



Advancing science, technology, engineering, and mathematics education for people of all ages.

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K-16 STEM in the NEWS

YOU BE THE CHEMIST CHALLENGE

Budding young scientists competed in the "You Be the Chemist" Challenge held at Imagination Station in downtown Toledo on April 20, 2013.

Thirty-three 5th thru 8th graders from elementary schools all over northwest Ohio competed. Competitors answered questions on topics concerning important chemistry concepts, processes and historical discoveries over eight rounds of elimination until Michael Allen, a 7th grade student at the Franciscan Academy in Sylvania, emerged as the winner. He will travel to Philadelphia, with all expenses paid, to participate in the national competition. Michael is the 2012 state of Ohio champion, where he placed second.



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The local and state "You Be the Chemist Challenge" events are sponsored by NWO, University of Toledo's American Chemical Society, the Chemical Educational Foundation, Toledo Public Schools, PVS-Nolwood Chemicals, Inc., and Imagination Station. The Challenge is a fun and innovative academic competition, which annually engages 5-8 grade students in learning about important chemistry concepts, discoveries, and chemical safety. Challenge competitions are exciting events that take place across the country, encouraging the collaboration of community organizations, schools, and the chemical industry, as together, they educate students about the benefits and value of chemistry.



Community STEM in the NEWS

BUILD IT! opens in Perrysburg

Build It! is a hands-on learning center which recently opened in Perrysburg at Levis Commons. Build It! uses LEGO®, DUPLO® and K'NEX® to motivate children in grades pre K-5th to explore the Common Core and Ohio's new science learning objectives.



Kelissa Boden, a fifth grade teacher in Perrysburg schools, is the learning center's founder and tells the story of how Build It! came to be. She stated, "Although I have my master's degree in curriculum and instruction, specializing in science, I hadn't been in a science classroom in over 12 years and found myself preparing to teach science for the 2011-2012 school year. As the old saying goes, you use it or lose it. I was grateful to have had the chance to get accepted into the (NWO sponsored) Pi r2 program. It was perfect timing. I learned so much content and was taught using the same methods that I was expected to use with my students. I experienced the problem based learning model as well as hands-on inquiry lessons. I found my excitement towards education renewed and felt inspired."

She went on to explain that at one of the workshops, she spoke with instructors about STEM education and came up with the idea to start a LEGO Club first at the school using LEGOs as the manipulatives for teaching science and math concepts. With the support of the parent organization she started the club, which is still continuing and is a huge success. Building on that success she and her husband opened Build It!--a hands-on learning center that uses LEGO®, DUPLO® and K'NEX® to teach STEM learning concepts.

"Everyday I get the chance to challenge kids to learn, using tools they love, in a fun, inspiring atmosphere."

The mission of Build It! is to encourage kids of all ages to have fun learning and to provide opportunities for families to spend time together.

The learning center is open for open play and numerous summer camp opportunities are available, as well as a party space. Please visit the Build It! website for more information: http://www.builditperrysburg.com/Home_Page.php

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STEM Opportunities

Challenger Learning Center of Lake Erie West Summer Camps

Many summer camp opportunities are available including Rocketry Camp, Astronaut Boot Camp, International Space Station Camp and much more. Please visit the website for more information and details on registration: <http://www.eslakeeriewest.org/challenger-learning-center>

A visit to the Challenger Learning Center is not just a field trip. It's a unique hands on learning experience, transforming students into scientists, engineers, or researchers on a simulated space mission, complete with mission control and spacecraft, using 21st Century skills of Communication, Collaboration, Critical Thinking and Creativity.

Community Resources Workshop sponsored by NWO

Registration is now open for this workshop which comprises activities addressing the new common core standards, STEM learning and 21st Century skills. It will be held **June 17-21, 2013** at BGSU.

The cost to attend the workshop is \$150 and includes college credit/contact hours, most meals, all materials, parking, entrance fees and much more. Please visit our website <http://cosmos.bgsu.edu> for details and registration.





