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K-16 STEM in the NEWS

Miller City's Project Lead The Way

This has been a busy time for Miller City junior and senior high school students as they prepared for the Engineering Day Competition at Rhodes State College. Due to the heavy course requirements of the college accredited courses the students take at Miller City High School, their instructor, Dave Shaffer, said they only spend about three weeks preparing for this engineering challenge. "The Engineering Day Competition is one of the best events of our schools' year and shows our students' hard work and effort showcased in the public arena," Shaffer said. "Skills developed over the course of the school year including trigonometry, CAD (computer-aided design), and engineering problem solving are all employed in preparing for the competition."



The students in the engineering classes are part of Miller City High School's Project Lead The Way (PLTW) involvement. PLTW is one of the leading providers of rigorous and innovative Science, Technology, Engineering, and Mathematics (STEM) education curricular programs used in middle and high schools across the U.S. Shaffer is an instructor at Rhodes State College and Miller City High School. He has been teaching at Miller City for 6 years. He teaches Digital Electronics and Circuit Analysis to the juniors and AutoCAD1, AutoCAD 3D, and Robotics and Mechatronics to the seniors. Students in these classes receive college credit for the courses taught by Rhodes instructors at Miller City High School. Miller City High School's PLTW program was initially one of ten schools in the country-and the first in Ohio-named as an exemplary, model school within the PLTW National network of schools. The program allows students to get a taste of college experience while in high school. [\(Read more\)](#)

STEM Summer Day Camps Create Excitement and Enhance Academic Achievement!

A variety of STEM-related summer camps for children of all ages are happening across northwest Ohio. Summer day camp experiences in the area run the gamut from gardening to engineering and provide academic enrichment and exercise during those summer days when students too often spend time doing more sedentary activities. According to a study commissioned by The Wallace Foundation, research evidence shows that (1) students' skills and knowledge often deteriorate during the summer months, and low-income students face larger losses than other students and (2) low-achieving students need additional time on task to master academic content.

As a result, summer learning experiences have the potential to stop losses that might occur during the summer and propel students toward higher achievement. Several area informal education institutions are rising to that challenge. "By getting kids excited about what they can make and do at such a young age, we have an opportunity to really impact their career choices, all while they are having fun." says Jamie Pafford, Outreach Manager for Imagination Station. NWO recommends the following programs, which parents and students can take advantage of this summer. Some provide scholarships to help offset costs for low-income families. ([Read more](#))



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STEM Opportunities

Plan a Hands-On Lake Erie Science Field Trip or Complete Your Professional Development Requirements at Stone Lab on Gibraltar Island

Each summer, teachers complete professional development requirements and work toward their Highly Qualified Teacher certification while networking with other education professionals in Stone Lab courses. Most course instructors are published researchers and a class's work may contribute to on-going research. In one short week of intensive hands-on, field-based classes, teachers learn fresh ideas to incorporate science into their classrooms, and often bring home proven lesson plans and labs, providing their students with a new perspective on real-world science. Check it out at: stonelab.osu.edu

The Community Resources Workshop Returns

Monday-Friday, June 18-22, 2012

Plan to spend a week of your summer vacation on a fun-filled field trip for educators while you earn college credit or contact hours! This high-quality professional development program offers: standards-aligned and classroom-ready lessons, materials, programs and resources along with 40 contact hours from NWO at BGSU or 2 semester graduate credits through Lourdes University.

Cost: \$150 includes most meals (breakfast and lunch) as well as entrance fees, materials and 40 contact hours (provided by NWO at BGSU). Credit cards, school purchase orders or checks will be accepted as payment. Graduate credit is only an additional \$200 per credit hour. Click here <<http://nwocenter.org/CRW/RegInfo.htm>> for Registration Form and more information.

2012 STEMIE Awards

McGraw-Hill Education is celebrating extraordinary STEM teachers with the 2012 STEM Innovative Educator Awards (STEMIE Awards for short). All teachers have to do is record a 2-minute video demonstrating something innovative they've done in the classroom along with a short essay and lesson plan, and submit it to: <http://stemie.mcgraw-hill.com/>.

First place wins \$15,000, second place gets \$5,000, and third place will win \$2,500, plus they'll grant up to \$2,500 more in fun awards like Honorable Mentions. You can learn more on the Contest Details page, or if you're ready... enter now!

