ENERGY REPORT CARD

December 2014

The District's energy usage to date is down 6% from last fiscal year, with North and Lincoln Rails leading the way in reduction. Let's keep up the good work and keep energy consumption down during these winter months. Flip to Page 4 to see where your building stands.

OFFICIAL COMPETITOR
BATTLE OF THE BUILDINGS
EPA's NATIONAL BUILDING COMPETITION

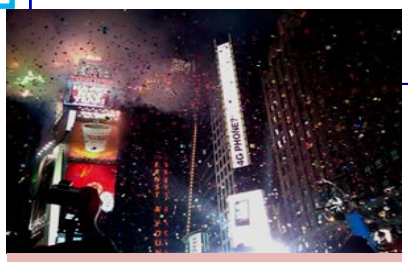
DMPS has 62 facilities taking part in the EPA's 2014 Battle of the Buildings competition. Follow along with our progress at www.energystar.gov/BattleOfTheBuildings.

ENERGY STAR AWARD 2014
PARTNER OF THE YEAR
Sustained Excellence

Winter Break provides the District with many Opportunities to Reduce Energy Consumption

- All buildings will operate at a lower temperature (night set back). Contact your building custodian if an area will be occupied.
- Lights are to be turned off in all unoccupied areas with the exception of security lights.
- All computers are to be off, as well as office equipment not in use; printers, copiers, fax machines.
- Any curriculum/break room refrigerators should be consolidated if possible and unplugged.
- Pull down and close blinds in classrooms and offices.

Thank you for helping to conserve our energy resources.



Source: www.energy.gov

How Do They Do That? Lighting the New Year's Eve Ball

Click here for the full article from Mid-American Energy

Each year, nearly 300,000 revelers gather in Times Square to celebrate as the New Year's Eve ball counts down the seconds until midnight. Millions more watch the event on television.

Changing with the Times

The first Times Square Ball was made of iron and wood, weighed 700 pounds, and was adorned with 100 25-watt light bulbs. In 1920, the original design was replaced with a 400-pound ball made completely of wrought iron. In 1955, an aluminum version, equipped hundreds of halogen and incandescent bulbs made its debut. It tipped the scales at a mere 200 pounds. Computer controls were added in 1995. In 1999, this iconic symbol was refashioned again. This time, the sphere was adorned with more than 500 crystal triangles and weighed more than 1,000 pounds.

The green evolution

On its 100th anniversary, in 2007, the ball was transformed once more. Cutting-edge LED lights were added to make the ball more energy efficient and environmentally friendly.

The current version, redesigned in 2009, is 12 feet in diameter and weighs nearly 12,000 pounds! It is covered with nearly 2,700 crystal triangles and 32,000 LED lights capable of creating more than 16 million colors, and billions of patterns.

DMPS

What's Happening in IESA

NOAA: What is it and why is it important?

By Stephanie Johnson & Kori Mitchell (Lincoln)

In class, we have been working on this project that had to do with NOAA—National Oceanic and Atmospheric Administration. We had a few options to choose from. There was weather, satellite, oceans and climate.

What is NOAA?

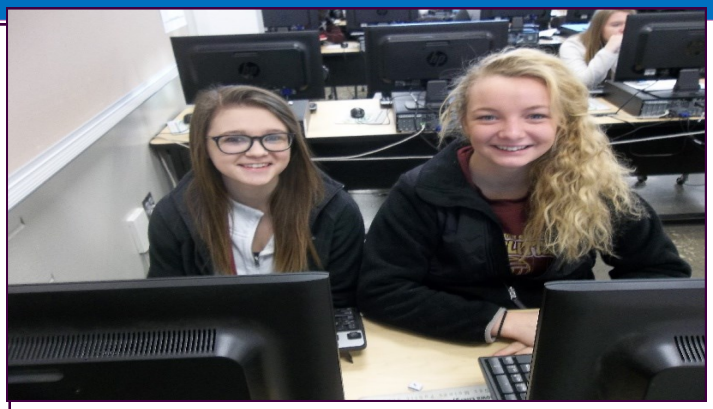
NOAA is a specific agency with the United States Department of Commerce focused on the conditions of the oceans and the atmosphere. The NOAA weather radio is a network of radio stations all over the United States that broadcast continuous weather information directly from a nearby weather forecast office.

