

# Carpe Vigorem

"Seize the Energy" in education and our communities

Winter 2013

Consumers Energy  
Count on Us

Students at Frost Elementary School celebrate the grant.....



## Movie Magic

State Theatre Gets Grant



State Theatre in Traverse City

**W**HEN HE moved to Traverse City in 2003, Academy Award winning director Michael Moore felt terrible every time he drove downtown by the State Theatre.

The theater, which had been hit by two fires since it opened in 1916, had become an eyesore to downtown Traverse City.

But thanks to a recent \$125,000 grant from Consumers Energy and strong volunteers in the community, the theater is now enjoying a renaissance.

"The theater is a vibrant community center that is better than new, and ready to stand another 100 years, a place where future generations can come and enjoy the magic of the movies, together," Moore said.

The Traverse City grant is part of \$1.25 million in matching grants offered to 10 community projects throughout Michigan as

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## Energizing Education

Consumers Gives \$125,000 to Newly Created Literacy Program

**T**HE SOUND OF children's laughter and singing was music to the ears of educators and parents on a recent crisp night at Frost Elementary School.

That's because it was a sign of celebration of a \$125,000 grant from Consumers Energy that will go toward the newly created Energizing Education Program, a product of the new Cradle to Career collaborative.

The pilot program will begin this month at Frost Elementary School, Head Start and the Partnership Park Afterschool Program.

The long-range goal for the program is for it to be established at all schools in Jackson County, providing specially-trained volunteer mentors to ensure every student will be reading at grade level by the third grade.

The Jackson grant is part of \$1.25 million in matching grants offered to 10 community projects throughout Michigan as part of Consumers Energy's 125th anniversary celebration.

"We relied on local leaders to tell us what's important to the people of their communities and where support from the Consumers Energy Foundation could make a real impact to meet those important needs," said Carolyn Bloodworth, director of corporate giving for Consumers Energy.

"This contribution will go toward the greatest investment that we have: our children," said Bloodworth.

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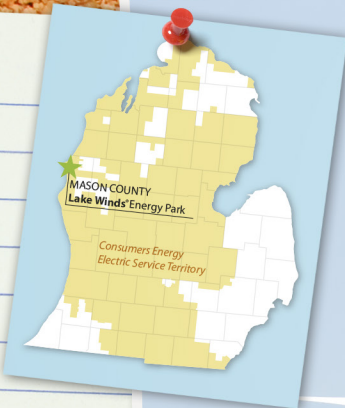


Garrick Rochow, left, vice president of energy delivery for Consumers Energy, provides Jackson County educators with a \$125,000 grant.

"FIRST WIND FARM" inside



# New Wind Farm in Mason County



# First FARM

**C**ONSUMERS ENERGY and White Construction recently celebrated the installation of the company's first wind farm.

Lake Winds Energy Park includes 56 turbines producing 100 megawatts of energy to homes and businesses in Michigan.

The park is projected to provide an estimated \$33 million in direct and indirect benefits for the county and created about 150 jobs during construction.

The park, a \$250 million project, is one of two wind farms the utility is developing to meet the 10 percent renewable energy standard set by Michigan's 2008 energy law.

The Lake Winds project also is a key component of Consumer Energy's Balanced Energy Initiative, a comprehensive 20 year plan to meet the power needs of the utility's 1.8 million electric customers with a balanced energy portfolio, including energy efficiency, renewable energy and customer demand management.

Consumer Energy is also developing the Cross Winds Energy Park, a 150-megawatt project in Michigan's Thumb region. It is scheduled to begin commercial operation by the end of 2015.

Lake Winds Energy Park is one of two wind farms the utility is developing to meet the 10 percent renewable energy standard set by Michigan's 2008 energy law.



Each wind turbine blade is 150 feet long.



## Special Delivery

**3 SHIPS**

brought manufactured parts from Sweden.

**9 TRUCKS**

hauled all the parts needed to build a turbine to its site.

**504 TRAILERS**

were used to bring larger components to Ludington's lay down yard.

**150 RAILROAD CARS**

carried parts from the Vestas assembly plant in Colorado. Each part was crafted and shipped 1,350 miles to Michigan.



# HOW BIG?

Each Lake Winds turbine is taller than the Statue of Liberty.



312 feet

### Turbine Specs:

The Vestas V100 turbines used at the Lake Winds Energy Park will stand 476 feet tall from the base of the rotor blade in the upright position. Generally, wind turbines are tall enough that developers have to secure special zoning permits, especially within a certain distance of an airport.

