$ 193,956

2) Fringe Benefits

Description/Rationale	Applicable Salaries	State Employee Benefits Rate	Total
Employee Benefits – calculated at 20% of salary (based on CDE	$ 581,867	20%	$116,373

benchmarks)			

3) Travel

Description/Rationale	Travel Costs (+3% annual increase)	Attendees per Meeting	Meetings per Year	Total
Travel for Academy Director to hold regional meetings with Turnaround Leaders participants, host LEAs and out-of-state travel to industry conferences;, beginning in year 2 through year 4; 12 two-day trips per year @ $500 per trip ($225 per day for lodging and meals/incidentals + $50 mileage/other expenses); 3% annual travel cost increase; based on FY10 federal per diem rates in Colorado	$500 per trip	1 person	12 per year over years 2-4	$ 18,545

4) Equipment

Description/Rationale	Unit Cost	# of FTEs	Total
Computers: to supply the needs of new employees; based on current equipment costs within the CDE; 1 per FTE; one-time cost in year 1	$ 2,200	2 FTEs	$4,400
Computer software suite: to supply the needs of new employees;	$ 330	2 FTEs	$ 660

based on current equipment costs within the CDE; 1 per FTE; one-time cost in year 1			
Office equipment (desk, chair) for each new employee; based on current equipment costs within the CDE; 1 per FTE; one-time cost in year 1	$ 3,440	2 FTEs	$6,880

5) Supplies

Description/Rationale	Unit Cost	# of FTEs	Total
Basic consumable office supplies costing $500 per FTE, based on current supply costs within the CDE; Incurred annually	$ 500	2	$ 4,000

6) Contractual

Description/Rationale	Unit Cost	Rate	# of FTEs	Total

Contract with third party vendor to provide curriculum and program for the Turnaround Leaders Academy – SLA will work with LEAs to recruit and train 20 new leaders for school turnaround to be placed in 20 of the State's persistently lowest-achieving schools; $90K program costs per leader based on benchmarks of one-year MBA programs ($80K tuition + $10K program coordination costs); assumes 5% annual cost increase; incurred in years 2 & 3. State Share. Total Program = $1,845,000	$90,000 per leader + 5% annual cost increase Year 1 = $360,000 Year 2 = $378,000	Incurred over years 2 & 3	20 turnaround school leaders (10 per year)	$ $738,000

7) Training Stipends

Description/Rationale	Unit Cost	Rate	# of FTEs	Total
Training stipends for the 20 new leaders recruited and trained through the Turnaround Leaders Academy; $60K stipend per leader; assumes 5% annual cost increase; incurred in years 2 & 3	$60,000 stipend per leader + 5% annual increase	Incurred in years 2 & 3	20 turnaround school leaders (10 per year)	$ 1,230,000
Incentive Grants to schools and LEAs to develop, document and disseminate innovative career ladders and hybrid leadership models – that enable effective educators to earn more compensation for additional responsibility without having to leave the classroom; Years 1 - 4; 10 grants per year at $75,000 per grant. Total Program = $3,000,000	$75,000; 10 grants per year	Incurred in Years 1 - 4	40 Grants	$1,500,000

8) Other

Description/Rationale	Unit Cost	Rate	# of FTEs	Total
Office space rent: cost of renting office space for each FTE; based on current CDE rent rate; incurred annually	$ 2,300	--	2 FTEs	$ 18,400
Telephone service, including landline and mobile service, per FTE; based on current CDE telephone rates; incurred annually	$ 1,650	--	2 FTEs	$13,200

9) Total Direct Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Direct Costs (lines 1-8)	$ 557,840	$ 1,520,000	$ 1,576,685	$ 577,801	$ 4,232,326

10) Indirect Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Indirect Cost – 10.5% of applicable direct costs (including all personnel, travel, and	$ 18,476	$ 19,425	$ 20,337	$ 21,294	$ 79,532

release time)					

11) Funding for Involved LEAs - None

12) Supplemental Funding for Participating LEAs - None

13) Total Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Costs (lines 9-12)	$ 576,316	$ 1,539,425	$ 1,597,022	$ 599,095	$ 4,311,857

BUDGET PART II: PROJECT-LEVEL BUDGET NARRATIVE – COLORADO LEGACY SCHOOLS (ADVANCED PLACEMENT)

Colorado Legacy Schools initiative is a comprehensive approach that increases teacher effectiveness and student achievement through training, teacher and student support, open enrollment, extended learning time and incentives. The program will dramatically increase the number of students taking and passing AP math, science, and English exams, and expands access to traditionally under-represented students. Over the four-year grant period, this initiative will train 400 teachers in 64 schools and serve more than 16,000 students.

