



2012-2013 District Nominee Presentation Form

PART I - ELIGIBILITY CERTIFICATION

District's Certifications

The signatures of the district superintendent (or equivalent) on the next page certifies that each of the statements below concerning the district's eligibility and compliance with the following requirements is true and correct to the best of the superintendent's knowledge.

1. The district has been evaluated and selected from among districts within the Nominating Authority's jurisdiction, based on high achievement in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.
2. The district is providing the U.S. Department of Education Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a district wide compliance review.
3. OCR has not issued a violation letter of findings to the school district concluding that the nominated school district as a whole has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan to remedy the violation.
4. The U.S. Department of Justice does not have a pending suit alleging that the school district has violated one or more of the civil rights statutes or the Constitution's equal protection clause.
5. There are no findings of violations of the Individuals with Disabilities Education Act in a U.S. Department of Education monitoring report that apply to the school district in question; or if there are such findings, the state or school district has corrected, or agreed to correct, the findings.
6. The district meets all applicable federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.



U.S. Department of Education Green Ribbon Schools 2013 – District Award

Name of Superintendent* Mr. Thomas Ahart
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

District Name* Des Moines Independent Community School District Tel. (515) 242-7766

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate. This is one of the highest performing green schools in my jurisdiction.


(Superintendent's Signature) Date 29 Jan 13

PART II – SUMMARY OF ACHIEVEMENTS

Instructions to District Superintendent

Provide a concise and coherent "snapshot" that describes how your district is representative of your jurisdiction's highest achieving green school efforts in approximately 800 words. Summarize your strengths and accomplishments. Focus on what makes your district worthy of the U.S. Department of Education Green Ribbon School District Award.

PART III – DOCUMENTATION OF STATE EVALUATION OF DISTRICT NOMINEE

Instructions to Nominating Authority

The Nominating Authority must document the district's high achievement in each of the three ED-GRS Pillars and nine Elements. Please attach documentation in each Pillar and Element. This may be the Authority's application based on the Framework and sample application or a committee's written evaluation of a school in each Pillar and Element.

Nominating Authority's Certifications

The signature by the Nominating Authority on this page certifies that each of the statements below concerning the district's eligibility and compliance with the following requirements is true and correct to the best of the Authority's knowledge.

1. The district is one of those overseen by the Nominating Authority which is highest achieving in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.

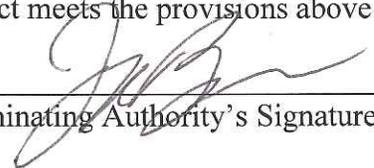


2. The district meets all applicable federal civil rights and federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

Name of Nominating Agency Iowa Department of Education

Name of Nominating Authority Dr. Jeff Berger
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

I have reviewed the information in this application and certify to the best of my knowledge that the district meets the provisions above.


(Nominating Authority's Signature) Date February 7, 2013

The nomination package, including the signed certifications and documentation of evaluation in the three Pillars should be converted to a PDF file and emailed to green.ribbon.schools@ed.gov according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509
Expiration Date: February 28, 2015

Public Burden Statement

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1860-0509. Public reporting burden for this collection of information is estimated to average 37 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The obligation to respond to this collection is required to obtain or retain benefit P.L. 107-110, Sec. 501, Innovative Programs and Parental Choice Provisions. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the U.S. Department of Education, 400 Maryland Ave., SW, Washington, DC 20202-4536 or email ICDocketMgr@ed.gov and reference the OMB Control Number 1860-0509. Note: Please do not return the completed ED-Green Ribbon Schools application to this address.



PART II – SUMMARY OF ACHIEVEMENTS

Schools are the center of a community and, as such, school districts have a unique opportunity to positively impact the environmental practices and understanding of tens of thousands of students, staff members, and community members. Des Moines Public Schools is committed to the implementation of practices that span the Green Ribbon Pillars and model energy efficiency and environmental sustainability while simultaneously providing safe and healthy learning environments and quality educational experiences for students.

Pillar I: While it takes dedication and hard work to modify historic structures into efficient energy models, DMPS is committed to accomplishing this goal. The district works with multiple partners to develop and implement efficiencies district-wide. For example, DMPS partners with Johnson Controls to design and implement building automation and HVAC controls; The Energy Group reviews energy practices and provides options for retro-commissioning, new technology, and operational changes; The Weidt Group audits systems and energy use and makes recommendations with a cost/benefit analysis; and MidAmerican Energy helps the district identify and take advantage of energy rebate programs. Renovation projects have focused on replacing obsolete, inefficient, or worn-out equipment and systems, which has had a tremendous impact on energy consumption. Large-scale energy improvements have included HVAC, building envelope, and electrical upgrades. Thirty-three buildings have replaced the traditional boiler system with geothermal. When geothermal is not possible, other conservation steps—such as replacing outdated boilers with high-efficient units—are taken. Additionally, by modifying building controls, particularly replacing pneumatic controls with Direct-Digital Control technology, the district can create temperature set points, set back temperatures for unoccupied periods, and stagger the startup of equipment to avoid peak demand charges. Building envelope upgrades have included the installation of double-pane glazed windows and doors with internal insulation and weather stripping. Lighting upgrades have included the installation of high-efficient T8 and T5, LED, and motion-sensor lighting and renovation designs that maximize the use of day lighting. The district is also committed to small habit changes that can have a big impact. For example, teachers are encouraged to close and position classrooms blinds to reduce heat loss or keep the room cooler during breaks. Daily, the entire staff does their part by turning off lights, shutting down computers, and unplugging electronics. Due to energy savings strategies, fifty-three buildings have earned the ENERGY STAR label, and DMPS has been designated an ENERGY STAR “Top Performer.” DMPS has saved \$2.4 million in avoided energy costs since 2007-08, equivalent to 66 first year teachers. DMPS also leads by example on issues such as waste and preventative health measures. Water retention is built into every renovation plan and rain gardens have been installed at many schools. Two years ago, DMPS implemented single stream recycling and purchased additional classroom and large recycling containers, increasing the amount of solid waste that is recycled by 63% from 2009-10 to 2011-12. The district has been recognized by various groups in 2012 for its efforts, including: ENERGY STAR Partner of the Year, Governor’s Iowa Environmental Excellence Award, Green Ribbon School for Central Campus, and an ASHRAE Iowa Chapter Technology Award.

Pillar II: DMPS has implemented stringent plans relating to improving the health, comfort, and learning environment of students and staff. The district has a management plan to control asbestos exposure. Though not required until 2015, DMPS has also begun testing for lead. Current regulations require radon testing of buildings with preschool classrooms; DMPS has gone further and conducts radon tests in all district buildings. By 2013, the last wood playground will be removed, and DMPS does not allow any CCA material on new installations. The district has also implemented multiple practices to promote nutrition, physical activity, and overall school health. Nine schools participate in the USDA's HealthierUS School Challenge. The district has a Farm to School chapter, as do four individual schools. Eleven schools have school gardens, and the Central Campus Horticulture program has a massive greenhouse garden. Schools work with AmeriCorps FoodCorps Members who lead weekly afterschool cooking and nutrition lessons and activities. DMPS partners with the Dairy Council and the NFL for "Fuel Up to Play 60," which provides equipment and nutrition education for all elementary schools. Twenty-eight elementary schools participate in IDPH's "Pick a Better Snack" program, and DMPS hosts AmeriCorps HealthCorps Members who lead monthly lessons and tastings for all students grades PreK-3 and for nine afterschool girls groups. Students spend at least 120 minutes in physical activity weekly, and numerous outdoor education, exercise, and recreation opportunities are available.

