



ENERGY REPORT CARD EXTRA EARTH DAY 2014

April 2014

DMPS Earns Energy Star® Partner of the Year for Third Consecutive Year

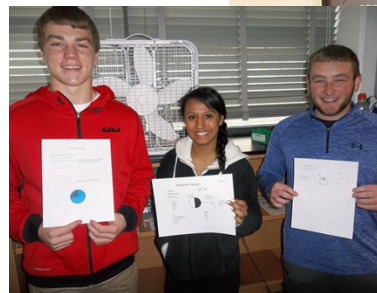
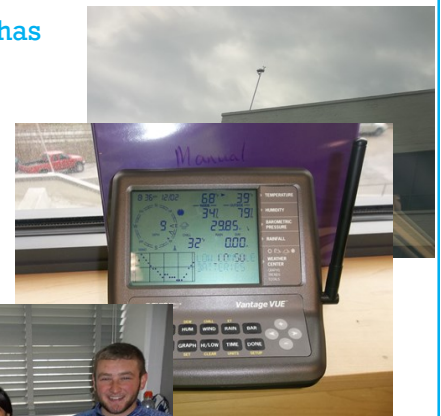
2014 Climate Communications and Sustained Excellence Award



U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE) have selected Des Moines Public Schools for the 2014 Energy Star Partner of the Year Award for Climate Communications and Partner of the Year for Sustained Excellence. This is the third consecutive year the school district has received a Partner award.

IESA Plays a Major Role in Climate Communications Award

- The Iowa Energy & Sustainability Academy (IESA) at Central Campus has taken part in multiple projects dealing with climate change.
- A weather station has been added to Central Campus, and students can create a basic weather station readout model similar to those put together daily at various stations throughout the United States. The curriculum includes discussion and labs on climate and the use of fossil fuels.
- IESA looks at issues associated with climate change such as the loss or depletion of coral reefs, decline in amphibians, and polar ice cap melting/retreating.



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Cha White

Central Campus High School

For my Earth Day project, I am doing paper vs. plastic. During this project, I did a survey. I asked 30 people what they preferred, paper or plastic? Twenty said plastic, eight said paper, and the last two said they use both. What people don't realize is that the answer to that question is more serious than they think. I decided that I wanted to know why it was so serious.

I learned that paper is made through a process called Kraft pulping, also known as chemical pulping. Through that process, you take a tree, and you use the sulfur to get the fiber out of the tree. They only use 50% of the tree. The rest is then burned and made into sludge that is then spread onto a landfill, or regular land which kills the nutrients on that land. The other 50% that they used is then cleaned with gallons of bleach and water. It is then dried and stretched into the shape of a bag. What I learned is that paper is not really environmental-friendly, no matter what people think.

Plastic is actually more environmental-friendly than paper. Plastic puts 30% less greenhouse gasses into the air, paper puts 70% more. Plastic is made with four times less

the amount of energy than paper. Plastic is recycled way less than paper, even though plastic breaks down easier than paper.

Personally, I believe plastic is better for the environment. But, really, it all depends on where you live. I tend to use plastic more than I use paper. When the cashier asks me if I want paper or plastic, I choose plastic. But, when a cashier doesn't ask me and automatically gives me paper, I don't mind.

This may not be important right now, but I fear that in 20 years, 30 years, or even 100 years, we could have a serious problem. That is why people need to understand that this can turn from a small problem into a gigantic one.



Elijah Young

Lincoln High School

What Earth Day means to me is celebrating something priceless. This priceless item is life. Earth Day is important because it is a day to recognize protection of the environment and also to revitalize the world around us. Trees being planted into the soil and trash being removed from various places are just a small gesture. Becoming educated in ways to reduce, to reuse, and recycle are they key ideas to a better future. For the well being of the human race now and in the time to come, it is important that we take care of our environment.

I will attend Iowa State University to major in environmental science and sustainability. I wish to pursue a career where I can be a part of a movement to change the world. Becoming better aware of the pressing issues that face the atmosphere and the world around me is just the beginning of being able to start a change. I plan to make a better Earth...what are you going to do?