1) The State will cover $3.2 million for hiring personnel within an established nonprofit entity for program implementation, management and content support (such as the Colorado Legacy Foundation) and contracting with a consultancy with expertise in math, science and English training, curriculum management and incentive models (for example, the National Math and Science Initiative, NMSI). LEA RttT subgrants will cover the remaining $5.0 million of the total cost for the project which will include teacher training, incentives, professional development stipends, and study sessions for students. Additional funds to launch this effort are being provided by the National Math Science Initiative, which has dedicated private funds to match the Race to the Top investments. NMSI has also applied for a grant under the Investing in Innovation Fund program to accelerate the expansion of Advanced Placement courses in several states, including Colorado.

Budget Part II: Project-Level Budget Table

Project Name: Colorado's Legacy Schools (Advanced Placement)

Associated with Criteria: (D)(3), (D)(4), (D)(5), Priority 2

(Evidence for selection criterion (A)(2)(i)(d))

Budget Categories	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total

	(a)	(b)	(c)	(d)	(e)
1. Personnel	$ 445,000	$ 467,250	$ 490,613	$ 515,143	$ 1,918,006
2. Fringe Benefits	$ 89,000	$ 93,450	$ 98,123	$ 103,029	$ 383,601
3. Travel	$ 24,000	$ 24,720	$ 25,462	$ 26,225	$ 100,407
4. Equipment	$ 32,835	$ -	$ -	$ -	$ 32,835
5. Supplies	$ 2,750	$ 2,750	$ 2,750	$ 2,750	$ 11,000
6. Contractual	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 400,000
7. Training Stipends	$ -	$ -	$ -	$ -	$ -
8. Other	$ 21,725	$ 21,725	$ 21,725	$ 21,725	$ 86,900
9. Total Direct Costs (lines 1-8)	$ 715,310	$ 709,895	$ 738,672	$ 768,872	$ 2,932,749
10. Indirect Costs*	$ 62,621	$ 64,039	$ 67,061	$ 70,232	$ 263,952
11.Funding for Involved LEAs	$ -	$ -	$ -	$ -	$ -
12. Supplemental Funding for Participating LEAs	$ -	$ -	$ -	$ -	$ -
13. Total Costs (lines 9-12)	$ 777,931	$ 773,934	$ 805,732	$ 839,104	$ 3,196,701

Budget Narrative – Colorado's Legacy Schools (Advanced Placement)

1) Personnel

Description/Rationale	Year 1 Salary (+ 5% Annual Increase)	Allocation per year	# of FTEs	Total
Program Director will drive the creation of an effective training and incentive program for AP and pre-AP courses in the state. The Director's responsibilities include: providing vision and guidance for the program, project oversight, making personnel decisions, fundraising, managing the budget, communicating with those involved in the program's implementation (i.e., schools, donors, and board members), and finding strong schools and LEAs to be potential partners. This person must be committed to the success of the program and will be responsible for driving progress and managing toward intended outcomes; salary based on state pay scales	$ 100,000	Incurred annually (years 1-4)	1 FTE	$ 431,013
Content Directors (3) for math, science, and English (one Director per subject area) will be responsible for implementing an effective training and incentive program across the state. This person must play many roles, which include: coordinating the subject area's program to ensure consistency of subject area delivery across the state, developing intellectual capital, and advocating for the training and incentive program; salary based on state pay scales.	$ 85,000	Incurred annually (years 1-4)	3 FTEs	$ 1,099,082

Program Associate will work alongside the Program Director to ensure that the organization operates smoothly and effectively. This person must play many logistical and strategic roles, which include: overseeing the finances of the organization, managing all necessary data and reports, and supervising other technical support. This person will be responsible for driving progress and managing toward intended outcomes; salary based on state pay scales	$ 60,000	Incurred annually (years 1-4)	1 FTE	$ 258,608
Financial Analyst will be responsible for accounting and report auditing of the program; salary based on state pay scales	$ 60,000	Incurred annually (years 1-4)	50% FTE	$ 129,304