Pillar III: Through innovative partnerships, DMPS is implementing ground-breaking new initiatives in environmental and sustainability education, and these concepts are incorporated into the curriculum at all grade levels. For the last three years, DMPS and the Center for Bio-renewable Chemicals at Iowa State University have collaborated to pair DMPS teachers with ISU bio-renewable scientists, providing teachers with the tools, experiences, and ongoing relationships with career scientists that enable them to share with students the latest STEM developments. DMPS also participates in Symbi—a joint effort between ISU, DMPS, and the National Science Foundation—to educate and inspire young people about renewable energy, sustainable technology, and green products. With Symbi, ISU graduate students work collaboratively with teachers to develop innovative, engaging science activities for students. In partnership with the George Lucas Education Foundation, DMPS introduced a Project Based Learning AP Environmental Science course at all of the five comprehensive high schools. DMPS also offers the Iowa Energy and Sustainability Academy, a cutting edge program focused on energy sustainability at Central Campus. The district is also committed to providing students with meaningful outdoor learning experiences. Multiple schools have built outdoor classrooms for on-site outdoor learning experiences. Students also take off-site field trips to places like Gray's Lake, Neil Smith National Wildlife Refuge, Living History Farms, Des Moines Water Works, and Metro Waste Authority. These field trips help students connect with the environment. At Hillis Elementary, students learn how they can make good, healthy choices in an urban setting every Wednesday during ECO (Every Child Outside) Hour. Hundreds of DMPS students participate in environmentally-focused service-learning projects annually.

By placing a priority on environmental issues and improvements, DMPS is demonstrating the importance of conservation, energy efficiency, and environmental stewardship to students, families, and the communities it serves, thus ensuring that the same care and concern for the environment is carried on in future generations.



U.S. DEPARTMENT OF EDUCATION



Iowa Department of Education
Green Ribbons Schools Scoring Sheet

Type of Application: School Award _____ District Sustainability Award X
Name of School or District Des Moines Independent Community School District

Application Outline:

<u>ED-GRS Pillars and Elements</u>	<u>Points</u>	<u>Score</u>
Cross-Cutting Question: Participation in green school programs	5 points	5
Pillar I: Reduce environmental impact and costs: 30%		
Element 1A: Reduced or eliminated greenhouse gas (GHG) emissions Energy Buildings	15 points	10
Element 1B: Improved water quality, efficiency, and conservation Water Grounds	5 points	4
Element 1C: Reduced waste production Waste Hazardous waste	5 points	4
Element 1D: Use of alternative transportation	5 points	4
Pillar II: Improve the health and wellness of students and staff: 30%		
Element 2A: Integrated school environmental health program Integrated Pest Management Contaminant controls and Ventilation Asthma control Indoor air quality Moisture control Chemical management	15 points	12
Element 2B: Nutrition and fitness Fitness and outdoor time Food and Nutrition	15 points	12
Pillar III: Provide effective environmental and sustainability education, incorporating STEM, civic skills and green career pathways: 35%		
Element 3A: Interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems	20 points	20
Element 3B: Use of the environment and sustainability to develop STEM content, knowledge, and thinking skills	5 points	5
Element 3C: Development and application of civic knowledge and skills	10 points	10
Total	100 points	86

Schwartz, Gary [ED]

From: Fenton.Kathleen@epamail.epa.gov
Sent: Monday, January 14, 2013 10:16 AM
To: Schwartz, Gary [ED]
Subject: EPA Enforcement Check for Green Ribbon Schools

Gary --- Looks like your schools have the "all clear" from our enforcement check. Thanks. klf

----- Forwarded by Kathleen Fenton/R7/USEPA/US on 01/14/2013 10:14 AM -----

From: Neal Gilbert/R7/USEPA/US
To: Kathleen Fenton/R7/USEPA/US@EPA
Cc: Althea Moses/R7/USEPA/US@EPA, Lynn Slugantz/R7/USEPA/US@EPA
Date: 01/14/2013 10:05 AM
Subject: Re: Fw: Not sure who to ask for this enfc. check -- someone in ECO/EJ?? Fw: EPA Enforcement Check for Green Ribbon Schools

Hi Kathleen,

I found no compliance or enforcement issues with either school district. Let me know if you have any questions.

Thanks!

Neal Gilbert
U.S. Environmental Protection Agency, Region 7
Enforcement Coordination Office
11201 Renner Blvd
Lenexa, KS 66219
P: (913) 551-7985
F: (913) 551-7941
www.epa.gov/compliance



District Contact Information

District Name: Des Moines Independent Community School District

District Address: 901 Walnut Street

City: Des Moines State: Iowa Zip: 50309

Website: www.dmschools.org Face book page: www.facebook.com/dmschools

Superintendent Name: Thomas Ahart, Interim Superintendent

Superintendent Email Address: thomas.ahart@dmschools.org Telephone Number: 515-242-7766

Lead Applicant Name (if different): Bill Good, Chief Operations Officer

Lead Applicant Email: harold.good@dmschools.org Telephone Number: 515-242-8321

Level		District Type		How would you describe your District?		
<input checked="" type="checkbox"/>	Elementary (PK-5 or 6)	<input checked="" type="checkbox"/>	Public	<input checked="" type="checkbox"/>	Urban	District Name: Des Moines Public Schools
<input checked="" type="checkbox"/>	K-8		Private/Independent		Suburban	<input checked="" type="checkbox"/> Largest 50 districts
<input checked="" type="checkbox"/>	Middle (6-8 or 9)		Charter		Rural	Total enrolled: 32,746
<input checked="" type="checkbox"/>	High (9 or 10-12)					
Does your District serve 40% or more students from disadvantaged households?			% receiving FRPL:	70.6%	Graduation rate:	75.68 (4 year) 82.88 (5 year)
Yes	<input checked="" type="checkbox"/>	No	% limited English proficient:	16.4%	Attendance rate:	94%
			Other measures: % SPED:	15.5%		

Cross-Cutting Question – Summary Narrative: Attach an 800-word maximum narrative to this application describing your District’s efforts to reduce environmental impact and costs; improve student and staff health; and provide effective environmental and sustainability education. Focus on unique and innovative practices and partnerships.

Schools are the center of a community, providing opportunities to model energy efficiency practices and provide quality education and learning environments for students, staff, and the community. District efforts span all three Pillars.

Pillar I:

While it takes dedication and hard work to modify historic structures into efficient energy models, DMPS has committed to accomplishing this goal. Efficiencies are in place district-wide, from micro strategies like removal of personal appliances to macro strategies like installing geothermal HVAC systems. Lights and computers are turned off when not used, thermostats are controlled based upon occupancy, and each school has an energy plan. DMPS has completed energy efficiency upgrades in lighting, motion and CO2 sensors, and window replacements. Fifty-three buildings have earned the ENERGY STAR label, and DMPS is an ENERGY STAR “Top Performer.”

Because of energy saving strategies, DMPS spent an average of \$111 per student on energy costs last year, and the average energy cost per square foot was \$0.62. Both measures are significantly lower than national averages of \$181.53 and \$0.92. DMPS avoided emissions of 4,651 MtCO₂e last year, the equivalent of carbon sequestered by 119,261 tree seedlings grown for ten years. DMPS has saved \$2.4 million in avoided energy costs since 2007-08, equivalent to 66 first year teachers. DMPS has been recognized by various groups in 2012 for its efforts, including: ENERGY STAR Partner of the Year, Governor's Iowa Environmental Excellence Award, Green Ribbon School for Central Campus, and an ASHRAE Iowa Chapter Technology Award.

DMPS also leads by example on issues such as waste and preventative health measures. Water retention is built into every renovation plan—including storm water retention ponds—and rain gardens have been installed at many schools. In 2009, DMPS implemented single stream recycling and purchased additional classroom and large recycling containers, which increased the amount of solid waste that is recycled by 63% from 2009-10 to 2011-12.

Pillar II:

DMPS has implemented stringent plans relating to improving the health, comfort, and learning environment of students and staff.

The district has a management plan to control asbestos exposure. Though not required until 2015, DMPS has also begun testing for lead. Current regulations require radon testing of buildings with preschool classrooms. DMPS has gone further and conducts radon tests in all district buildings. By 2013, the last wood playground will be removed, and DMPS does not allow any CCA material on new installations.

DMPS has implemented multiple practices to promote nutrition, physical activity, and overall school health. Nine schools participated in the USDA's HealthierUS School Challenge. The district has a Farm to School chapter, as do four individual schools. Eleven schools have school gardens, and the Central Campus Horticulture program has a massive greenhouse garden. Schools work with AmeriCorps FoodCorps Members who lead weekly afterschool cooking and nutrition lessons and activities. DMPS partners with the Dairy Council and the NFL for "Fuel Up to Play 60," which provides equipment and nutrition education for all elementary schools. Twenty-eight elementary schools participate in IDPH's "Pick a Better Snack" program, and DMPS hosts AmeriCorps HealthCorps Members who lead monthly lessons and tastings for all students grades PreK-3 and for nine girls groups. Students spend at least 120 minutes in physical activity weekly, and numerous outdoor education, exercise, and recreation opportunities are available.