Sign up by May 19. Class starts on May 20th!

E-Teacher is a six-week course offered by WGTE and offers 20 contact hours for only \$40!

The classwork, learning, and discussion happen entirely online and teachers will be able to fulfill course requirements at their own pace each week. The class focuses on excellent teaching and emerging trends in technology such as Web 2.0 tools, 21st Century Learning Environments, Social Media, and the ever-changing role of the educator in education. No additional equipment purchase is necessary for this class; educators will be asked to explore the resources they already have available in their classrooms.

During the 6th week, on Thursday, June 27th, participants are required to attend a luncheon at WGTE Public Media and present a project (individual or group) that showcases a lesson or activity modeled after one or more weekly lessons or discussion topics. This will be casual and fun, a great place to network and see what others have accomplished.

Thanks to the generous support of the Martha Holden Jennings Foundation, this class is being offered for only \$40 per participant (normally, it would cost \$300 for members). It will include up to 20 contact hours from WGTE and the opportunity to receive one hour of graduate credit from Lourdes University for an additional \$200 (optional).

Sign up at www.wgte.org/pd

For more information, contact **Dusty Miller** at **419-380-4634** or dusty_miller@wgte.org

Free Geospatial Technology Institute for grade 5-8 teachers

July 15th-19th at University of Toledo

The **SATELLITES** Institute will run from 8:00-4:30 in the Geography and Planning Department of the **University of Toledo July 15-19th**. The Institute is free to teachers in grades 5-12. Come learn how the geospatial technologies of remote sensing, GPS, and GIS can help you bring our new OHIO science

standards into your classroom in a unique and fun way. Teacher requirements include: field research at your school for 10 days between Thanksgiving and Christmas, pre and post testing for students on the computer, and one student will perform an inquiry based search on data collected during the field campaign or from approved data bases.

In addition to many free resources and lesson plans, teachers will receive ~ \$400 worth of remote sensing, GPS, and GIS equipment for their classroom. Lunch is provided each day. Pre-registration is required. Please contact Mikell Lynne Hedley for registration information or questions at: Mikell.hedley@utoledo.edu



Join schools and OEP's partners from around the state to celebrate energy education. Western Ohio Energy Blitz-June 19-20 in Dayton. Tour energy sites and meet energy industry professionals in this two-day workshop. Energy Efficiency Programs-Variou dates July-September. Sign up now to participate in the 2013-14 school year.

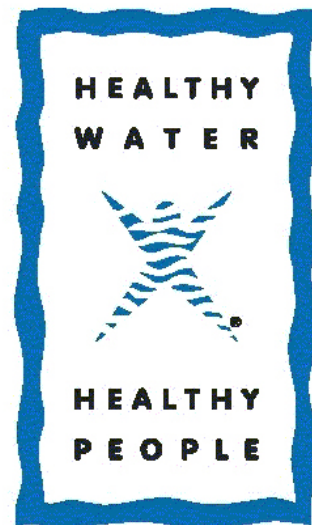
For more information: <http://www.ohioenergy.org>

Healthy Water, Healthy People Workshops

An innovative water quality education program sponsored by **Project WET** and the **Hach Scientific Foundation**, offering hands-on activity guides, testing kits, training, and much more.

GOAL: The goal of Healthy Water, Healthy People is to facilitate and promote the awareness, appreciation, knowledge, stewardship, and understanding of water quality topics and issues and to make evident the interdependence between science education and the public. Workshop participants learn to assess physical, chemical, and biological characteristics of local streams in order to understand how water quality is affected by human activity.

When: Thursday, June 6, 2013
9:00 a.m. - 3:00 p.m.



Where: Deer Haven Preserve
4183 Liberty Road
Delaware, Ohio 43015

Recommended for middle and high school teachers, students, scout groups, 4-H, and home schooled groups. All activities are correlated to the National Science Standards and the Ohio Academic Content Standards for science and social studies.