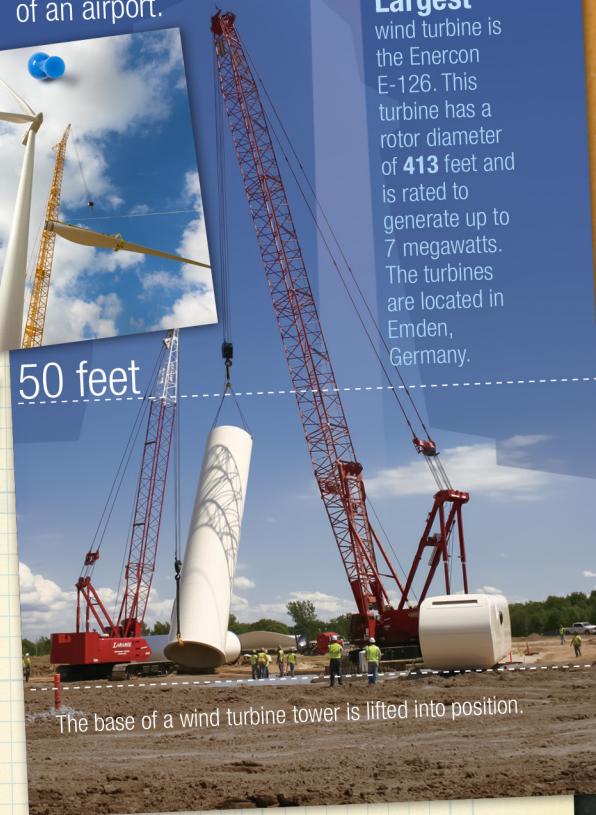
### Blade Tech

Each blade on a wind turbine is made out of composite fiberglass and is actually hollow. Each blade is rotated by a computer to optimize rotational efficiency.

### The World's Largest

wind turbine is the Enercon E-126. This turbine has a rotor diameter of 413 feet and is rated to generate up to 7 megawatts. The turbines are located in Emden, Germany.

50 feet



The base of a wind turbine tower is lifted into position.

## Grants Assist School Programs

**O**VER THE PAST five years, Kevin Watkins has earned nearly 20 Volunteer Investment Program (VIP) grants by supporting his daughters in basketball and softball.

A senior accounting analyst in Jackson by day, Watkins spends his nights serving as a coach to his daughter's teams, dedicating as much as 150 hours per year to each sport at Hanover-Horton schools.

"I have three daughters, and

each are involved in sports and other activities. I am usually able to earn a grant a year for each girl through the Consumers Energy Foundation's VIP grants," he said.

Watkins knows how valuable the grants are to the organizations that receive them. Occasionally, a team in the program other than the one he coached needs the assistance more so they pass on the grant to ensure

every player has equal opportunities.

The grants typically help pay for equipment or tournament costs.

"Everyone really appreciates it, from the coaches to the parents to the players," Watkins said. "As an employee and a community member, I'm grateful for the support."

coach Kevin Watkins

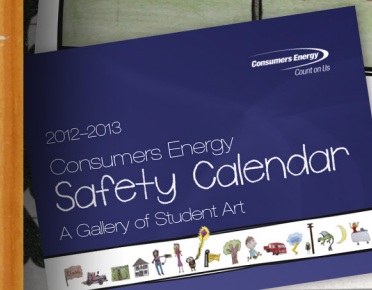
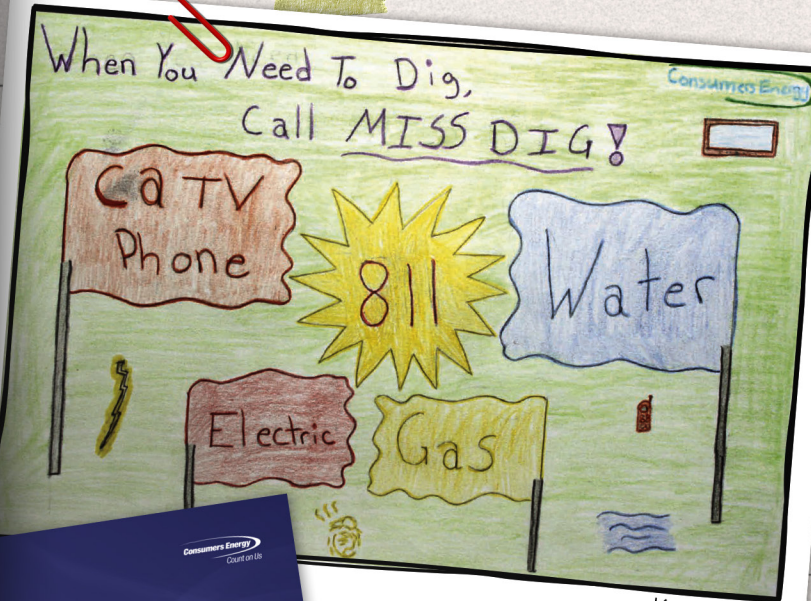


## ENERGY Trivia

Which appliance uses the most electricity for one minute?