Pillar III:

Through innovative partnerships, DMPS is implementing ground-breaking initiatives in environmental and sustainability education, and these concepts are incorporated into the curriculum at all grade levels.

For the last three years, DMPS and the Center for Bio-renewable Chemicals at Iowa State University have collaborated to pair DMPS teachers with ISU bio-renewable scientists, providing teachers with the tools, experiences, and ongoing relationships with career scientists that enables them to share with students the latest STEM developments. DMPS also participates in Symbi—a joint effort between ISU, DMPS, and the National Science Foundation—to educate and inspire young people about renewable energy, sustainable technology, and green products. With Symbi, ISU graduate students work collaboratively with teachers to develop innovative, engaging science activities for students. In partnership with the George Lucas Education Foundation, DMPS introduced Project Based Learning AP Environmental Science at the five comprehensive high schools. DMPS also offers the Iowa Energy and Sustainability Academy, a cutting edge program focused on energy sustainability at Central Campus.

DMPS is committed to providing students with meaningful outdoor learning experiences. Multiple schools have built outdoor classrooms for on-site outdoor learning experiences. Students also take off-site field trips to places like Gray's Lake, Neil Smith National Wildlife Refuge, Living History Farms, Des Moines Water Works, and Metro Waste Authority. These trips help students connect with the environment. Hundreds of DMPS students participate in environmentally-focused service-learning projects annually. At Hillis Elementary, students learn how they can make good, healthy choices in an urban setting during the weekly ECO (Every Child Outside) Hour.

1. Is your District participating in a local, state or national school program which asks you to benchmark progress in some fashion in any or all of the Pillars?

Yes No

Program(s) and level(s) achieved:

- ENERGY STAR
 - 2012: Portfolio rating of 86, which equated to a 28% reduction in energy use compared to the previous
 - 53 buildings earned the ENERGY STAR rating
 - 2011: Portfolio rating of 79, which equated to a 28% reduction in energy use compared to the previous
 - 42 buildings earned the ENERGY STAR rating

2. Has your District, staff or student body received any awards for facilities, health or environment?

Yes No

Award(s) and year(s):

- **Green Ribbon School** – Central Campus (2011)
- **ENERGY STAR** – Partner of the Year (2012)
- **ENERGY STAR** – “Top Performer” (2011, 2012)
- **Governor’s Iowa Environmental Excellence Award** (2012)
- **ASHRAE Iowa Chapter Technology Award** (2012)
- The Des Moines Urban Agricultural Academy Forestry team qualified for the **National FFA Convention**. This is the first team from DMUAA to earn a trip to the national convention. (2012)
- Seven DMPS high school students were selected to attend the **World Food Prize Global Youth Institute**. (2012)
- Lincoln High School was recognized as the **2011-12 High School of the Year** by Science Bound, Iowa State University’s premier pre-college program to increase the number of ethnically diverse Iowa students who pursue degrees in Agriculture, Science, Technology, Engineering, or Mathematics (ASTEM). (2012)
- Walnut Street School third-grader Ajani Patton-Imani invited to First Lady Michelle Obama’s first ever **Kids’ “State Dinner”** at the White House. His winning healthy recipe submitted for the Healthy Lunchtime Challenge was Yummy Corn Wraps. (2012)

PILLAR I: REDUCED ENVIRONMENTAL IMPACT AND COSTS

Energy

1. Can your District demonstrate a reduction in Greenhouse Gas emissions?

Yes No Percentage reduction: Over (m/yy-m/yy)

Initial GHG emissions rate (MT eCO2/person): 1.49

Final GHG emissions rate (MT eCO2/person): 1.33

Offsets: None How did you calculate the reduction? Energy Star website

2. Have schools in your District received EPA ENERGY STAR certification or meet the requirements for ENERGY STAR certification?

Yes No

Year(s) and score(s) received: Since 2009, 52 DMPS schools and buildings have achieved ENERGY STAR certification, and the district was named an ENERGY STAR Partner of the Year in 2012. For each ENERGY STAR school/building, the year(s) labeled and score(s) received is listed. **Brody** 2012 (93); **Brubaker** 2009 (75), 2010 (90), 2011 (94), 2012 (95); **Callanan** 2009 (77), 2010 (91), 2011 (97), 2012 (95); **Capitol View** 2009 (77), 2010

(97), 2011 (97), 2012 (97); **Carver** 2009 (75), 2010 (93), 2011 (93), 2012 (90); **Casady** 2011 (91), 2012 (93); **Cattell** 2009 (95), 2010 (99), 2011 (99), 2012 (99); **Central Campus** 2010 (86), 2011 (93), 2012 (90); **Cowles** 2010 (87), 2011 (93), 2012 (86); **East 011** (84), 2012 (86); **Edmunds** 2012 (77); **Findley** 2009 (77), 2010 (86); 2012 (76); **Garton** 2009 (81), 2011 (86), 2012 (91); **Goodrell** 2009 (77), 2010 (91), 2011 (94), 2012 (96); **Greenwood** 2009 (86), 2010 (95), 2011 (95), 2012 (96); **Hanawalt** 2009 (79), 2010 (92), 2011 (91), 2012 (96); **Harding** 2010 (79), 2011 (88), 2012 (97); **Hiatt** 2009 (79), 2010 (79), 2011 (82), 2012 (90); **Hillis** 2009 (97), 2010 (98), 2011 (99), 2012 (97); **Hoover/Meredith** 2010 (75), 2011 (80), 2012 (85); **Howe** 2009 (77), 2010 (92), 2011 (88), 2012 (92); **Hoyt** 2010 (75), 2011 (75), 2012 (84); **Hubbell** 2009 (79), 2010 (82), 2011 (88), 2012 (91); **Jackson** 2011 (95), 2012 (97); **Jefferson** 2010 (78), 2011 (77), 2012 (75); **King** 2010 (98), 2011 (97), 2012 (99); **Kurtz** 2011 (75), 2012 (83); **Lincoln** 2012 (80); **Lovejoy** 2010 (75), 2012 (75); **Madison** 2010 (85), 2011 (93); 2012 (92); **McKee** 2010 (100), 2011 (98), 2012 (98); **McKinley** 2009 (75), 2010 (79), 2011 (86), 2012 (88); **Merrill** 2011 (77), 2012 (96); **Monroe** 2010 (81), 2011 (79), 2012 (86); **Moore (Scavo)** 2012 (78); **Morris** 2009 (92), 2010 (98), 2011 (99), 2012 (98); **Moulton** 2010 (78); **North** 2011 (78), 2012 (92); **Oak Park** 2009 (75), 2010 (86), 2012 (94); **Operations Center** 2011 (75), 2012 (78); **Park Avenue** 2011 (85), 2012 (92); **Perkins** 2009 (88), 2010 (94), 2011 (93), 2012 (98); **Phillips** 2012 (88); **Pleasant Hill** 2009 (76), 2010 (87), 2011 (91), 2012 (93); **Riverwoods** 2009 (76), 2010 (88), 2011 (82), 2012 (79); **Samuelson** 2009 (92), 2010 (93), 2011 (92), 2012 (96); **South Union** 2009 (78), 2010 (94), 2011 (95), 2012 (97); **Stowe** 2009 (97), 2010 (99), 2011 (99), 2012 (99); **Weeks** 2009 (81), 2010 (86), 2011 (90), 2012 (89); **Willard** 2012 (91); **Windsor** 2009 (91), 2010 (84), 2011 (95), 2012 (96); and **Wright** 2009 (79), 2010 (94), 2011 (93), 2012 (91).