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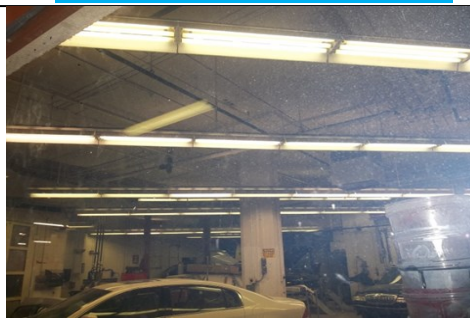
Earth Day Project

Jasmine Luangdetmalay
Lincoln High School

On Earth Day, April 22, my project is on light fixture efficiency. As a group, Erin, Ben and I did a project on the upgrading of the light fixtures in the basement [at Central Campus]. The light fixtures in the basement were focused to meet the needs of the auto car class. We didn't get to start on all the rooms in the basement, but we did get to do the hallway and Room 10. We mainly focused on Room 10 and found they were using T12 light bulbs of a 40-watt and a 4-light bulb fixture, but the difference in the new light fixture is that they had a reflective material.

Before the changing of the fixtures, the lights gave off a yellow dull light that can be very unappealing to the eye. It also gave the students a harder time of working on the car since Room 10 was the auto body shop. The lights were fixed to be side-by-side diagonally, so the light was allowed to go around the car that the students were allowed

Old lights



to view the areas they need to see. These light fixtures used more electricity to produce the light needed. After the changes of the light fixtures, the T8 light fixtures were placed in the same area of the old T12 lights. Instead of placing them all next to each other, they spaced them to every other light fixture of the old ones. The new light fixtures give off a crisp white light which makes the room appear brighter and much easier to see.

Also using the new light fixtures with the reflective material, it allows the light to be distributed outwards instead of just straight down like the old fixtures did.

We also recorded the readings of the before and after lux given off

New lights



from a light fixture (directly underneath the light and off to the side between two light fixtures) and found the old light fixtures gave off a lower reading than the newer light fixtures. And also on the newer light fixtures, the lux levels were higher off to the sides rather than directly underneath. Our conclusion was because of the reflective material the light was allowed to be distributed to the sides more than straight down. Also because of using a more efficient light bulb and light fixture, this allowed less use of energy to the light bulbs but more light given off. This also saves money for the school because less money is used on these lights.

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Anna Romeo
Lincoln High School

Earth Day is dedicated to raising awareness about the environment and making the Earth a better place. Before Earth Day was created, people didn't realize how important it was to take care of the environment. Now, taking care of the environment is something that more and more people are worried about.

Earth Day is important because it's a day that people take the time to talk about the different ways we can help make the Earth a cleaner and safer place to live. Even some of the simplest things can make a difference.



Breana Markey
Lincoln High School

Earth Day to me means that we celebrate the Earth. We celebrate by helping the environment any way we can and maybe even by picking up litter off the street. We should care because it's our home. Without our home, where else would we live? On Earth Day, I plan on helping out and picking up all the trash I see on the ground. For every day after that, I'm going to work on being green, meaning that I'm going to recycle, reduce and re-use!



Hector Guerra
Lincoln High School

Earth Day is a day that we take some time out of our busy lives and appreciate our planet. I believe that every day should be Earth Day. Especially on Earth Day, we should take some time and do something to help out the environment in any way we can.

I plan on using less energy that day, down to the bare essential. That would help out the earth a lot, and if I could continue throughout the year I could help the earth a lot. After Earth Day, I hope to work on more upcycling projects to help reduce the amount of waste that goes to the landfills.

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E-waste

Brooke Oliveira & Keely Stagner

April 22nd is a special day to our world. It's a day that raises awareness on helping the environment. The overall impact is that it teaches everyone around the world to be greener. The number one way people think they become green is by recycling, but most only know about recycling papers and plastics. Recycling can be so much more.

This Earth Day, we did a project on E-waste, or more commonly known as electronic waste. Did you know that you can recycle your computers, phones, game consoles and anything else involved in electronics? Our main goal is to inform people how much more damage they're doing by just throwing away those expensive devices, and we want to teach them how to become a little bit greener than the average person. The next time your phone breaks, take it back to your phone company and recycle it with them. Sometimes you even get paid to do so.

Camille Juarez

East High School

This Earth Day, my project will be focusing on the use of grey-water. Grey-water is the reuse of water from your washing machines, showers or sinks to irrigate plants. For many years, our governments have failed to invest in new water infrastructure. Within the next 10 years, over 36 states are expected to suffer water shortage issues. Why waste drinking water on the garden when it doesn't need it?

In my first experiment, I tested the toxicity of laundry detergents for the use of grey-water using worms as test organisms. I felt that this was important because you don't want to harm the organisms that are crucial to the health of the soil.

For continued experiments, I plan to test dishwashing detergents and also build my own garden to test how grey-water affects plants (if at all) differently than using water straight from the hose.