Why is it important?

The radio station is important because it broadcasts the weather. It also broadcasts non-weather emergencies such as National Security, Environmental, and Public Safety.

How does it work?

It operates on seven frequencies, with different frequencies used in different areas. NOAA weather radio also works with other federal agencies, including the Emergency Alert System to provide complete weather and emergency information.



Hydrogen Fuel Cell Car

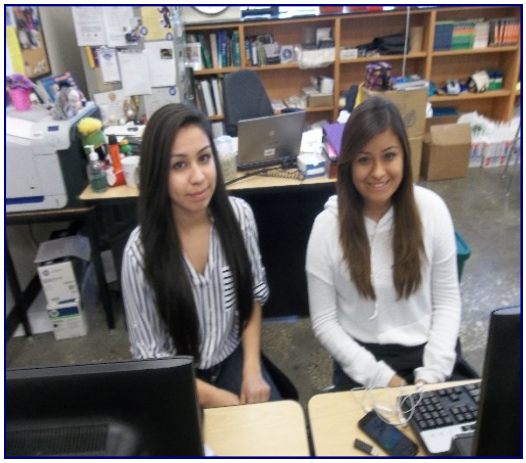
By Leeban Orellana, Federico Ortega, and Mackenzie Be (Lincoln)

A hydrogen fuel cell uses both hydrogen and oxygen to produce water which then is drained from the cell, but if the amount of hydrogen and oxygen being ignited is not controlled, it could cause an explosion. This is where the fuel cell comes in, because it breaks the reaction in two halves and allows you to control the amount being used. A fuel cell uses a membrane to keep the two gases apart; the hydrogen loses electrons to the anode; the electrons move through the center of the cell when the electrons react to the oxygen in the cathode on the other side; they gain back electrons and form water. The electrons, however, do not travel through the center from the anode to the cathode. They must travel through an electric current. A fuel cell can work just the same as a battery and can be recharged by adding more hydrogen into in when it runs out. As long as the cell has both hydrogen and oxygen, the cell will continue to produce electricity.

When connecting the fuel cell to a toy car, the reaction of the hydrogen and oxygen form water making energy to power the car. The energy is then passed to the car by the wires connected to the fuel cell. Fuel cells in an actual car can reduce the amount of harmful emission the car gives out, because the fuel being put into it is water. The only thing that would come out of it would be water vapor. The electric motor would be much less quieter and more efficient than a combustion motor. It would also require less maintenance. The hydrogen storage tank allows the hydrogen to be stored at high pressure allowing a longer running distance.

Tid Bit Options

By Carolina DeAvila and Sandi Hernandez (Lincoln)



In the program of IESA, we are given "tid bits," which are research projects in which we learn about topics relating to the course. Students learn about specific topics by researching online and answering specific questions that help lead to better understanding. Students explore different areas of science and important influences. In tid bits, we elaborate the main idea and the importance of it in the world. For our final tid bit of the semester, we were given two options: Three Mile Island Accident or Chernobyl Accident.

The two choices we were given had many similarities and differences that made each one of them unique. The Three Mile Island Accident was the worst accident in the U.S. commercial nuclear power plant history. The Chernobyl Accident was an explosion that released large quantities of radioactivity into the atmosphere which spread to the western USSR and Europe. Both were major disasters that affected the world in many different ways. This revolutionized the way power plants are secured now.

By McKenzie Lind (Urbandale) and TieOnna Olson (Lincoln)

Creating a solar panel was much more difficult than I imagined. I have learned that even though solar panels are safe, environment friendly and effective, they are extremely difficult to put together. Not to mention how expensive they can be. Through this process, Mr. Beall had explained to us that each of these kits are worth over $100 and he had ordered over 100 kits. Well you can do the math and begin to figure how expensive and time consuming they can be. We learned how to use many tools such as a soldering iron, which reaches over 200 degrees, a hacksaw, a cocking gun and much more.

Not only was this process new to myself and the rest of my classmates, my teacher was diving into this new experience with us. As soon as the solar panels arrived, we were all very anxious to begin. It was obvious to us that through this process we were going to make mistakes, although we did not anticipate on having to completely start over. In fact, the very first step in the beginning to make them turned out to be a huge mistake. This mistake was able to be easily recovered, although we wasted quite a bit of material. As the process moved along, I found myself to become more and more of an enemy with the delicate cells. Saying we were enemies is an understatement, although I was determined to finish.

