Carpe Vigorem
"Seize the Energy" in education and our communities
Spring 2013
Consumers Energy
Count on Us

Opening Doors

Robotic team inspires career choices

ENTERING HER SOPHOMORE year, Amanda Little wasn't sure what career path she wanted to follow.

Now it's crystal clear what she wants to do: be an engineer. She is just trying to figure out whether it's in the biochemistry or aeronautical field.

And she thanks being part of a team for helping her along her career path.

"It's a group that I will always remember – they are a second family to me," said Little, now a junior. "I thought it was just a fun group, I had no idea it would open so many doors for me."

The East Jackson High School's Blue Ops Robotics Team is where Little has spent countless hours over the last two years.

The team is charged with designing and building a robot from scratch. They also control the robot in a series of tasks — including climbing and throwing items — against other robotic teams from around the state.

The team recently participated in two competitions against 40 teams from across the state.

"It doesn't matter where we finish," said Little. "We know we are accomplishing something great by just competing."

The 211 high school robotics teams in

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BY THE NUMBERS

6 – weeks it takes to build a robot

150 – average weight of robots built

211 – Michigan High School robotics teams

50,960 – students (9-12th grade) who are on robotics teams around the country

16,000,000 – dollars US First Robotics is giving out to graduating seniors who have participated in program

"I love that students are getting fired up about science, math and technology, through building these robots."

Be A Safety Hero:

Sign up for a Free Respect the Flags Presentation Today

ATTENTION ELEMENTARY SCHOOL TEACHERS: looking to be part of something that may one day save the life of one of your students or their family members?

Well Consumers Energy has just the program for you. It's called Respect the Flags, a free educational safety program for second through fourth grade students.

This in-class program explains why we use colored flags to mark the presence of buried natural gas lines and other utility services. It's also designed to provide students with a better understanding of natural gas safety.

Children learn how to recognize a natural gas leak and learn the six major steps to follow if a leak is suspected.

Additional emphasis is also placed on learning about the role MISS DIG

Continued inside >>

WORKING TOGETHER -- From left: Allison Boudreau, Tyler Berry, and Meghan Urbaniak are students at East Jackson High School and are part of the Blue Ops Robotics Team.

"ALWAYS LEARNING" inside

Always Learning

Volunteer and mentor shares passion for science and math at local schools

As a youngster Rose Kallio always had a hunger for knowledge when it came to math and science.

As the years passed she honed those skills and became rather exceptional at them. However, she struggled with what to do with them to collect a pay check.

Luckily she had a high school guidance counselor that helped put her on a career path to becoming an engineer at Consumers Energy.

"And I bring up to them a quote by Henry Ford that I live by: 'whether you think you can or you can't – you are right.'"

"If it wasn't for him, I wouldn't have the job I do today," said Kallio, who has been with the company for 17 years. "I thought I was going to be a teacher since engineering wasn't a popular field for women then. But he opened my eyes and gave me the confidence that I could do anything I put my mind to."

In the 10th grade, the counselor helped Kallio land a scholarship from Consumers Energy to attend an engineering summer camp at Michigan State University.

The irony isn't lost on her.

"I guess some things are just meant to be," she said with a laugh.

Kallio fell in love with engineering and decided to attend Michigan Technological University. Now once a summer she makes the trek to Houghton to help assist with a camp similar to the one she attended.

"Math and science are everything that happens in this world," said Kallio, who is a member of the Society of Women Engineers through Consumers Energy and Michigan Technological University. She is also a member of the Women's Engineering Network at Consumers Energy. "No matter what age the student is, my goal is to show them that engineering is fun."

She is doing her part to give students the confidence to be engineers. Rose volunteers in the community through outreach programs, math and science nights at local schools and through mentoring students interested in math and science careers.

"Sometimes they feel they aren't smart enough, I know I felt that way early on," she said. "And I bring up to them a quote by Henry Ford that I live by: 'whether you think you can or you can't – you are right.'"

For more information on Michigan Tech's and Michigan State University's engineering program visit:
www.mtu.edu/engineering/
and
www.egr.msu.edu/future-engineer/programs

Rose Kallio volunteers for math and science nights at local schools.

• Boy Scouts tour the Karn III Plant in Essexville.

• Boy Scouts proudly display their Energy Expert badges in Macomb.

• A Boy Scout works on an electrical science experiment.

Did you know?

Hydropower is the renewable energy source that produces the most energy, through dams built on rivers with strong currents.

Scouts Experience Energy Programs

ABOUT 150 Cub Scouts from around the state recently visited Consumers Energy sites and learned about energy use, sources of energy, electric and natural gas safety and career opportunities in the energy industry.

At the end of the events – held in Bay City, Jackson, Battle Creek and Macomb – the Scouts were presented with one of Consumers Energy's brand new energy expert patches to add to their growing collection.

John Keller, a Scout leader, said it was a day he and his son Joshua would always remember.

"I commend the employees of Consumers Energy for volunteering their time to work with children," Keller said. "It speaks volumes to the kind of community spirit that exists at Consumers Energy. I hope they continue to do these programs for years to come."