2) Fringe Benefits

Description/Rationale	Applicable Salaries	State Employee Benefits Rate	Total
Employee Benefits – calculated at 20% of salary (based on CDE benchmarks)	$1,918,006	20%	$ 383,601

3) Travel

Description/Rationale	Travel Costs (+3% annual increase)	Attendees per Meeting	Meetings per Year	Total

Program Director and Content Directors' travel costs for school site visits and relationship and awareness building among stakeholders (education, business, foundation communities) estimated @ $500 per month ($225 lodging and meals/incidentals x two days per month + $50 mileage reimbursement); 3% annual travel cost increase; based on FY10 federal rates for CO; incurred annually	$500 per person per month	4 (Program and Content Directors)	12 months	$ 100,407

4) Equipment

Description/Rationale	Unit Cost	# of FTEs	Total
Computers: to supply the needs of new employees; based on current equipment costs within the CDE; 1 per FTE; one-time cost in year 1	$ 2,200	5.5 FTEs	$ 12,100
Computer software suite: to supply the needs of new employees; based on current equipment costs within the CDE; 1 per FTE; one-time cost in year 1	$ 330	5.5 FTEs	$ 1,815
Office equipment (desk, chair) for each new employee; based on current equipment costs within the CDE; 1 per FTE; one-time cost in year 1	$ 3,440	5.5 FTEs	$ 18,920

5) Supplies

Description/Rationale	Unit Cost	# of FTEs	Total
Basic consumable office supplies costing $500 per FTE, based on current supply costs within the CDE; incurred annually	$ 500	5.5 FTEs	$ 11,000

6) Contractual

Description/Rationale	Unit Cost	Rate	Total
Contracted consultancy with direct experience implementing this type of enhanced AP and/or teacher incentive program in other states which will operate the program and will be responsible for: partner and vendor relationships, Pre-AP and AP trainings, ongoing monitoring of program implementation, and summative evaluation of program impact; incurred annually	$100,000 per year	Incurred annually (years 1-4)	$ 400,000

7) Training Stipends – None

8) Other

Description/Rationale	Unit Cost	# of FTEs	

			Total
Office space rent: cost of renting office space for each FTE; based on current CDE rent rate; incurred annually	$ 2,300	5.5 FTEs	$ 50,600
Telephone service, including landline and mobile service, per FTE; based on current CDE telephone rates; incurred annually	$ 1,650	5.5 FTEs	$ 36,300

9) Total Direct Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Direct Costs (lines 1-8)	$ 715,310	$ 709,895	$ 738,672	$ 768,872	$ 2,932,749

10) Indirect Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Indirect Cost – 10.5% of applicable direct costs (including all personnel and travel related costs)	$ 62,621	$ 64,039	$ 67,061	$ 70,232	$ 263,952

11) Funding for Involved LEAs - None

12) Supplemental Funding for Participating LEAs - None

13) Total Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Costs (lines 9-12)	$ 777,931	$ 773,934	$ 805,732	$ 839,104	$ 3,196,701

BUDGET PART II: PROJECT-LEVEL BUDGET NARRATIVE – DROPOUT PREVENTION AND STUDENT RE-ENGAGEMENT

State-level office within CDE created by statute in 2009 to analyze student data related pertaining to high school dropout, completion, truancy, suspension and expulsion rates, safety and discipline incidences and student academic growth. Race to the Top funding will be used to accelerate efforts to identify priority school districts and award incentive grants to those districts to create and implement data driven plans to increase high school graduation and completion plans.

$4.1 million of additional RttT sub-grants will be available for these awards.