3. Has your District reduced its total non-transportation energy use from an initial baseline?

Yes No

Current energy usage (kBtu/student/year): 10.31

Current energy usage (kBtu/sq. ft./year): 52

Percentage reduction: Over (m/yy-m/yy) 6/11 to 6/12

How did you document this reduction? Utility Manager software

4. What percentage of your District's energy is obtained from:

On-site renewable energy generation: Type: _____

Purchased renewable energy: Type: _____

Participation in USDA Fuel for Schools, DOE Wind for Schools or other federal or state school energy program:

5. In what year were the schools in your District originally constructed?

Brody 1966; **Brubaker** 2003, **Callanan** 1928, **Capitol View** 2001, **Carver** 2007, **Casady** 1905, **Cattell** 1992, **Central Academy** 1914, **Central Campus** 1918, **Cowles** 1958, **Downtown** 1918, **East** 1912, **Edmunds** 1974, **Findley** 1966, **Garton** 1958, **Goodrell** 1955, **Greenwood** 1901, **Hanawalt** 1913, **Harding** 1926, **Hiatt** 1925, **Hillis** 1953, **Hoover** 1967, **Howe** 1919, **Hoyt** 1968, **Hubbell** 1910, **Jackson** 1962, **Jefferson** 1972, **King** 1974, **Kurtz** 1959, **Lincoln** 1923, **Lovejoy** 1972, **Madison** 1952, **McCombs** 1973, **McKee** 1949, **McKinley** 1904, **Meredith** 1962, **Merrill** 1961, **Monroe** 1924, **Moore (Scavo)** 1950, **Morris** 1954, **Moulton** 1895, **North** 1957, **Oak Park** 1891, **Operations Center** 1956, **Park Avenue** 1909, **Perkins** 1918, **Phillips** 1914, **Pleasant Hill** 1972, **Riverwoods** 2000, **Samuelson** 1965, **Smouse** 1954, **South Union** 1954, **Stowe** 1915, **Studebaker** 1972, **Walnut Street** 1979, **Weeks** 1954, **Willard** 1917, **Windsor** 1918, and **Wright** 1961.

What is the total building area of your District?

6. Has your District constructed or renovated building(s) in the past ten years? Yes No

For new building(s): Percentage of the building area that meets green building standards:

Certification and level: None Total constructed area: _____

For renovated building(s): Percentage of the building area that meets green building standards:

Certification and level: None Total renovated area: _____

Water and Grounds

7. What percentage of your landscaping is considered water-efficient and/or regionally appropriate: Types of plants used and location: Iowa-native hardwood trees and shrubs

8. Describe alternate water sources used for irrigation. (50 word max)

None. The only athletic fields and the Central Campus greenhouse are irrigated. All other green space is watered from rain only.

9. Describe any efforts to reduce storm water runoff and/or reduce impermeable surfaces. (50 word max)

Water retention is built into every renovation plan the district undertakes. Every plan includes storm water retention ponds to capture excess run off and maintain it on site. DMPS has also implemented rain gardens in many of the renovation projects over the past few years.

10. Our District's drinking water comes from:

Municipal water source Well on school property Other: _____

11. Describe how the water source is protected from potential contaminants. (50 word max)

DMPS uses backflow preventors on all water supplies in the district. These backflow preventors are inspected on an annual basis to ensure proper operation. Corrective actions are taken to maintain equipment in working order.

12. Describe the program you have in place to control lead in drinking water. (50 word max)

All drinking water comes from one source – Des Moines Water Works. Water Works conducts regular tests for lead using atomic absorption spectroscopy. During the treatment process, Water Works keep the water leaving the plant near a 9.5 pH level to form a thin barrier of protective scale in the pipes.

13. What percentage of the school grounds are devoted to ecologically-beneficial uses? (50 word max)

Each school in the district has a space that is used for playgrounds or green space, and many schools have some type of community garden on-site. Ecologically-beneficial percentages at the multiple schools range from 1% to 48%.

Waste

14. What percentage of solid waste is diverted from land filling or incinerating due to reduction, recycling and/or composting? Complete all the calculations below to receive points.

A. Monthly garbage service in cubic yards (garbage dumpster size(s) x number of collections per month x percentage full when emptied or collected): 5083.42

B. Monthly recycling volume in cubic yards (recycling dumpster sizes(s) x number of collections per month x percentage full when emptied or collected): 1987.47

C. Monthly compostable materials volume(s) in cubic yards (food scrap/food soiled paper dumpster size(s) x number of collections per month x percentage full when emptied or collected): 0

Recycling Rate = $[(B + C) \div (A + B + C) \times 100]$: 39.1

Monthly waste generated per person = $(A/\text{number of students and staff})$: 14

15. What percentage of your District's total office/classroom paper content is post-consumer material, fiber from forests certified as responsibly managed and/or chlorine-free? 0%

16. List the types and amounts of hazardous waste generated at your District:

Flammable liquids	Corrosive liquids	Toxics	Mercury	Other:
8,621 gallons	560 gallons	85 gallons	75 gallons	18,000 pounds

How is this calculated? From the waste manifest

How is hazardous waste disposal tracked? Via the waste manifest and workorders

17. Which green cleaning custodial standard is used? Green Seal

What percentage of all products is certified? 95%

What specific third-party certified green cleaning product standard does your District use? Green Seal

18. Describe other measures taken to reduce solid waste and eliminate hazardous waste. (100 word max)

Two years ago, the district implemented single stream recycling and purchased additional classroom and large recycling containers for each school. In addition, the district reduced the size of the waste receptacles and increase the size of the recycling receptacle for several schools. These measures have increased the amount of solid waste that is recycled. From 2009-10 to 2011-12, the district saw a 65% increase in the amount of material recycled from 241.91 tons in 2009-10 to 395.12 tons in 2011-12. This year, custodial staff have implemented milk carton recycling, which we anticipate will have a positive impact on our recycling numbers.

Alternative Transportation

19. What percentage of your students walk, bike, bus, or carpool (2 + student in the car) to/from school? (Note if your District does not use school buses.)

29%

How is this data calculated? (50 word max)

Data taken from transportation data

20. Has your District implemented?

- No Designated carpool parking stalls.
- Yes A well-publicized no idling policy that applies to all vehicles (including school buses).
- Yes Vehicle loading/unloading areas are at least 25 feet from building air intakes, doors, and windows.
- Yes Safe Pedestrian Routes to school or Safe Routes to School.

Describe activities in your safe routes program. (50 word max)

Several schools conduct walks to school in the Fall/Spring. Additionally, working with the City Traffic Division, countdown crosswalk signals were installed at crosswalks near high-traffic schools. Two Raised Pedestrian Crossings were installed around the Roosevelt/Hubble campus, which raised the grade of the crosswalk, literally elevating the visibility of children.

21. Describe how your school transportation use is efficient and has reduced its environmental impact. (50 word max)

The district purchases hybrid vehicles for security patrol. The district also recycles oil and parts washer solvent. Additionally, weather permitting, biodiesel is used to fuel school busses.

22. Describe any other efforts toward reducing environmental impact, focusing on innovative or unique practices and partnerships. (100 word max)

DMPS has been very proactive in reducing energy usage and environmental impact over the past 10 years. DMPS has upgraded 43 buildings with new systems, lighting systems, building automation systems, and new windows and doors. The district has also installed 32 geothermal systems, which greatly reduce the districts environmental impact. Because of these upgrades the district has been able to realize \$2.4 million in avoided energy costs over the last five years.

PILLAR 2: IMPROVE THE HEALTH AND WELLNESS OF STUDENTS AND STAFF

Environmental Health

1. What is the volume of your annual pesticide use (gal/student/year)? Describe efforts to reduce use:

.04 gallons/student/yr., which includes both herbicides and insecticides. Rather than wholesale spraying, spot treatment is used to address issues identified through inspection. An Iowa State University entomology professor provides training to custodial staff by on recognizing problems and non-chemical corrective actions.

2. Which of the following practices does your District employ to minimize exposure to hazardous contaminants? Provide specific examples of actions taken for each checked practice.

Our District prohibits smoking on campus and in public school buses.
Example: DMPS follows State of Iowa laws, which requires the prohibition of smoking and posting of no smoking signs on all buildings, grounds, and vehicles.

Our District has identified and properly removed sources of elemental mercury and prohibits its purchase and use in the school.
Example: DMPS removes mercury containing items from science room and mechanical equipment as discovered. DMPS also recycles all fluorescent light bulbs to reduce mercury in the landfills.

Our District uses fuel burning appliances and has taken steps to protect occupants from carbon monoxide (CO).
Example: DMPS maintains our fuel burning appliance in peak operation. This is done by proper preventative maintenance.

Our District does not have any fuel burning combustion appliances.
Example:

Our District has tested all frequently occupied rooms at or below ground level for radon gas and has fixed and retested all rooms with levels that tested at or above 4 pCi/L OR our school was built with radon resistant construction features and tested to confirm levels below 4 pCi/L.
Example: DMPS has a three year testing plan for all our facilities in the district.