Participants will be provided instruction on activities in the morning and will peer teach in the afternoon. Everyone in attendance will receive the HWHP Educator Guide, Test Kit Manual, and training materials valued at \$50.00 - FREE!

For more information and to register by e-mail, please contact: **Dennis Clement**, Ohio EPA/OEE @ **614-644-2048** or dennis.clement@epa.state.oh.us.

Ohio State Fair K-6 STEM Workshop

July 30 - August 1

This two and one-half day **hands-on STEM workshop** will focus on integrated content experiences for teachers of grades K-6 students, and adaptable to grades 7-8. Your classroom will be the sustainable designed compressed earth block house on the Ohio State Fair grounds; the Youth Center hands-on exhibits in the Lausche Building, commercial exhibits, natural resources area, all agricultural related exhibits and competitions, and midway rides. STEM teaching ideas developed by the teachers will be adapted to meeting the learning needs of their students. Integrated STEM lessons, STEM unit ideas, and design problem statements developed by workshop participants will also be posted on the Ohio State Fair Web site. One semester hour of college credit will be available for purchase. More information: www.ohiostatefair.com



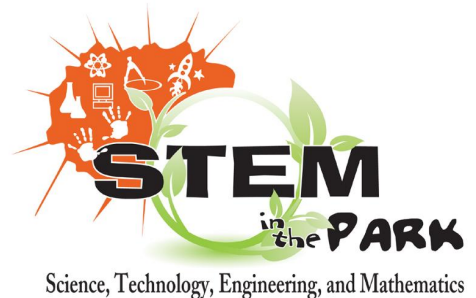
The Falcon BEST Robotics Competition is a sports-like contest with the inspiration of building a working robot! Ohio now has a BEST Robotics hub at Bowling Green State University: Falcon BEST Robotics. BGSU's College of Technology is looking for middle school and high school teams to be a part of this exciting endeavor to participate in the 6-week robotics competition this fall. There is no fee to compete, and each team receives a kit with the necessary supplies to create a robot. BEST features two parallel competitions: a robotics game and the BEST Award, which is presented to the team that best embodies the concept of Boosting Engineering, Science and Technology through a project summary notebook, oral presentation, table display, and spirit and sportsmanship.

For more information: <http://www.bgsu.edu/colleges/technology>
 Or email: Dr. Wayne Unsell, Falcon BEST Hub Director: cunsell@bgsu.edu
 Dr. Todd Waggoner, Falcon BEST Operations Director: wtodd@bgsu.edu

SAVE THE DATE for STEM in the Park 2013

A free event for all northwest Ohio families and the entire community. Held on the campus of BGSU on **Saturday, September 7th, 2013 from 10:00am - 2:00 pm**. Featuring: Four hours of engaging, hands-on STEM activities from over 75 area businesses, schools and organizations; **Free** lunch and other refreshments (while supplies last); **Free** take-home activities; **Free** STEM materials; and best of all: Fun for the whole family!

Visit the website for more info at www.nwocenter.org/STEMinPark



Imagination Station

Grossology Family Workshops

May 19 & July 21
 3:00 - 3:30pm

Explore why the body produces mushy, oozy, crusty, scaly and stinky gunk at the **FREE Grossology Workshop/Intestine Investigation**.

Grossology is all about the impolite science of the human body, so the workshop will be talking about something that is not-so-polite: digestion. In this Human intestine activity, learn how food gets from point A, the mouth to point B, - well, we all know where that is.





It's Snot a Bad Thing

We will be making mucous (slime) and talking about the nose and why mucous plays a very important role in your health. Please visit the Imagination Station website for more information: <http://www.imaginationstationtoledo.org/>

Physics Teacher Training at Marietta College

The Marietta College Rickey Science Institute is a week-long FREE training for Physics teachers with equipment given.