Budget Part II: Project-Level Budget Table

Project Name: Dropout Prevention and Student Re-Engagement

Associated with Criteria: (A)(1)(iii), (D)(2), (D)(5), (F)(3)

(Evidence for selection criterion (A)(2)(i)(d))

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total (e)
1. Personnel	$ -	$ -	$ -	$ -	$ -
2. Fringe Benefits	$ -	$ -	$ -	$ -	$ -
3. Travel	$ -	$ -	$ -	$ -	$ -
4. Equipment	$ -	$ -	$ -	$ -	$ -
5. Supplies	$ -	$ -	$ -	$ -	$ -
6. Contractual	$ -	$ -	$ -	$ -	$ -

7. Training Stipends	$ -	$ -	$ -	$ -	$ -
8. Other	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 800,000
9. Total Direct Costs (lines 1-8)	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 800,000
10. Indirect Costs*	$ 21,000	$ 21,000	$ 21,000	$ 21,000	$ 84,000
11.Funding for Involved LEAs	$ -	$ -	$ -	$ -	$ -
12. Supplemental Funding for Participating LEAs	$ -	$ -	$ -	$ -	$ -
	$ 221,000	$ 221,000	$ 221,000	$ 221,000	$ 884,000

All applicants must provide a break-down by the applicable budget categories shown in lines 1-15.

Columns (a) through (d): For each project year for which funding is requested, show the total amount requested for each applicable budget category.

Column (e): Show the total amount requested for all project years.

*If you plan to request reimbursement for indirect costs, complete the Indirect Cost Information form at the end of this Budget section. Note that indirect costs are not allocated to lines 11-12.

Budget Narrative – Dropout Prevention and Student Re-engagement

1) Personnel - None

2) Fringe Benefit - None

3) Travel - None

4) Equipment - None

5) Supplies - None

6) Contractual – None

7) Training Stipends - None

8) Other

Description/Rationale	Allocation per Year	Incurred	Total
Subsidy for Existing Staff to support the Dropout Prevention and Student Re-Engagement - State Share. Total Program = $5,000,000	$200,000	Years 1 - 4	$800,000

9) Total Direct Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total

Total Direct Costs (lines 1-8)	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 800,000

10) Indirect Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Indirect Cost – 10.5% of applicable direct costs (including all personnel costs and travel costs for trips to turnaround schools)	$ 21,000	$ 21,000	$ 21,000	$ 21,000	$ 84,000

11) Funding for Involved LEAs - None

12) Supplemental Funding for Participating LEAs - None

13) Total Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Costs (lines 9-12)	$ 221,000	$ 221,000	$ 221,000	$ 221,000	$ 884,000

BUDGET PART II: PROJECT-LEVEL BUDGET NARRATIVE – COLORADO DEPARTMENT OF EDUCATION TURNAROUND AND INTERVENTION UNIT

As the second component of its overall approach to intervening in the persistently lowest-achieving schools, the Colorado Department of Education will increase the capacity of its existing Turnaround and Intervention Unit to mobilize the full authority vested in the State by the Colorado Education Accountability Act and its control of federal and state dollars to create local conditions that are conducive to successful turnarounds. The CDE Turnaround and InterventionUnit will work with external public and private partners provide powerful, aligned incentives for LEAs statewide to engage in the bold action necessary to eradicate chronic low performance.

Budget Part II: Project-Level Budget Table

Project Name: Colorado Department of Education (CDE) Turnaround and Intervention Unit

Associated with Criteria: (A)(2), (E)(2)

(Evidence for selection criterion (A)(2)(i)(d))

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total (e)
1. Personnel	$ 270,000	$ 353,500	$ 571,175	$ 599,734	$ 1,794,409
2. Fringe Benefits	$ 54,000	$ 70,700	$ 114,235	$ 119,947	$ 358,882
3. Travel	$ 45,000	$ 46,350	$ 47,741	$ 49,173	$ 188,263
4. Equipment	$ 47,760	$ -	$ -	$ -	$ 47,760
5. Supplies	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 16,000
6. Contractual	$ -	$ 2,730,000	$ 2,794,000	$ 2,730,000	$ 8,254,000

7. Training Stipends	$ -	$ -	$ -	$ -	$ -
8. Other	$ 15,800	$ 27,650	$ 31,600	$ 31,600	$ 106,650
9. Total Direct Costs (lines 1-8)	$ 436,560	$ 3,232,200	$ 3,562,751	$ 3,534,453	$ 10,765,964
10. Indirect Costs*	$ 35,599	$ 63,914	$ 91,148	$ 94,106	$ 284,766
11.Funding for Involved LEAs	$ -	$ -	$ -	$ -	$ -
12. Supplemental Funding for Participating LEAs	$ -	$ -	$ -	$ -	$ -
	$ 472,159	$ 3,296,114	$ 3,653,898	$ 3,628,559	$ 11,050,730

All applicants must provide a break-down by the applicable budget categories shown in lines 1-15.

