



POWER UP

SCHOOL YEAR 2016-2017

Host an Energy Education Program



RESPECT THE FLAGS is a free 45-minute, in-class program for second-, third-, and fourth-grade students.

It teaches students through a hands-on and interactive presentation about the colored flags used to mark underground pipes and wires, and how to recognize, react to and report a natural gas leak.



EMPOWERED KIDS is a free 45- to 60-minute interactive program designed to educate K-6 students about utilities

and how to be safe. The app-based program helps students learn to identify electrical and natural gas hazards at home, school and in their neighborhood. Download the app for free on the Google Play or Apple App stores.



THINK! ENERGY is a free 60-minute, interactive presentation teaching the importance of renewable resources and environmental stewardship. Each student receives energy efficient technologies to install at home.

The programs are officially endorsed by the Michigan Department of Education and correlate with the Grade Level Content Expectations and Common Core State Standards.

Visit ConsumersEnergy.com/kids or email education@ConsumersEnergy.com to request a free presentation. We also offer home school, middle and high school self-study curriculums.

New Middle and High School Curriculums Expand Energy Education

The Michigan Science Teacher Association (MSTA) Conference in March 2016 saw the launch of a new, higher-level energy education program by Consumers Energy. A comprehensive Energy Unit – comprised of 12 lessons – has been designed by education team members to meet the needs of students in middle and high school.

“Since our safety programs and lesson plans typically focus on Kindergarten through 6th grade, there was a high demand for educational resources for middle and high schools,” said Michelle Stepek, Education Programs Intern. “The team came together to

build this unit and meet the needs of higher grade levels.”

The Energy Unit was unveiled during two sessions at the MSTA Conference, where attending teachers received individual copies of the unit, gifts and additional resources to use in their classrooms. The unit can be accessed any time by visiting ConsumersEnergy.com/kids and select Lesson Plans, Grades 6-12.

“The lessons included meet Grade Level Content Expectations (GLCEs) and Common Core State Standards (CCSS),” said Stepek. “Each lesson is broken down into key objectives, introduction to topics, activities, detailed instructions and discussion questions. Additional resources also are included to facilitate further explanation as necessary.”

Topics in the Energy Unit include:

- thermal energy
- hydroelectricity
- wind power
- solar energy
- biogas
- electricity transmission
- energy efficiency
- exploration of energy careers and more.

Each lesson is low or no cost, utilizing basic materials found in most homes. The new Energy Unit supports Consumers Energy’s quest to power Michigan smarter and leave it better than we found it for future generations.



New Website, Same Great Content

Visitors to our education sites at ConsumersEnergy.com/kids may notice a few changes. In June 2016, we updated our kid-, parent-, scout- and teacher-focused webpages to provide improved navigation and a more modern look. Learn about our commitment to spark and deepen students’ interest in energy, safety and science, technology, engineering and math (STEM) careers through our Generation Genius Project.

Students: Play games, learn how energy is made, how to stay safe and explore STEM careers.

Teachers: You’re invited to use, teach and print any of our free lesson plans. These lesson plans meet Grade Level Content Expectations (GLCEs) and Common Core State Standards (CCSS) for grades K-12. Teachers also can request a free safety presentation directly from the website.

Parents: Find a variety of resources, from ‘teachable moments,’ to a full Homeschool Unit, to ways to get involved with a Robotics Team.

Scouts: Girl Scouts and Cub Scouts in Michigan are able to download and complete workbooks and activities to earn their free Energy Expert patch.



CAREER CORNER

Kimberly Studt

Electric Field Leader I –Electric Systems Operations and Maintenance (ESOM) Low Voltage Distribution (LVD) West

What does a typical day look like for you?

I was hired with the express purpose of assisting the Consumers Energy late shift in the Western Zone area, including afternoon and weekend crews.

My typical day begins around noon when I confirm necessary resources are in place and begin making a plan to restore any lost power. It's critical to restore power to the customers in a timely manner.

Throughout the day I might travel to different headquarters, conduct job site visits, assess crew support needs and confirm ongoing work will provide value to our customers.