Our District has identified any wood playground or other structures that contain chromate copper arsenate and has taken steps to eliminate exposure.
Example: DMPS has been removing all wood playgrounds in the district; the last wood playground is scheduled to be removed by 2013. DMPS does not allow any CCA material on any new installations of playground equipment.

3. Describe how your District controls and manages chemicals routinely used in the school to minimize student and staff exposure. (100 word max)

DMPS maintains chemicals inventories on facilities within the schools. These chemical inventories allow the district to maintain proper MSDS for each chemical management. Science chemicals are removed as needed basis. The science teachers place a workorder request to have chemicals picked up. DMPS also does major chemical removal from buildings as they are renovated.

4. Describe actions your District takes to prevent exposure to asthma triggers in and around the school. (100 word max)

The district performs proper cleaning of each building to make sure that dust levels are maintained as low as possible. The district also uses HEPA filtered vacuums for all housekeeping activities, which allows the dust to be captured and not returned back in the learning spaces. The District also does preventative maintenance on all of its HVAC equipment on a regular basis, which includes changing out air filters on a quarterly basis and cleaning HVAC coils on a regular basis to reduce dirt build up.

5. Describe actions your District takes to control moisture from leaks, condensation, and excess humidity and promptly cleanup mold or removes moldy materials when it is found. (100 word max)

DMPS has a comprehensive plan to identify moisture needs in the buildings. The district has a five year plan for roofing and tuck pointing. These plans were developed from facility inspections to determine needs and set priorities. If moisture issues are discovered in a building, DMPS tracks these problems with the workorder system. DMPS endeavors to remove water-damaged materials before mold can form. If mold does develop, contaminated materials are promptly cleaned with a detergent, followed by application of an anti-microbial cleaner, and thoroughly dried or are replaced. Difficult microbial or moisture problems to identify or remediate are professionally contracted.

6. Our District has installed local exhaust systems for major airborne contaminant sources. Yes No

7. Describe your District's practices for inspecting and maintaining the building's ventilation system and all unit ventilators to ensure they are clean and operating properly. (100 word max)

DMPS provides annual Indoor Air Quality training for all operations staff, conducted by the IAQ Coordinator. In addition to general training, staff receives position-specific training:

1. Facilities: pesticides, chemicals, grass clippings away from unit vents, ventilation, operations,

- 2. maintenance, moisture
- 2. Custodians: cleaning, moisture, chemicals, problems
- 3. Bus drivers: idling
- 4. Teachers: animals, food, plants, furniture, clutter, chemicals, air movement, sensitive students

DMPS performs an annual review of the IAQ Plan, which involves:

- Ensuring a certified IAQ Coordinator
- Walkthrough inspections
- Building systems evaluations
- Reviewing IAQ Concern Reports
- Creating a “Plan to Address Identified Issues”
- Changing the IAQ Management Plan as needed

8. Describe actions your District takes to ensure that all classrooms and other spaces are adequately ventilated with outside air, consistent with state or local codes, or national ventilation standards. (100 word max)

DMPS maintains a preventive maintenance schedule for each building. The schedule was established using the past experience with maintenance professionals, the availability of resources, and technical guides, including the manufacturer’s specifications. Preventive maintenance includes the routine inspection, adjustment, and repair of building structures and systems, including the heating, ventilating, and air conditioning system (HVAC), local exhaust, and flooring. To the extent possible, buildings are maintained according to ASHRAE-recommended parameters described in standards 55 and 62. If parameters cannot be met, ventilation adjustments are made that provide a fresh air delivery, temperature, and humidity level as close to the ASHRAE standard.

9. Describe other steps your District takes to protect indoor environmental quality such as implementing EPA IAQ Tools for Schools and/or conducting other periodic, comprehensive inspections of the school facility to identify environmental health and safety issues and take corrective action. (200 word max)

Indoor Air Quality is a critical component of providing a healthy, comfortable learning environment. DMPS’s IAQ goals are:

- Minimize indoor air pollutants, reducing the likelihood of health problems, including asthma, respiratory infections, and allergic reactions.
- Control temperature, humidity, and ventilation associated problems, fostering students’ ability to concentrate and learn.
- Prevent indoor air quality problems, avoid closures, minimize liability, and foster a positive relationship among parents, teachers, and school administration.

The DMPS IAQ Management Plan is used to monitor and improve the quality of air in buildings. The objectives of the IAQ Plan are.

- Reduce the levels of indoor air pollutants through preventive measures such as routine maintenance activities, periodic building evaluations and inspections, and IAQ-specific policies.
- Provide and maintain adequate air exchanges by repairing and maintaining ventilation equipment.
- Respond to IAQ-related concerns and problems in a thorough and prompt manner, investigation, documentation, and effective communication.
- Increase and enhance ventilation rates during renovation projects.

School buildings are evaluated every year. Evaluations cover the ventilation systems and maintenance activities. Ventilation evaluations check: air intakes, filters, condensate areas, coils, cleanliness, mechanical rooms, dampers, controls, air movement, and exhaust. Maintenance evaluations check: building supplies, dust control, floor cleaning, drain traps, moisture, and combustion appliances.

Nutrition and Fitness

10. Which practices does your District employ to promote nutrition, physical activity and overall school health? Provide specific examples of actions taken for each checked practice, focusing on innovative or unique practices and partnerships. (100 word max each)

✓	Our District participates in the USDA's HealthierUS School Challenge. Level and year:	Level	Year
<p>This is the first year that DMPS schools have participated in the USDA's HealthierUS School Challenge. Goodrell Middle has submitted to the USDA HealthierUS School Challenge for Gold With Distinction, and we should know this year if Goodrell has earned the distinction.</p> <p>In addition, Garton, Hillis, Windsor, Wright, Brubaker, Monroe, Hanawalt, and Jefferson elementary schools have submitted to the USDA HealthierUS School Challenge for Silver With Distinction, and we should know this year if these schools have earned the distinction.</p>			
✓	Our District participates in a Farm to School program to use local, fresh food.		
<p>Des Moines Public Schools has a District Farm to School Chapter registered with the US Department of Agriculture. During Farm to School month (October) four schools completed tasting of local sweet potatoes that were served to all students in the cafeterias. Twenty schools participate in nutrition education that included information and tastings on local edamame and melons. During fall parent-teacher conferences, schools had displays presenting nutrition education and provided local apples as snacks. In addition, summer Farm to School tastings were held at school summer service feeding sites.</p> <p>Additionally, Colwes Elementary/Middle, Hubble Elementary, Hillis Elementary, and Goodrell Middle have school Farm to School Chapters.</p>			
✓	Our schools have an on-site food gardens.		
<p>The district has multiple school gardens, and more are installed each year. Currently, Goodrell and Hiatt middle schools; Cowles and Moulton elementary/middle schools; and Capital View, Carver, Hubbell Hillis, King, Perkins, and Smouse elementary schools have food gardens. Smouse serves students with severe mental/physical disabilities. The beds are wheelchair height, enabling participation for all students. Several gardens are American Heart Association gardens or were started with Farm to School funds. All DMPS gardens are supported by AmeriCorps FoodCorps. Central Campus Horticulture has a massive greenhouse garden. Annually students grow and sell numerous food plants, bushes, and trees.</p>			
✓	Our school gardens supply food for our students in the cafeteria, a cooking or garden class or to the community.		
<p>All schools with gardens use the produce in nutrition or cooking activities. For example, at Goodrell, AmeriCorps FoodCorps Members lead weekly afterschool cooking and nutrition lessons and activities. These experiential learning activities incorporate in-season produce harvested from the school garden. At Hillis, every grade is responsible for planning, maintaining, and harvesting a garden bed. Harvested food is used in cooking lessons with FoodCorps Members and for the annual CrockPot soup cook that each classroom completes. Hillis also has an indoor grow lab, so they are able to conduct tastings and cooking classes using the school's produce throughout the year.</p>			
✓	Our students spent at least 120 minutes per week over the past year in school supervised physical education.		
<p>In middle school and high schools (grades 6-12), students engage supervised physical activity (including physical education classes, interscholastic athletics, school-sponsored activities, or non-school physical activities, as required, all of which must be supervised) for a minimum of 120 minutes per week in which there are at least five days of school, as required.</p> <p>At the elementary level (grades K-5), engage in physical activity for a minimum of 30 minutes each school day, as required. This requirement is met by physical education classes, activities at recess or during class time, and before- or after-school activities, as allowed.</p>			
✓	At least 50% of our students' annual physical education takes place outdoors.		