Columns (a) through (d): For each project year for which funding is requested, show the total amount requested for each applicable budget category.

Column (e): Show the total amount requested for all project years.

*If you plan to request reimbursement for indirect costs, complete the Indirect Cost Information form at the end of this Budget section. Note that indirect costs are not allocated to lines 11-12.

Budget Narrative – Colorado Department of Education Turnaround Unit

1) Personnel

Description/Rationale	Year 1 Salary (+ 5% Annual Increase)	Allocation per year	# of FTEs	Total
CDE Turnaround Office - Principal Consultant - 2 in Years 1 - 4 and add 2 for Years 3 and 4; Senior level staffing to provide direct support to LEAs, monitor implementation and disseminate best practices;	$80,000	2 in Years 1 – 2 4 in Years 3 - 4	2 FTE in Years 1 – 2 4 FTE in Years 3 - 4	$ 1,017,620
Project Assistant: Supports the operational and organizational needs of the Turnaround Office, including communications, and events scheduling;	$40,000	Years 1 – 4	1 FTE	$ 172,405
Project Assistant: Supports the operational and organizational needs of the Turnaround Office, including communications, and events scheduling;	$40,000	Years 3 - 4	1 FTE	$ 82,000
CDE Turnaround and Intervention - Consultant - 1 in Years 1 - 4 and add 1 for Years 2 to 4. 5 % increase per year; ; Senior level staffing to provide direct support to LEAs, monitor implementation and disseminate best practices;	$70,000	1 FTE in Years 1 and 2 FTE in Years 2 - 4	2 FTE	$ 522,384

2) Fringe Benefits

Description/Rationale	Applicable Salaries	State Employee Benefits Rate	Total
Employee State Benefits for Personnel – calculated at 20% of base salary	$ 1,794,408.8	20%	$ 358,882

3) Travel

Description/Rationale	Cost per Trip (+3% annual increase)	Visits per School	Schools to Visit	Total
Trips by CDE Turnaround Unit staff to observe and monitor the State's persistently lowest-achieving schools in participating LEAs; each school will be visited two times total over the four years of the grant period; one person per trip @ $500 per visit (two days per trip @ $225 per day for lodging and meals + $50 mileage/other expenses); 3% annual travel cost increase; based on FY10 federal rates for Colorado; a more detailed justification for this trip is explained in the narrative for Selection Criterion (E)(2)	$500 per site visit	2- 3 visits per school (total)	90 each year 360 over four years total site visits)	$188,263

4) Equipment

Description/Rationale	Unit Cost	# of FTEs	Total
Computers: needed to create a new office and supply the needs of new employees; 1 per FTE; one-time cost in year 1	$ 2,200	8 FTEs	$ 17,600
Computer software suite: software suites will be needed to create a new office and supply the needs of new employees; 1 per FTE; one-time cost in year 1	$ 330	8 FTEs	$ 2,640
Office equipment (desk/chair) for each new employee; 1 per FTE; one-time cost in year 1	$ 3,440	8 FTEs	$ 27,520

5) Supplies

Description/Rationale	Unit Cost	# of FTEs	Total
Basic consumable office supplies costing $500 per employee each year; based on current supply costs within the CDE; incurred annually	$ 500	8 FTEs	$ 16,000

6) Contractual

Description/Rationale	Unit Cost	Rate/Further Detail	Total
Contract for an external provider to conduct qualitative evaluations to help 47 of the 72 persistently lowest-achieving schools in participating LEAs determine which intervention option(s) to use (the 12 1003(g), 8 Mass Insight, and 20 other turnaround schools do not receive evaluations)	$32,000 per school (Based on competitive audits of past evaluations)	47 schools over years 2-4	$1,504,000
Funding to support implementation of Mass Insight *partnership zones* for turnaround schools as described in (E)(2) of Colorado's Race to the Top plan.	$250,000 Per Year for 8 Schools	Years 2 - 4	$6,000,000
Financial incentives to increase the pipeline of highly effective teachers in low performing schools - $10,000/teacher - 50 teachers per year - Years 2 – 4. State Share. Total program = $1,500,000	25 teachers per year at $10,000 per teacher	$250,000 Per Year	$750,000