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Kyle Erickson

Hoover High School

IESA Trip to the Dominican Republic

A couple of us in Mr. Beall's IESA class were able to go on a service trip to the Dominican Republic. While there, I learned the true value of water. The water that comes out the sinks there is not safe to drink. We had to buy bottles of water to use for brushing our teeth, because we would have gotten sick if we used the water there. The only things we could use their water for was showering and washing our hands.

They also had trouble with the sewage system. Their system was not good enough to handle toilet paper, so we had to throw it in the trash after using it. They also encouraged flushing only when it was necessary.

They also struggled with heating their water for showers. We were encouraged to take under 10-minute showers to save warm water for the others and to preserve water.

It was very different than what we experience in the United States where we can take 20-minute showers on a daily basis. We can also have our hot water in a matter of seconds rather than maybe 10 minutes in the Dominican. The trip taught me to appreciate the things I have and to appreciate the water that is available in the United States.









































ENERGY REPORT CARD

YEAR-TO-DATE SITE ENERGY USAGE REPORT

July 1, 2013—March 31, 2014

Percentage change as compared to same period time from last year

Site	Total Energy (MBtu)	kBtu/SqFt	% Chg		Site	Total Energy (MBtu)	kBtu/SqFt	% Chg	
Findley	1,100	26	-63.2%		Kurtz	7,334	69	8.9%	
Pleasant Hill	828	20	-50.0%		Phillips	2,051	49	9.7%	
Jefferson	1,223	27	-33.4%		Goodrell	2,558	23	10.1%	
Woodlawn	821	18	-13.3%		Brody	5,195	53	10.3%	
Hoyt	6,138	61	-11.4%		Capitol View	2,758	36	10.6%	
Park Avenue	1,665	26	-8.1%		McKinley	2,272	45	11.8%	
Prospect	5,936	113	-6%		Central Academy	4,333	50	13.1%	
Wright	838	28	-5.3%		Cowles	1,564	36	13.3%	
McCombs	3,339	38	-4.3%		Hiatt	2,779	27	14.6%	
Jackson	1,012	22	-4.1%		Walker Street	1,977	37	14.7%	
Dean Operations Center	3,447	35	-3.9%		King	1,074	29	14.9%	
South Union	1,503	22	-3.7%		Mitchell	929	20	14.9%	
Hanawalt	1,139	26	-2.3%		Hubbell	2,479	46	15%	
Hillis	1,211	21	-0.5%		River Woods	3,498	58	15.1%	
Central Nutrition Center	9,914	176	0.1%		Windsor	1,480	24	15.5%	
Samuelson	1,341	24	0.1%		Moulton	7,809	64	17%	
McKee	600	14	0.2%		Greenwood	1,653	27	18.4%	
Carver	1,772	19	0.8%		Garton	2,374	36	19.6%	
Cattell	1,660	35	1.5%		Van Meter	6,345	111	21.7%	
Morris	1,380	20	3.7%		Howe	1,099	29	24.8%	
Madison	1,328	32	4.2%		Lincoln	22,705	73	25.2%	
Walnut Street	6,544	56	4.9%		Studebaker	1,614	36	27.5%	
Brubaker	1,954	25	5%		Callanan	4,642	40	29%	
Welcome Center	372	60	5.1%		McCombs Greenhouse	1,362	112	29.1%	
Harding	4,353	35	5.4%		Moore (Scavo)	2,829	62	29.6%	
Willard	2,345	40	5.5%		East	25,952	75	36.8%	
Hoover/ Meredith	16,171	54	5.6%		Roosevelt	16,477	69	37.8%	
Lovejoy	1,399	36	6.1%		Central Campus	34,232	75	40%	
Monroe	3,798	51	6.3%		Merrill	5,395	60	41.4%	
Oak Park	1,617	27	6.3%		Smouse	7,224	134	50.2%	
Weeks	4,306	38	6.4%		North	18,210	73	54.5%	
Perkins	1,375	24	7.5%		Stowe	1,989	35	123.1%	
Aviation Lab	678	47	8.1%		Edmunds	1,259	16	N/A	



Increase in energy use
Maintaining energy use
Decrease in energy use

*Edmunds was constructed in 2013; comparable data is not available.

Visit www.dmschools.org for more details of the district's energy mission and building performance. Do you want to share your ideas for saving energy or helping our environment? Or want to let us know about your projects? Tell us about it! E-mail Michelle.Chalkey@dmschools.org