I have realized that this one skill could benefit me enormously in the future. When finishing the journey, I began to realize how much I have learned. I not only have learned how to put a solar panel together, but how to work with my peers long and hard to get a difficult job done.

ENERGY REPORT CARD

SITE ENERGY USAGE REPORT: October 2014

Percentage change compared to same time period of previous year

***kBtu/SqFt for period of Oct. 2013-Oct. 2014**

Site	Total Energy (MBtu)	kBtu/ SqFt	% Chg	ENERGY STAR Score*	
North	713	68.5	-34.8%	82	
Lincoln Rails	344	N/A	-33.7%	66	
Monroe	197	62.2	-23.7%	82	
Central Campus	1,878	N/A	-22.8%	73	
Van Meter	323	108.4	-22.7%	31	
Oak Park	129	34.8	-21.4%	89	
Dean Operations Center	139	N/A	-18.1%	N/A	
Madison	119	40.5	-15.6%	94	
Willard	125	49	-15.6%	85	
Findley	111	32.7	-14.7%	91	
East	1,730	86.5	-14.5%	65	
Jefferson	121	35.5	-12.9%	85	
Hiatt	182	33.7	-12.9%	70	
Welcome Center	21	N/A	-11.3%	N/A	
Greenwood	142	30.9	-11.2%	91	
Hoover/Meredith	1,093	64.1	-11%	81	
Harding	239	41.9	-10.5%	92	
CNC	969	N/A	-10.3%	N/A	
Central Academy	261	N/A	-10.1%	73	
Carver	171	25.1	-10.1%	93	
Stowe	111	46.5	-10%	69	
Lincoln	1,765	78.8	-9.7%	76	
King	85	25.7	-9.5%	97	
Studebaker	75	44.9	-7.7%	79	
Morris	135	25.8	-7.6%	97	
Walnut Street	641	75.6	-6.7%	32	
Hanawalt	114	35.2	-6.4%	91	
Perkins	119	30	-6%	95	
McKinley	167	57.4	-5.6%	81	
Phillips	126	N/a	-5%	75	
Wright	81	38	-4.1%	79	
Jackson	113	31.5	-3.8%	96	
Goodrell	220	29.4	-3.2%	95	

Site	Total Energy (MBtu)	kBtu/ SqFt	% Chg	ENERGY STAR Score*	
Brubaker	207	31.9	-0.8%	94	
Park Avenue	157	32.1	-0.4%	95	
Mitchell	86	37.5	-0.3%	39	
Walker Street	111	47.7	-0.3%	68	
Pleasant Hill	71	25.5	-0.2%	96	
Edmunds	115	21.1	.9%	96	
Callanan	329	41.7	1.2%	91	
Windsor	109	29.4	1.3%	91	
Cowles	120	45.1	2%	60	
Smouse	440	124.3	2.4%	44	
McKee	61	18	2.9%	98	
McCombs	301	31	3%	91	
River Woods	224	62.5	4.8%	79	
Lovejoy	110	43.9	6.5%	63	
Garton	164	49.3	6.5%	76	
Hubbell	163	54.5	7.2%	83	
Cattell	143	50.5	7.4%	96	
Capitol View	176	46.3	7.9%	95	
Weeks	380	51..3	9.2%	81	
Prospect	286	N/A	9.8%	N/A	
Hillis	128	55	9.9%	95	
South Union	174	31.8	10%	94	
Roosevelt	1,391	84.4	10.5%	55	
Merrill	343	54.6	15.6%	96	
Hoyt	422	65.8	16.5%	90	
Howe	109	36.6	17.7%	78	
Samuelson	151	64	18.8%	86	
Moore (Scavo)	148	N/A	28%	75	
Woodlawn	33	23.1	34.1%	N/A	
Moulton	524	64.7	42.9%	N/A	
Aviation Lab	54	N/A	51.1%	N/A	
Brody	658	67.6	68.2%	82	

*Only buildings with a score of 75 or higher are eligible to apply for ENERGY STAR certification.

Increase in energy use

Maintained usage within 10%

Decrease in energy usage

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! Email Michelle.Chalkey@dmschools.org