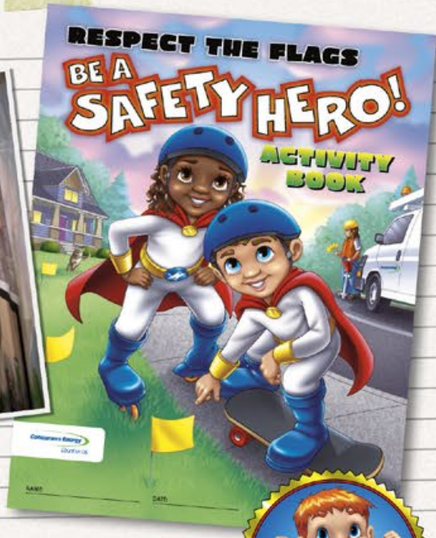
Rebecca Lagazo, an assistant Scout leader, said she couldn't have asked for a better learning experience for her son Nicholas.

"The best part of the day is when I pulled into my driveway and my son said to me from the back seat 'mom, thank you for taking me on the tour today, I had a really great time.'"

Lorraine Diaz, Royal Oak troop leader said her group also thoroughly enjoyed the experience.

"It's very important for Scouts to learn about natural gas and electric safety, various forms of energy, and how it affects our community," Diaz said. "There is no other scouting event like it."

SPRING 2013 Carpe Vigorem



Safety Hero from front page

plays in public safety and the importance of calling 811 before starting any type of digging project.

This year, the new activity book "Be a Safety Hero" will be available for classrooms that sign up for a Respect the Flags presentation.

The activity book will provide educational information in a child friendly format and will also have activities that reinforce what the students learned during the presentation. For example, connect the dots, scrambled words, what's wrong/right with this picture and a crossword puzzle.

Sign up for Respect the Flags today by visiting www.ConsumersEnergy.com/teachers.

Energy Trivia

Renewable energy sources are those that:

A) Can be replenished in a short time
B) Result in a lot of harmful pollutants in the air
C) Make the United States dependent on energy imported from Canada

Source: www.eia.doe.gov

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Opening Doors from front page

Michigan are part of the national For Inspiration and Recognition of Science and Technology (FIRST) Robotics program, designed for teens interested in science and math.

"I love that students are getting fired up about science, math and technology, through building these robots," said Stephen Doerr who coaches East High School's Blue Ops team along with Chris Galicki. "Students of many talents are getting the opportunity to showcase their skills."

The Blue Ops team is self-funded, which requires students to find most of its funding through local businesses.

Garrick Rochow, vice president of energy delivery for Consumers Energy, said it made great sense to donate $2,500 to the Blue Ops robotics team.

"This educational program gives creative students the opportunity to work together as a team to reach one common goal: building the best robot possible," Rochow said.

"The problem-solving skills that these students acquire from this great hands-on learning experience are exactly what businesses like Consumers Energy and others look for in prospective employees."

To learn more about the FIRST Robotics competition visit www.usfirst.org/roboticsprograms/frc.

The Power and Force of Water

Materials and Equipment

- Half gallon paper milk carton (empty and washed out)
- Gallon of water to fill carton with
- Nail
- Masking tape
- Ruler
- Permanent marker
- Scissors

This is how to set up the experiment.

Experimental Procedure

1) Cut off the top of the milk carton. From the bottom of the milk carton, measure up ½ inch and using the nail, punch a single hole in the center of the side of the carton. Measure up one inch from the bottom and punch another hole in the center. Measure up two inches from the bottom and punch a third hole above the other two holes. Measure up four inches from the bottom and punch a final hole in the center of the side. Note: All holes should be the same size in diameter.

2) Take a long piece of tape and tape up all four of the holes.

3) Put the carton on the edge of the sink with the side with the holes punched out pointing towards the sink.

4) Mark a line on the carton near the top. Always fill or refill the milk carton with water to this line.

5) Quickly remove the tape that is covering all four holes and watch what happens. Measure how far away each of the streams of water hits the sink. (you may have to do this more than once to measure all four holes)

6) Let all of the water empty out. Watch what happens as the water level drops. What happens to the streams of water for each hole?

7) Now tape up all of the holes. Put the carton back on the sink edge, refill the carton, and remove the bottom tape. Measure how far out the stream goes. Retape the hole, and untape the next hole up, measure how far away the stream goes. Refill the carton with water. Retape the second hole and untape the third hole, measure how far away the stream goes. Refill the carton with water to the same level as before. Retape the third hole and untape the fourth hole, measure how far away the stream goes.

What did you discover after completing step 7: How far away did the stream of water fall from the carton? Was there a difference between the stream of water from the bottom hole to the top hole? Why do you think this is?

Experiment adapted from www.energyquest.ca.gov/projects/hydro-power

NOTE: Hydroelectric facilities are built at the base of dams to take advantage of the high pressure of the water at the bottom of the reservoir. The water pressure is funneled through a tunnel through the dam called a penstock. The water then is focused on the blades of the turbine. The water pressure turns the turbine, and the turbine turns a generator making electricity. Watch the streams of water flow and the distance of each to relate your findings to how dams work when making hydroelectricity.

CONTACT US

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