7) Training Stipends - None

8) Other

Description/Rationale	Unit Cost	Rate	Total
Office space rent: cost of renting office space for each FTE; based on current CDE rent rate; incurred annually	$ 2,300	8 FTEs	$62,100
Telephone service, including landline and mobile service, per FTE; based on current CDE telephone rates; incurred annually	$ 1,650	8 FTEs	$44,550

9) Total Direct Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Direct Costs (lines 1-8)	$ 436,560	$ 3,232,200	$ 3,562,751	$ 3,534,453	$ 10,765,964

10) Indirect Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Indirect Cost – 10.5% of applicable direct costs (including all personnel costs and travel costs for trips to turnaround schools)	$ 35,599	$ 63,914	$ 91,148	$ 94,106	$ 284,766

11) Funding for Involved LEAs - None

12) Supplemental Funding for Participating LEAs - None

13) Total Costs

	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Total
Total Costs (lines 9-12)	$ 472,159	$ 3,296,114	$ 3,653,898	$ 3,628,559	$ 11,050,730

Budget: Indirect Cost Information

To request reimbursement for indirect costs, please answer the following questions:

Does the State have an Indirect Cost Rate Agreement approved by the Federal government?

YES ●

NO ○

If yes to question 1, please provide the following information:

Period Covered by the Indirect Cost Rate Agreement (mm/dd/yyyy):

From: 7 / 1 / 2009 To: 6 / 30 / 2010

Approving Federal agency: ___ED _X_ Other

(Please specify agency): Department of Health and Human Services – Division of Cost Allocation

Explanation of Frequently Used Budget Assumptions

Personnel

- A 5% annual salary increase has been applied to all personnel salaries as part of a salary increase pool to account for inflation and merit-based salary increases.

Fringe Benefits

- Benefits were calculated at 20% of annual salary based on current CDE rates and benchmarks.

Travel

- FY10 federal per diem rates for multi-day/overnight travel in Colorado are based on rates to Denver ($66 for meals and incidentals and $158 for lodging = ~$225). Travel rates are increased by 3% per year based on historic increases over the past five years of lodging and meal per diems in Colorado.
- FY10 federal per diem rates for day trips in Colorado are based on rates to Denver ($66 for meals and incidentals). Travel rates are increased by 3% per year based on historic increases over the past five years of lodging and meal per diems in Colorado.
- A mileage / additional expenses allowance is added to all travel costs based on the nature of the activity.

Equipment

- Computers are to be purchased in year one only to supply the needs of new employees. The $2,200 per FTE rate is based on current equipment costs within the CDE.
- A computer software suite will be purchased in year one only to supply the needs of new employees. The $330 per FTE rate is based on current equipment costs within the CDE.
- Office equipment (such as a desk and chair) will be purchased in year one only for each new employee. The $3,440 per FTE rate is based on current equipment costs within the CDE.

Supplies

- Basic consumable office supplies are to be purchased annually for each FTE (and prorated for part time employees). The $500 per FTE rate is based on current supply costs within the CDE.

Other

- Office space rent is set at a $2,300 fixed rate per FTE per year based on the current CDE rental agreement and per FTE cost. The rate is applied to all personnel throughout the budget with the exception of the Project Management Office which will be renting commercial space in Denver.
- Telephone service, including landline and mobile service, is set at $1,650 per FTE based on current CDE telephone rate contracts. This cost is incurred annually

Indirect Costs

- A 10.5% indirect cost rate is used over the course of the grant period. This rate is consistent with the current indirect cost agreement disclosed to Department of Health and Human Services – Division of Cost Allocation and valid through June 2010. Although the rate may vary by year, the CDE identified the 10.5% rate as a likely median over the four-year grant period.
- The indirect costs is applied to salaries, fringe benefits, travel, equipment (excluding furniture), office supplies, rent, telephone, and other costs requiring additional support for general operations.
- The indirect cost rate is not applied to grant distributions, equipment over $5,000 (office furniture), contracts over $25,000, or funding to LEAs.

Release Time

- Teacher release time is calculated on a per day basis per teacher based on the current $22 per hour substitute teacher rate for 10 hours per day. This rate was provided by the CDE.
- Principal release time is calculated on a per day basis per principal based on the current $40 per hour substitute principal rate for 10 hours per day. This rate was provided by the CDE.