Weather permitting, students' physical education is spent outside. When looking at the annual average, at minimum of 50% of physical education is conducted outside.

Health measures are integrated into assessments.

The district participates in two initiatives that incorporate health measures into assessments. The district participates in the President's Challenge "Physical Fitness Test" or "Presidential Youth Fitness Program". The district also partners with Iowa State University to implement FITNESSGRAM for students in grades 1, 3, 4, 5, 6, 7, 8, 9, and 10. FITNESSGRAM is a fitness assessment tool that measures aerobic capacity; body composition; and muscular strength, endurance and flexibility. The results of the assessments are used by physical education teachers to help educate students and families and encourage healthy behaviors.

At least 50% of our students have participated in the EPA's Sunwise (or equivalent program).

(100 word max)

Food purchased by our District is certified as "environmentally preferable."

(100 word max)

Percentage

Type

11. Describe the type of outdoor education, exercise and recreation available. (100 word max)

DMPS has multiple opportunities for students to participate in outdoor education, exercise, and recreation. Multiple schools have outdoor classrooms, which allows students to learn in and about their natural environment. Schools have also introduced unique ways to encourage outdoor exercise. Many DMPS schools have KidStriders clubs, which incentivizes students to run/walk a minimum cumulative marathon distance (26 miles) during recess. Additionally, the DMPS Community Education and Athletics departments offer outdoor organized sports for middle and high school students, respectively. Activities include: soccer (B/G 6-8 and 9-12); football (B 6-8 and 9-12); and tennis, track, cross country, and baseball/softball (B/G 9-12).

12. Describe any other efforts to improve nutrition and fitness, highlighting innovative or unique practices and partnerships. (100 word max)

DMPS partners with the Dairy Council and the NFL for "Fuel Up to Play 60," which provides equipment and nutrition education for all elementary schools. All elementary PE teachers received training on the SPARK PE curriculum. Multiple schools participate in 10-week "Live Healthy Iowa" challenges. Twenty-eight elementary schools participate the IDPH's "Pick a Better Snack," a social marketing program that provides direct nutrition education and awareness. DMPS partners with AmeriCorps HealthCorps to lead monthly lessons and tastings for students grades PreK-3. Pick a Better Snack also works with nine afterschool 5th grade girls groups, promoting healthy eating and active lifestyles.

PILLAR 3: EFFECTIVE ENVIRONMENTAL AND SUSTAINABILITY EDUCATION

1. Which practices does your District employ to help ensure effective environmental and sustainability education? Provide specific examples of actions taken for each checked practice, highlighting innovative or unique practices and partnerships.

Our District has an environmental or sustainability literacy requirement. (200 word max)

The DMPS Graduate Ends are the "end goals" developed in conjunction with teachers, parents, students and the community that guide the planning and instruction for each student in the Des Moines Public Schools. One of the ends includes:

- **Graduates demonstrate knowledge and understanding of a rigorous curriculum integrated into all content areas.**
 - They demonstrate proficiency in science, including life, earth and physical science.

Students are required to earn 3 units of Science credit to graduate from a DMPS high school.

Additionally, the DMPS curriculum is aligned with the Iowa Core Standards for Science (Life Science) including:

- Kindergarten-Grade 2: Essential Concept and/or Skill: Understand and apply knowledge of ways to help take care of the environment.
- Grades 3-5: Essential Concept and/or Skill: Understand and apply knowledge of environmental stewardship.
- Grades 6-8: Essential Concept and/or Skill: Understand and apply knowledge of the social and personal implications of environmental issues.

and with the Iowa Core Standards for Science (Earth & Space) including:

- Grades 9-12: Essential Concept and/or Skill: Understand and apply knowledge of energy in the earth system.

Environmental and sustainability concepts are integrated throughout the curriculum. (200 word max)

Foundational environmental and sustainability concepts and activities are incorporated into the **elementary** Science curriculum:

Grade	FOSS Activity
Kindergarten	Trees
1	New Plants
2	Air & Weather
3	Water
4	Earth Materials
5	Environments

Grade 5 students also complete a cross-curricular (Science/Literacy) unit themed around environmental science.

In **middle school**, 6th grade students complete a unit of study on “Weather and Climate,” 7th graders complete an “Environmental Science” unit, and 8th graders complete an “Energy” unit.

The physical science education Des Moines students receive in Kindergarten-Grade 8 prepares them for more advanced **high school** courses that integrate/focus on environmental and sustainability concepts:

Course Title	Duration	Offered At
Animal Science & Horticulture	2 years	Central Campus*
AP Biology	Year	Lincoln, East, Central Academy*
AP Environmental Science	Year	All Buildings
Aquarium Science	1-2 years	Central Campus
Biology	Year	All Buildings
Biotechnology	Semester	Lincoln
Botany	Semester	East, Lincoln
College Biotechnology	1 year	Central Campus
Earth Science	Year	All Buildings

Environmental Science	Year	All Buildings
Iowa Energy and Sustainability Academy	2 years	Central Campus
Marine Biology	1-3 years	Central Campus
Zoology	Semester	East, Lincoln

*Central Campus/Academy is a regional DMPS high school; students from any DMPS high school can take any course offered at Central.

Environmental and sustainability concepts are integrated into assessments. (200 word max)

Last year, DMPS created common benchmark assessments specific to environmental and sustainability for the general education high school class Environmental Science (i.e. not AP Environmental Science) that is offered at the comprehensive high schools. There are six benchmark assessments that are given throughout the year-long Environmental Science course. The purposes of these common formative assessments are to:

- Measure attainment of standards from interval of instruction just completed
- Measure retention of ‘stepping-stone’ concepts from previous interval
- Give guidance to teacher to re-teach, change strategies, and identify student needs before end of year/course
- Predictors of success on standards based assessments
- Student grade

Students evidence high levels of proficiency in these assessments. (100 word max)

Last year was the first year the district implemented the common benchmark assessments for Environmental Science, and 2,072 benchmark assessments were administered. The chart below shows the number and percent of students who scored at least a 60 (i.e. passing) on each of the benchmark assessments in the district:

Benchmark Assessment	Assessments Given*	Scores ≥ 60	% ≥ 60
#1	255	119	47%
#2	459	242	53%
#3	440	284	65%
#4	372	129	35%
#5	342	152	44%
#6	234	83	35%

*Two schools did not administer the first benchmark assessment, and one school did not administer the final benchmark assessment

Professional development in environmental and sustainability education is provided to all teachers. (200 word max)

Opportunities for professional development in environmental and sustainability education are provided for teachers to take advantage of, but are not required.

Recent environmental/sustainability PD opportunities have included:

- Two-year training on “Plants & Society” with Iowa State University that focused on plants, sustainability, and the environment.
- For the last three years, DMPS and the Center for Biorenewable Chemicals (CBiRC) at ISU have collaborated to pair DMPS teachers with ISU scientists working with bio-renewable energy in the Research Experience for High School Teachers at CBiRC program. This program provides teachers with the tools, experiences, and ongoing relationships with career scientists and with fellow teachers that enables them to share with their high school students the latest developments in STEM fields and inspire their students with a desire to learn more about science and engineering and their related career paths.
- All AP Environmental Science teachers and General Environmental Science teachers participated in a four-day Advanced Placement training from the College Board. The AP Environmental Science teachers in the comprehensive high schools also completed a week-long training on Knowledge in Action in Seattle.
- Environmental Science instructors also participate in monthly meetings, Skype sessions, and communicate via email in a Professional Learning Community.