In addition, I provide recommendations for how to prioritize future projects, assist with crew meetings, ensure safety messages are communicated and monitor reporting metrics.

Being out in the field with the electric crews and completing work to meet customer needs

is a huge component of the field leader position. I work directly with customers to solve their issues and remove multiple obstacles for our lineworkers. There's a lot of



work and management that goes on before the electric crew even sees a job.

What is the most important aspect of your position?

Daily activities and primary concerns change constantly based on the highest priority.

However, safety is always my top priority. It's important to send everyone home safely and to protect the public – this requires honest and open communication, job pre-checks and hazard identification.

The second most important component is monitoring and managing non-planned customer outages. It's crucial to restore power to the customers as quickly as possible in a safe manner.

Safety and non-planned outages, like storms, are the two key responsibilities in

my role as an Electric Field Leader. In the end, our customers are getting a more reliable energy electrical system because of the work I do.

What is the most challenging part of your job?

The most challenging aspect of my job is learning the union contract and the differences between all the headquarters I oversee. Anyone who is looking to follow a similar career path should research the role and try to talk

with company field leaders. There are large, medium and small headquarters that you could be working with. It's important to be aware of their unique differences, fully understand the field leader position and determine if it's a good fit for you.

CAREER CORNER

Michelle Stepek

Education Programs Intern

What does your typical day look like?

Every day is different at my job! A couple days each week I travel to schools to present safety education programs to K-6th grade students. I also attend community events to talk about natural gas, electricity, safety and career opportunities. When I am not presenting,

I am in the office planning for events and presentations, coordinating volunteer opportunities and creating educational resources. One of my biggest projects to date was making a Homeschool Unit available on the website for parents to use.

What is the best part of your job?

The best part about my job is working in a variety of settings and meeting so many people. I love working in schools and meeting teachers, principals and even superintendents. I also love working in the community and interacting with parents and students. It's a great way to spread awareness about STEM and other educational initiatives we support.

What is your education background?

I received my bachelor's degree from Western Michigan University where I studied child development and psychology. I am currently pursuing a master's degree in training and development.

What advice do you have for others interested in working at Consumers Energy?

My advice is to seek out different jobs and opportunities at Consumers Energy. I never thought I could be in the classroom setting while working for a utility company. There is a job for everyone here, no matter what your education background might be!



Outshining the Rest

In the race to be the best and brightest, LED pulls ahead of the pack. Lasting 10 times longer and using 50 to 80 percent less energy, you buy fewer bulbs, spend less time changing bulbs and use less energy. Consumers Energy even offers instant in-store rebates for energy-efficient lights. So, how do LEDs stack up against the competition?

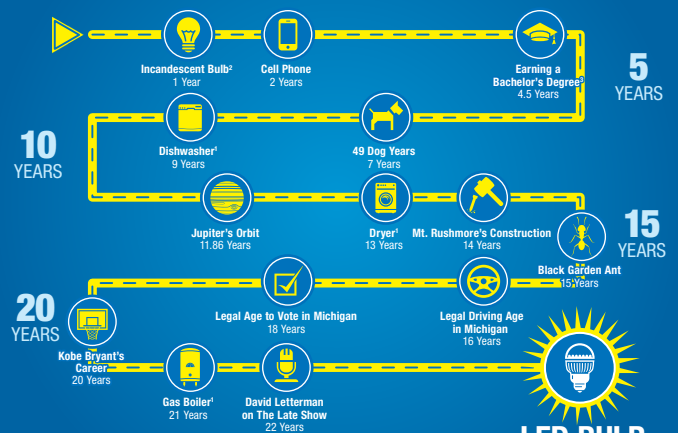
BULB TYPE	LEAST EFFICIENT MOST EFFICIENT			
	STANDARD	HALOGEN	CFL	LED
	ENERGY USED	ENERGY USED	ENERGY USED	ENERGY USED
450 LUMENS	40W	29W	10W	6W
800 LUMENS	60W	43W	13W	10W
1100 LUMENS	75W	53W	20W	13W
1600 LUMENS	100W	72W	23W	17W
AVERAGE LIFE	1 YEAR	1 - 3 YEARS	6 - 10 YEARS	15 - 25 YEARS

The average home has 40-60 light sockets, and lighting accounts for nearly 20 percent of your electric usage. Source: energystar.gov/lighting

LEARN MORE AT
[ConsumersEnergy.com/
myhome](http://ConsumersEnergy.com/myhome)

Outshining the Rest

WHAT WILL 1 LED LIGHT BULB OUTLAST?