Paper Engineering Contest for grades P-6

This annual state-wide contest consists of 4 divisions: P-K, 1-2, 3-4, 5-6. To enter the competition, classrooms should create a paper engineering design that represents, models or relates to some aspect of the students' curriculum. A photo (JPEG) of the design and a brief description of 50 words or less (PDF format) should then be emailed to **Bob Claymier** at technologyiselementary@yahoo.com. The deadline for submitting designs is Saturday, April 28, 2012 at 9 PM. David Carter, world renowned pop-up book artist, will judge the designs and sign autographed copies of his books for the top 2 winning designs in each division. **There is no cost to enter.** Contact Mr. Claymier at the address above for more information. Winning entries will be posted on the Ohio Technology and Engineering Educators Association (OTEEA) website.

SAVE the Date for STEM in the Park 2012



STEM in the Park 2012 will be held on **Saturday, September 8** from **10 am-1:30 pm** on the campus of Bowling Green State University. We expect to host over 50 STEM Activity Stations from a spectrum of NWO partners including Imagination Station, Scrap4Art, BGSU's Herpetology Lab, Challenger Learning Center and Wood County Historical Center. This family-friendly event features loads of hands-on STEM activities, free lunch and take home STEM resources. This is an opportunity to enjoy time with your family while networking with area STEM

resource providers and discovering great activities for your classroom! Visit: nwocenter.org/STEMinPark.

Summer Teacher Trip from Maumee Valley Historical Society

July 25, 2012 from 10:00 am-5:00 pm

Join us for a trip to the islands... Lake Erie's Gibraltar Island & South Bass Island - to experience American History and Earth History. Tour Gibraltar Island, Cook Castle & the Ohio State University's Stone Lab. Increase your knowledge of early American history (War of 1812) and science content (geology and environmental science) and earn 7 contact hours. The cost is \$50 and includes transportation fees, tour and admission fees materials and contact hour certificates. Register online at <http://www.wolcotthouse.org/Teacher.html>

New International Space Station Live! Application Available for iPhone & Android

NASA announces the release of the ISSLive! app for iPhone, iPad and Andoid. The ISS Live! app delivers live streaming data from the International Space Station. Users can take a virtual 3-D tour of the Mission Control Center and the space station, and view mission control console displays with real-time data. Interactive educational lessons using the data, as well as crew and science timelines with individual crew members, social media and international science experiment details are also available via the app. To learn more and find links to download the ISSLive! app, visit <http://spacestationlive.jsc.nasa.gov>.

Using Fossils To Teach Concepts in Life and Earth Science - A Workshop for Educators

On April 28, 2012, Dr. Peg Yacobucci, an Associate Professor in Geology at BGSU, will present a talk at Bowling Green State University entitled, "**What can fossils tell us about our past, present and future?**". In conjunction with this event, the BGSU's Kids Tech University program is also offering an Educator workshop entitled "**Using Fossils To Teach Concepts in Life and Earth Science**". Dr. Yacobucci will be leading educators in the Saturday morning workshop on the use of fossils in K-8 classrooms. In the afternoon, educators will work with K-8 students from the Kids Tech program during their hands-on session to observe how students interact with fossils and other hands-on earth science materials. Workshop registrants are eligible for Continuing Education Credits. The entire event runs from 8am-5pm. The registration and information link for this workshop is located here: http://kidstechuniversity-bgsu.vbi.vt.edu/for_teachers.php. Questions? Please contact Kathleen Booher, Workshop Coordinator, at booher.9@osu.edu.

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NWO Hands-On STEM Activity

This lesson contains two different activities.
Download a pdf of both hands-on activities by [clicking here!](#)

Activity One: Magnificent Moths & Butterflies - An Inquiry Field Observation

For grades 2-6

What you need:

- A small notebook and a pencil
- The Field Journal Guide

What to do: Moths and butterflies, like all animals, have traits or features that help them survive in the wild. These features such as their color, their body type, sounds they make (or don't make) and their behaviors protect them from predators, help them find food, and find a mate. ([Read more](#))

Activity Two: Magnificent Moths & Butterflies - A Pop-Up Paper Engineering Activity

What you need:

- Paper Engineering - Pop-up card
- Paper butterfly/moth template (See p.2 of activity two pdf)
- Crayons or markers
- Card stock
- Printer paper
- White craft glue
- How-to Video at - <http://cosmos.bgsu.edu/handson.htm>
Video courtesy of <http://www.popupbooks.com/home.html>

([Read more](#))

Download a pdf of both complete hands-on activities 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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Find Even More Ohio STEM Education Resources

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