2. For Districts serving grades 9-12, provide:

Percentage of last year's eligible graduates who completed the AP Environmental Science course during their high school career:	3.5%	Percentage scoring a 3 or higher: (50 students took the AP exam, and 39 students score a 3 or higher)	78%
---	------	---	-----

3. How does your District use sustainability and the environment as a context for learning science, technology, engineering and mathematics thinking skills and content knowledge? (200 word max)

The district has several exciting programs that use sustainability and environmental education to support the learning of STEM thinking skills and content knowledge. The district, in partnership with the George Lucas Education Foundation recently introduced Project Based Learning (PBL) AP Environmental Science at each of the five comprehensive high schools. This year-long course uses an inquiry model, and students are tasked with a problem for every unit. Scenarios are posited that pose real-world problem dealing with sustainability and the environment. Students are tasked to propose a solution that incorporates the content knowledge to address the problem. The design results in an educational experience that is steeped in literature and content. For example, students learn about green technologies and alternative sources of energy. Then they must evaluate the efficacy of the various options and make a plan as to what would be the most effective for their scenario.

4. How does your District use sustainability and the environment as a context for learning green technologies and career pathways? (200 word max)

In addition to PBL AP Environmental Science activities described above, one of the most unique ways the district uses projects sustainability and the environment as a context for learning green technologies and career pathways is through Symbi - Iowa's GK-12 Project. Symbi is a joint effort between Iowa State University, the school district, and the National Science Foundation to educate and inspire young people about the next generation of renewable energy, sustainable technology, and green products. Symbi, funded by the National Science Foundation, supports ISU graduate students (Fellows) conducting interdisciplinary research in biorenewables. Fellows work collaboratively with selected middle or high school science teachers to leverage the Fellow's research experiences to develop innovative, engaging science activities for students. Fellows spend one day every week throughout the school year in a science classroom performing the duties of a “resident scientist/engineer” as they interact with their

partner teacher and students.

Additionally, at the district's regional Career and Technical Education high school program (Central Campus), students can take sustainability/environmental-focused technical courses, including: Iowa Energy and Sustainability Academy, Horticulture, Animal Science, and Marine Biology, which are college-level, multi-year CTE classes that immerse students in studies that can lead students to careers in sustainability/environmental issues.

5. Describe students' civic/community engagement projects integrating environment and sustainability topics. (200 word max)

Many schools have begun school gardens that also serve as the catalyst for community engagement.

The Hubbell garden is primarily funded and directed by the Hubbell PTA. Hubbell, a Farm to School Chapter, works closely with the Des Moines AmeriCorps FoodCorps. Students have opportunities to participate in School Garden Club activities that include two monthly in-school garden 45 minute classes and/or weekly summer programming. This year, an afterschool garden club will organize the garden seed sale where students design seed packages and divide bulk garden seeds for sale. Every Hubbell student plants a seed or plant in the school garden during the school-wide planting day held the Tuesday after Earth Day. Produce that is grown in the garden is divided among the summer garden club, prepared for community garden expositions and tastings, or used in school programming.

Last year, Hiatt Middle School worked with school neighbors and community partners to turn an empty lot next to the building into a community garden. Plots in the garden are available for community members, and the school has a plot. The collaboration is vital to the community, as the closest grocery store with fresh produce is nearly an hour walk from the school.

6. Describe students' meaningful outdoor learning experiences at every grade level. (200 word max)

Outdoor learning is encouraged across DMPS. Outdoor classrooms are springing up throughout the city so students can participate in outdoor learning experiences on-site, particularly at the elementary level.

Students also take field trips off-site that helps them connect to the environment. For example, Brody Middle School students visit Gray's Lake, a 100-acre lake and 67 acre park on the edge of downtown Des Moines. Brody students conduct water quality tests at the lake to learn about the interconnected nature of waterways and how pollutants from miles away affect water. High school students take field trips to Des Moines Waterworks to learn how central Iowa is supplied with clean, safe and reliable drinking water from the local watersheds of the Raccoon and Des Moines rivers through the water treatment process and ways students can prevent pollution and protect the watershed that serves approximately 500,000 people in the Des Moines metro area. High school students also visit Metro Waste Authority to learn about landfills, recycling, and environmental management. Additionally, Roosevelt High School students started a compost that is managed by the Environmental Science class and used to maintain the health of plants on the school grounds.

7. Describe how outdoor learning is used to teach an array of subjects in contexts, engage the broader community, and develop civic skills. (200 word max)

The environment and outdoor learning is a perfect medium to capture students attention in a variety of subjects and engage the community to help students develop civic skills.

For example, every Wednesday, all Hillis Elementary students learn how they can make good, healthy choices students in an urban setting during ECO (Every Child Outside) Hour. The lessons focus on: conversations related to nutrition/wellness, gardening, learning about their impact on the world, and citizenship/service learning. Last year students worked with community members to improve the environment of their local community by picking up trash and participating in community planting (trees and plants for the school gardens) activities.

Merrill Middle School holds an annual Service Learning Fair for 8th graders to showcase the students' community

service projects. Last year, 40+ kids were involved in a program that recycled more than three tons of paper.

At Cowles elementary and middle school students work with the community and master gardeners from the Izaak Walton League on multiple environmental projects. For example, students are working to install a prairie at the school, which will not only be beautiful but will also serve as a teaching tool for ecology issues and encourage enthusiasm for STEM.

8. Describe your partnerships to help your District and other schools achieve in the 3 Pillars. Include both the scope and impact of these partnerships. (200 word max)

DMPS works with numerous partners to achieve successes in all 3 Pillars. A very small sampling includes:

Pillar 1:

MidAmerican Energy	Energy rebates; Educational materials
The Weidt Group	Audits systems and energy usage
Johnson Controls	Designs and implements building automation and HVAC controls
IMPACT:	<ul style="list-style-type: none"> • Saved \$2.4 million in avoided energy costs since 2007, equal to approximately 66 first year teachers

Pillar 2:

Farm to School	School gardens
American Heart Association	Nutrition education
FoodCorps	
Iowa Department of Public Health	Pick A Better Snack
HealthCorps	
Dairy Council	Fuel Up to Play 60
National Football League	
IMPACT:	<ul style="list-style-type: none"> • Gardens at 11 schools and growing • Nutrition and physical fitness education and activities impacting 15,197 elementary students

Pillar 3:

George Lucas Educational Foundation	Knowledge in Action AP project
Iowa State University	Symbi CBRiC Research Experience Summer Academy CBRiC Young Engineers and Scientists
Des Moines Area Community College	College credit for CTE classes
IMPACT:	<ul style="list-style-type: none"> • Training and implementation of AP Environmental Science in the five comprehensive high schools • AP exam paid for • Participation in ongoing research into the impact of Project Based Learning

- Science education for DMPS students that brings scientists into the classroom and pairs career scientists with career teachers to improve the quality of science education

9. Describe any other ways that your District integrates core environment, sustainability, STEM, green technology and civics into curricula to provide effective environmental and sustainability education, highlighting on innovative or unique practices and partnerships. (200 word max)

One of the most unique ways core environment, sustainability, STEM, green technology, and civics is incorporated into the curricula to provide effective environmental and sustainability education is in Des Moines is the Iowa Energy and Sustainability Academy (IESA) at Central Campus. Central Campus is the district's regional Career and Technical Education program. Central Campus enables the district to offer students advanced career exploration, career preparation, and related academics in specialized areas of study.

The two-year course IESA course equips students with skills needed for success in postsecondary education and in emerging renewable energy careers. The program focuses on (1) Sustainability issues, (2) Energy conservation and management, (3) Green technologies, and (4) Renewable energy through a combination of rigorous academics and hands-on technical education.

IESA students complete numerous lab experiments focusing on natural and renewable resources and explore traditional fossil fuels and alternative energy resources and technology. In addition, partnerships have been established with multiple public and private institutions. IESA students complete field experiences at partner institution facilities. The field experiences enable students to see first-hand the variety of issues that affect energy and sustainability. Students are also exposed to an array of careers available in the green collar workforce.

10. Submit 10 photos or up to 10 minutes of video content.

Pillar 1: Reducing Environmental Impact and Costs.