Source¹: National Association of Home Builders
Source²: U.S. Environmental Protection Agency (EPA)
Source³: National Center for Education Statistics



Supporting STEM Careers

In 2015, we introduced our Generation Genius Project to inspire a passion for science, technology, engineering and math (STEM) careers.

Consumers Energy depends on STEM talent to innovate, engineer, anticipate and respond to challenges and opportunities now and in the future. Last year, the company and the Consumers Energy Foundation contributed more than \$155,000 to support robotics teams and competitions at the elementary, middle and high school levels throughout Michigan.

We have sponsored the FIRST (For Inspiration and

Recognition of Science and Technology) Robotics state championship for the last two years and hosted robotics championships at our Jackson locations for four years. Our employees also volunteer as mentors for teams throughout the year. In 2016, we will continue and expand our support for robotics programs across the state.

Our commitment to STEM and robotics supports Michigan's future, attracting and retaining talented individuals to support a strong workforce.

Visit ConsumersEnergy.com/kids for more information.

Harnessing the Power of the Sun

On June 10, we celebrated the completion of our first solar power plant – a 17-acre array of 11,000 Michigan-made solar panels at Grand Valley State University.

The 3-megawatt solar power plant on university property is the largest community solar project in Michigan, generating enough electricity to serve 600 homes.

Our second site at Western Michigan University opened late this summer. The 1-megawatt facility covers 8.5 acres on the School of Business and Research Park.



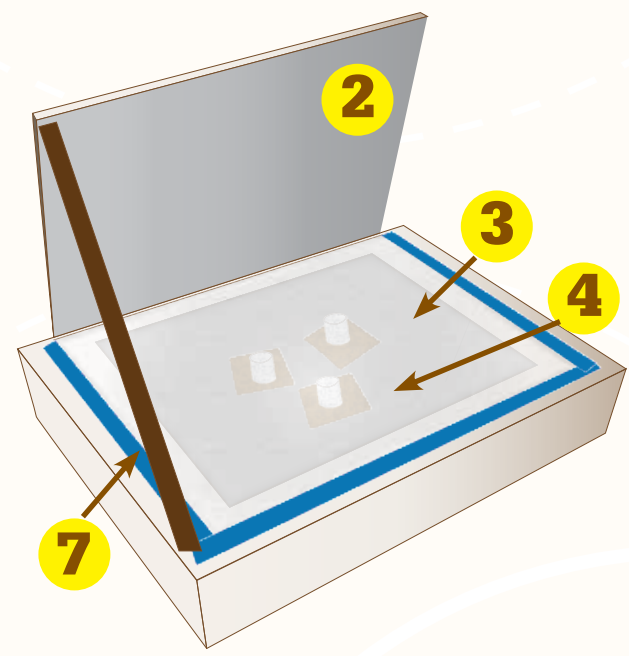
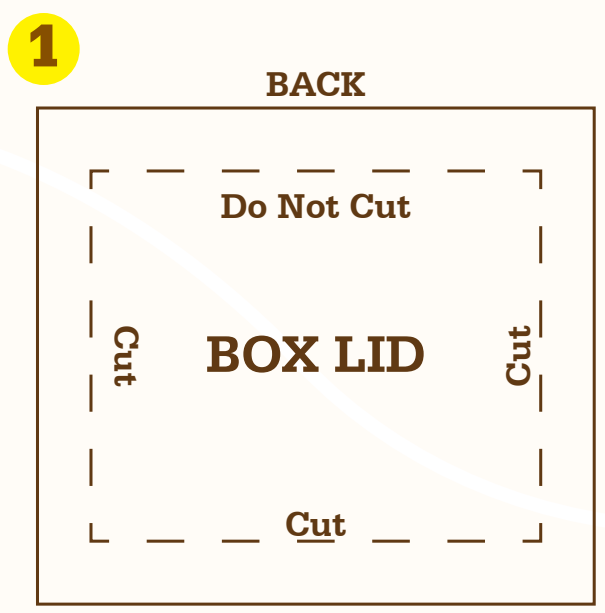
Solar Gardens Power Plant at Grand Valley State University