Contact **Dennis Kuhl** at: dennis.kuhl@marietta.edu or visit the website: http://www.marietta.edu/departments/Physics/teacher_institute.html

Columbia Gas of Ohio Energy Efficiency School Program

Be E3 Smart for 5-12 grade teachers

Columbia Gas is sponsoring a free education program for teachers, students, and families in the Columbia Gas service territory. All curriculum is correlated to meet the Ohio Academic Content Standards. Multiple academic standards met for **grades 5-12**, and more than \$2,500 worth of curriculum materials, classroom supplies and student kits are available.

Professional development - one-day workshop with CEU available
\$100 stipend

Students can benefit by learning skills in the classroom to become empowered energy leaders.
More info: www.ohioenergy.org, cdeardurff@ohioenergy.org, or call **614-785-1717**

Owens Community College Myo Myo MUSCLE

Owens Community College will introduce middle school students to potential careers in health technologies using the theme of muscle structure, function and pathology. Owens Community College faculty, staff and students will supervise activities and include: Brief lecture and laboratory sessions, based upon an inquiry model of instruction, and technology currently available at Owens Community College. Students will be encouraged to collaborate with peers and college supervisors.



More information: <https://www.owens.edu/cgi-bin/HealthScienceCamp.pl>

Hands-On, Minds-On... Science K-5, Port Clinton City Schools

Dates:

June 13, 2013; Thursday; Grades K-5 - 8:00 a.m. - 3:00 p.m.

June 14, 2013; Friday; Grades K-5 - 8:00 a.m. - 3:00 p.m.



This is a two-day workshop. Participants will attend both days.

K-5 teachers are invited to register for a valuable K-5 SCIENCE professional development opportunity sponsored by Port Clinton City Schools. Through K-5 Hands-on Minds-on SCIENCE, teachers will explore activities that engage students in inquiry-based learning (primarily through FOSS Science Kits). Research indicates students learn better and experience greater achievement when they are engaged and involved. Most importantly, they remember what they have learned!

Facilitated by: Dr. Jodi Haney, Kip Bisignano, and Jenna Pollock. The entire professional development opportunity will directly focus on the major initiatives being implemented in our district next year (PCCSD) and several of our neighboring districts.

As host district, Port Clinton City Schools' teachers will have an opportunity to register first. Following that registration, the workshops will be opened to other districts.

How to register:

Please send an email to Becky Diaz, Port Clinton Board of Education, with the words "Summer Workshops" in the subject line. Include the following in your email:

Email: bdiaz@pccsd.net ("Summer Workshops" on subject line.)

Your name, school and grade you teach so we place you properly.

A **phone number** where you can be reached over the summer if needed.

An **email address** where you can be reached this spring and on the days of the workshops.

Confirmation:

You will receive a reminder email in early June. All confirmations and reminders will be sent to the email address you provide.

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NWO Hands-On STEM Activity

Better Lesson (<http://betterlesson.com>) is an online social network which allows teachers to share classroom resources, and was founded by a group of teachers from Atlanta and Boston public schools to connect educators and help them create, organize, and share their curricula. They are focused on aggregating and scaling the most innovative content and practices from high-performing teachers across the country

Phases of the Oreo

Grade Level: K-5

Lesson Objective:

Students will create, identify, and label the different phases of the moon.

Materials:

- 7 Oreos per student (plus extra to snack on)
- Black construction paper (1 per student)
- Glue
- White crayons/colored pencils
- Phases of the Moon Cards, found here: http://betterlesson.com/document/14893/moonphasescardhandout?from=consumer_lesson



Download a pdf of the complete hands-on activity by [clicking here!](#)

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Share Your Story!

Thank you for your support of NWO, our programs, our activities, and our partners. Please send us updates, press releases, and news of STEM happenings at your school, district, or organization. Please submit to nwo@bgsu.edu. We are always looking for great STEM education stories to feature in upcoming newsletters.

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Follow NWO on [Twitter](#)

Find Even More Ohio STEM Education Resources

Visit our STEM clearinghouse, nwostemresources.org, for more STEM activities, programs, and information.

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