1. Toaster
2. Hair Dryer
3. Video Game

Answer: Hair Dryer! A hair dryer uses about 1.5 kilowatt-hours per hour heating element with its blower and



Karen S. Mrs. Yockey, 5th grade McNear-Sawden Elementary, Bay City

## Making Safety A Priority

**C**ONSUMERS ENERGY would like to thank the creative students who submitted their colorful artwork for this year's calendar.

More than 2,000 drawing were submitted for consideration. We truly appreciate local schools inviting us to share our free education programs with students and teachers.

To view the 2012-2013 Safety Calendar go to <http://www.ConsumersEnergy.com/teachers> and look under the Calendars and Activities section on the left hand side of the page.

To participate in next years calendar contest, teachers can schedule a presentation at [www.ConsumersEnergy.com/teachers](http://www.ConsumersEnergy.com/teachers). Each program has a separate form on the website to fill out to request a presentation.



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## Energizing from front page

The United Way of Jackson County and the Jackson Community Foundation worked collaboratively on the grant proposal on behalf of several other organizations.

"The coordination of so many organizations allowed the Energizing Education program to become a reality," said Ken Toll, president and CEO of the United Way of Jackson County. "This generous gift by Consumers Energy will go a long way in energizing Jackson County children to reach their full reading potential."

Those interested in volunteering to read to students can sign up through the United Way of Jackson County.

Additional details are available at [www.volunteer.uwjackson.org/energizingeducation](http://www.volunteer.uwjackson.org/energizingeducation) or call 517-784-0511.

## Movie Magic from front page

part of Consumers Energy's 125th anniversary celebration. It was used to renovate the exterior of the theater, including replacing all of the red panels and stainless steel columns originally installed after a 1948 fire destroyed the theater.

David Mengebier, president of the Consumers Energy Foundation, applauded Moore and the Film Festival for restoring the theater, which has led to a resurgence of the downtown area.

"This great theater has been a catalyst for attracting new businesses and restaurants to the downtown area," Mengebier said. "Consumers Energy has been honored to help preserve historic buildings like the State Theatre during our 125-year record of service to the people of Michigan."

## Experiment

# A Battery that Makes Cents

### Materials and Equipment

- 4 Pennies
- 4 Nickels
- Mild dish soap
- 1/4 cup vinegar (any kind)
- 1 tbsp. salt
- 2 Paper towels
- Scissors
- Small bowl
- Small plate (ceramic, plastic, or Styrofoam; not paper or metal)
- Digital multimeter (any kind that reads mA and mV)

### Experimental Procedure

- 1) In a small bowl, mix together 1/4 C. of vinegar (electrolyte) and 1 Tbsp. of salt (ions).
- 2) Using scissors, cut up a paper towel into small squares, each approximately 1 cm x 1 cm.
- 3) Place the small squares to soak in the bowl of salt-vinegar solution, and set them aside.
- 4) Gather some pennies and nickels, wash with a mild detergent (like dish soap), and dry. This is just a preliminary step to remove dirt and grime.
- 5) Start building your stack on a dry paper towel on your plate. Put down a penny first, then place a square of vinegar-soaked paper towel on top, and then add a nickel. Keep repeating the layers until you have a stack of four coins (alternating pennies, wet paper towel pieces, and nickels), making sure you end with a nickel on top.
- 6) Attach the leads of the multimeter to the two ends of the battery by touching one lead to the penny on the bottom and the other to the nickel on the top. Measure the voltage produced by your battery (in millivolts, mV). You can also measure the current produced (in milliamps, mA).
- 7) Repeat the experiment, each time building a battery with a different number of coins. One important rule is to always start with a penny and end in a nickel, so the number of layers of pennies and nickels will always match. Why do you think this is necessary?

Record your data in a data table like the one below:

Number of pennies	Number of nickels	Voltage (mV)	Current (mA)

Make a graph of your data. What trends do you observe?

Experiment adapted from [www.sciencebuddies.org/science-fair-projects/project\\_ideas/Energy\\_p015.shtml#summary](http://www.sciencebuddies.org/science-fair-projects/project_ideas/Energy_p015.shtml#summary)

## CONTACT US

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Interested in learning about the Smart Meter installation project? Check out the Smart Energy link on our Brainstation Website [www.ConsumersEnergy.com/teachers](http://www.ConsumersEnergy.com/teachers)

This is how to set up the experiment.