Solar Oven Experiment

WHAT YOU WILL NEED:

- Cardboard pizza box
- Marker
- Box knife or scissors
- Aluminum foil
- Clear tape
- Plastic wrap/cling wrap
- Black construction paper
- Newspaper (optional)
- Ruler
- Plate
- Oven mitt
- Food for cooking (s'mores, pizza, nachos)
- Warm, sunny day!

- 1** Use a marker to draw a square one inch from all the sides of the box. Use the box knife or scissors to cut along the front line and side lines (do not cut back). Fold the flap out so it stands when the pizza box is closed.
- 2** Cover the inside of the flap with aluminum foil. Smooth out wrinkles and wrap aluminum foil tightly. Secure with tape.
- 3** Line the bottom of pizza box with black construction paper. Secure with tape.
- 4** Cover the opening on box lid with plastic wrap. Cover any air leaks with tape around the edges. Make sure you can still open the box to put food inside.
- 5** **Optional- if you want to insulate your oven, roll up sheets of newspaper into 4 rolls and place in bottom of pizza box. This should form a border around the cooking area. Make sure lid can still close.
- 6** Go outside and place box in direct sunlight. Best time of day is 11 a.m. to 3 p.m.
- 7** Place food on plate inside of the box. Close lid then prop flap open with ruler. Adjust flap until the most sunlight possible is reflecting off the aluminum foil.
- 8** Check food periodically until done. Remove with oven mitt (it will take longer to cook than a normal oven).



Caring for the Communities We Serve

The Consumers Energy Foundation has been caring for Michigan communities for decades. Our grants have helped fight poverty, build parks and encourage kids to pursue critical job skills and higher education. We've helped restore endangered wildlife, protect fragile habitats and preserve cultural assets, like museums, zoos and libraries.

Our employees support nonprofit organizations across the state by giving of their time and money to many worthy causes – from early childhood education to United Way, Habitat for Humanity affiliates and other nonprofit agencies who are positively impacting the lives of many residents and leaving Michigan better than they found it.

The Consumers Energy Foundation supports employee volunteerism and offers several ways to help employees maximize their donations.

In 2015:



- More than 4,000 employees and retirees volunteered their time.
- We donated \$6.6 million to Michigan nonprofit organizations.
- More than 430 nonprofit organizations received \$215,850 on behalf of 547 employee and retiree volunteers who received grants through our Volunteer Investment Program.
- Nearly 2,100 employees and family members participated in Walks for Warmth.
- The Consumers Energy Foundation contributed \$50,000 to support the Flint Water Crisis, including \$25,000 for the United Way of Genesee County to purchase water filters and \$25,000 for the Community Foundation of Greater Flint's Child Health and Development Fund for early childhood education.

The Foundation also is matching employee and retiree donations up to \$25,000.

Caring for the communities we serve is our promise to Michigan. And it's a promise we will continue to deliver on, for years to come.

Challenging Interns to Give Back

Nearly 90 Consumers Energy interns made an impact on communities across Michigan this summer, helping feed over 3,000 people, picking up nearly 450 pounds of trash and providing educational programming for 120 children.



Our 2016 Interns

Consumers Energy's Intern Challenge is a competition that encourages interns to develop creative solutions to needs in the communities we serve. Interns who took part in the competition work in a variety of areas for Consumers Energy, from engineering to information technology to corporate security.

Check out Consumers Energy volunteer efforts by following #CEVolunteers on social media.