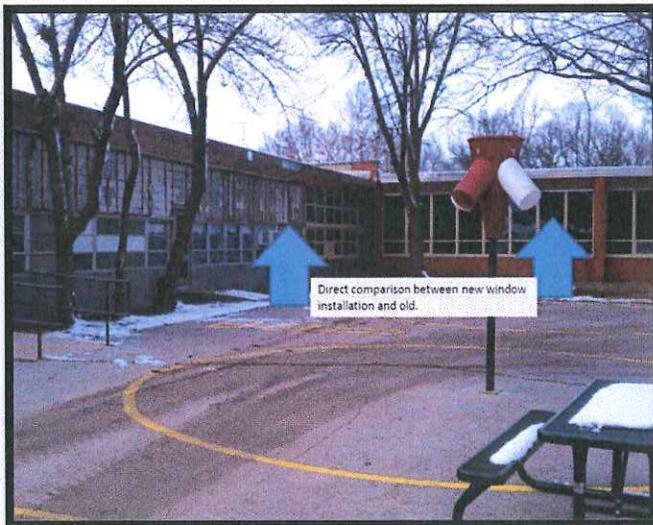


Photo 1: Replacing old windows has had a tremendous impact on the District's energy conservation efforts and has improved the educational environment for students. New windows are high level energy efficiency units and replace the former leaky single glazed windows. The photo of **Scavo Alternative High School** below shows a direct comparison between the new energy-efficient windows (right arrow) and the old windows (left arrow). The new windows have increase the amount of natural light, since the upper area used to have panels blocking lights. Staff have commented how much improved the building looks and that rooms are much more comfortable since drafty windows are gone.



Photo 2: With the average age of buildings exceeding 60 years, DMPS is committed to improving the energy efficiency through continual equipment and system upgrades. The district committed to completing gym lighting retrofits as a component of the energy initiative, including at **Hiatt Middle School**. Lighting in many of gyms was 10 to 20 years old, and the old 400-watt mercury vapor and 400-watt metal halide lamps had lost their brightness, creating shadowy areas and requiring frequent maintenance. DMPS replaced more than 500 old, inefficient lamps with new, energy-efficient Day-Brite six-lamp, 345-watt, T5 HO fluorescent high bays. The new lighting has rejuvenated the gyms and uses 25% less energy, and there's more visual clarity and better quality color rendering.

Pillar 2: Improving Student and Staff Health.

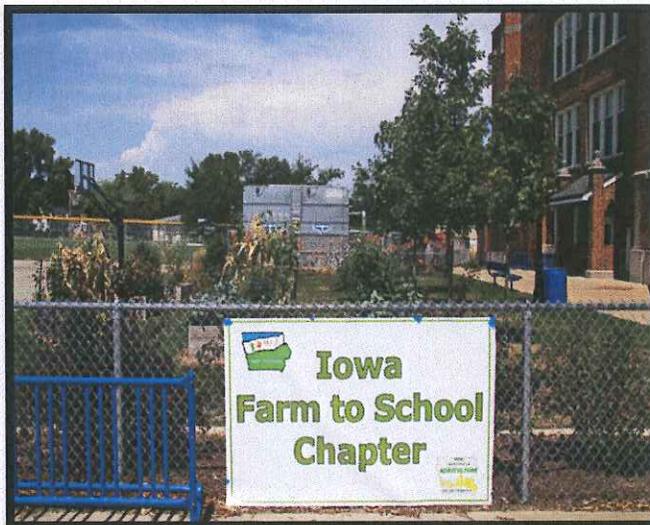


Photo 3: Many DMPS schools have implemented school gardens. The **Hubble Elementary School** garden, a Farm to School participant, is primarily funded and directed by the Hubbell PTA and works closely with the AmeriCorps FoodCorps in Des Moines. Students have opportunities to participate in School Garden Club activities including 45 minute in-school garden classes twice month and/or weekly summer programs. This year, the garden club will organize the a seed sale. Every Hubble student plants a seed or plant in the school garden during the school-wide planting day held the Tuesday after Earth Day. Produce that is grown in the garden is divided among the summer garden club, prepared for community garden expositions and tastings, or used in school programming.



Photo 4: DMPS schools encourage students to walk/bike to school safely. For example, **Hillis Elementary School** supports fitness by encouraging students to bike and walk to school and use proper road-crossing techniques. The school celebrate Bike to School month annually. Activities have included: School-wide Bike & Walk to School Day; Posters displayed in the building to encourage both staff and students to ride to school more often; Weekly announcements by students on topics ranging from why biking is important, bike safety, and why biking is good for your health; and Each Friday during May, students who walk or ride to school receive a wristband to enter into a drawing for prizes. Hillis also plays an active role with the community's healthy living efforts, including a new trail at the school and programs to promote walking and biking to school.



Photo 5: In 2012, nearly 2,500 Des Moines students helped First Lady Michelle Obama highlight Iowa's Healthiest State Initiative, a private-public partnership launched in August by Iowa Governor Terry Branstad to make Iowa the healthiest state in the nation by 2016. The First Lady and Governor Branstad were joined by former Iowa Governor and current Secretary of Agriculture Tom Vilsack; NASCAR racing champion Carl Edwards; Olympic figure skating Michelle Kwan; Olympic gymnastics champion Shawn Johnson; 2011 WNBA MVP Tamika Catchings; Health and Fitness Expert Bob Harper; and Iowa State University Basketball coach and former NBA player Fred Hoiberg. Bob Harper leads **Des Moines middle school students** (Hiatt students are pictured) in a workout.



Photo 6: AmeriCorps FoodCorps Members come to **Goodrell Middle School**, a Farm to School participant, weekly and lead cooking and nutrition lessons and activities. These experiential learning activities incorporate in-season produce harvested from the school garden. Goodrell students are pictured below with FoodCorps Members Mauricio Rosas-Alvarez, a culinary and nutrition graduate of Johnson & Wales University; Daniel Schultz, human biology with an emphasis in nutritional sciences/dietetics graduate University of Wisconsin - Green Bay; and Kathy Friest, Goodrell Family and Consumer Science instructor.

Pillar 3: Environmental & Sustainability Education.



Photo 7: The district's goal is to reduce, reuse, and recycle as much material as possible generated in our schools. In 2010, the district expanded the recyclable materials collected from cardboard and paper only to multiple streams including fiber, plastic, glass, aluminum, and tin, which has resulted in a significant increase in the amount of material recycled by the district. From 2009-10 to 2011-12, the district saw a 48% percent increase in materials recycled. Students have taken leadership roles in the implementation and expansion of school recycling programs. The photo below shows members of the **Willard Elementary School** recycling champions club.



Photo 8: Last year Des Moines Mayor Frank Cownie and Councilman Skip Moore spoke to an all-school assembly at **McKinley Elementary School** about the importance of trees. After the assembly, a bur oak, Iowa’s state tree, was planted in front of McKinley. Keith Warne and David Jahn of The Des Moines Forestry Division received extra digging help from McKinley’s third grade students to plant the tree. The planting day was planned to honor this year’s Earth Day and Arbor Day.

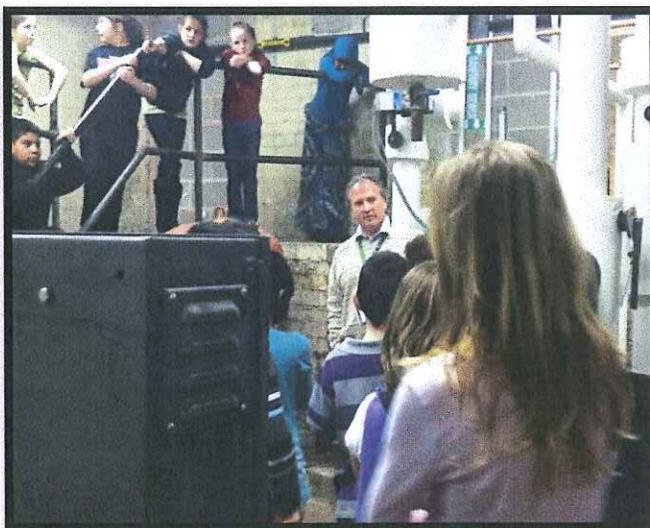


Photo 9: Facilities management conducts “on site field trips” for schools; energy specialists will talk to students about energy and then take students on a tour of their own school to see what the district is doing to reduce energy consumption. Students from **Stowe Elementary School** are listening as the DMPS Environmental & Safety Specialist Jamie Wilkerson described the changes to the school’s HVAC system.



Photo 10: DMPS students throughout the city participate in civic/community engagement projects that integrate environment and sustainability topics. Annually, **Hoover High School** students participate in Hoover STARS (Sharing Talents and Resources through Service) Day of Service Learning in recognition of Global Youth Service Day. Last year, STARS volunteers worked at Living History Farms and provided the living museum with assistance beautifying the grounds and planning the gardens.
