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K-16 STEM in the NEWS

Toledo Technology Academy - Success with STEM and a Hit with Students

Housed at the former DeVilbiss High School on Upton Avenue, the Toledo Technology Academy (TTA) is a success story for Toledo Public Schools. TTA, one of two Toledo Public magnet high schools, scores in the top academic tier of schools in Ohio. The academy is transforming the way students learn and develop



21st century skills by offering real world experiences and classes not found in a more traditional high school curriculum. Because TTA is working so well, administrators are looking into developing a K-12 STEM-focused campus, including a new K-8 building, devoted to a science, technology, engineering, math, and medicine (STEMM) curriculum. This concept is a popular trend in education; and school leaders argue that programs focused on those disciplines prepare students for growing industries with available, well-paying jobs. The concept is also amenable to project-based learning and tends to be popular with parents. [\(read more\)](#)

Photo: Channing Keith and Tyler DeVaul, seniors at the Toledo Technology Academy, work on the automated coin stamping machine they are building.

Community STEM in the NEWS

You Be the Chemist State Challenge Competition Held in Northwest Ohio

The You Be the Chemist (YBTC) Challenge State Competition was held at Imagination Station in downtown Toledo, OH on Wednesday, May 2, 2012 at 6:00pm. The YBTC Challenge is a fun and innovative academic competition that engages 5th-8th grade students in learning about important chemistry concepts, discoveries and chemical safety. Challenge competitions take place across the country, encouraging the collaboration of community organizations, schools, and the chemical industry. Imagination Station began hosting the Ohio statewide competition in 2011. The families of the participants were invited to attend and watch this exciting quiz show-like format as their students competed to earn trophies, prizes and a trip to the National YBTC Challenge.



Student representatives from Lake Local Schools, Maumee Valley Country Day School, Sylvania Franciscan Academy, Toledo Islamic Academy and Toledo Public Schools earned their spot at the event by placing first and second in local school competitions. Those first and second place students moved on to compete May 2nd at Imagination Station. The 2012 Ohio YBTC Challenge Competition Champion is Michael Allen, a student at the new Franciscan Academy of Lourdes University. Michael is the son of proud parents, Sherry Simon and Jim Allen of Toledo. This year's runner-up and Challenge semi-finalist is Senya Magsi from Toledo Islamic Academy. Michael is now qualified for the National YBTC Challenge that will take place June 25, 2012 at the Kimmel Center in Philadelphia, PA. Our state level competition is sponsored by PVS Chemicals, Inc., American Chemical Society, and Northwest Ohio Center for Excellence in STEM Education at BGSU (NWO). Robert Mendenhall of Toledo Public Schools is the Ohio coordinator for YBTC and has watched the competition grow over the past three years from several Toledo Public schools to many other local schools and districts. Please contact him at Robert.Mendenhall@tps.org, if you would like to get your school involved in the 2013 challenge competition.

NWO wishes to congratulate Michael, Senya and all of the students who participated and to thank the teachers who joined us for this year's YBTC Challenge Competition!

Photo: Dr. Robert Midden of NWO and Robert Mendenhall, coordinator of the state competition, with winner Michael Allen.

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STEM Opportunities

Imagination Station announces 21st Century Learning Awards Seeking student applicants and educator nominations

Imagination Station is excited to announce the 21st Century Learning Awards, a celebration of students' achievements in the STEM fields of study (Science, Technology, Engineering and Math) and the teachers who inspire them. The science center is seeking student applicants and educator nominations for the awards that are sponsored by Taylor Automotive Group and The Blade. Northwest Ohio and Southeast Michigan students in 9-12 grades that are advancing in STEM education are eligible to apply. Students must submit an application and 2 letters of recommendation to be considered. They are seeking K-12 grade teachers that are innovators in STEM education in the Northwest Ohio and Southeast Michigan area to be nominated for recognition.

Five students and five educators will be chosen by a review committee and awarded Imagination Station's inaugural 21st Century Learning Awards. Recipients will be awarded a trophy, a special prize to help on their STEM journey, and recognition at an awards event on Tuesday, September 25, 2012. For students to apply or to nominate a teacher, visit ImaginationStationToledo.org for full details. Applications must be submitted online or by mail on or before **Friday, June 1, 2012 by 5 pm**. To submit online, visit imaginationstationtoledo.org and attach two (2) letters of recommendation to the form. Questions or to submit by mail - contact **Amy Buckey**, Educational Partnership Officer at **419.244.2674 ext. 128**.

Create an Engaged Classroom with Web 2.0 Tools from WGTE and Lourdes

With the advent of Web 2.0 we have transitioned from the "flat web" to the interactive environment of "the read, write web". This class will explore the concept behind this phenomenon, its relevance to society and the impact it has in K-12 teaching and learning. The central themes of this course will be Web 2.0 applications, mobile devices and the curriculum.

This is a blended course with one face-to-face class followed by 3 weeks of online coursework. The face-to-face class is May 21, 4:15-6:15pm at WGTE Educational Resource Center. The remainder of the course will be taught online and will engage participants in active discussions and purposeful learning activities that will expand knowledge of Web 2.0 tools and explore effective strategies for integrating these tools within the classroom.

Course duration: May 21 - June 11

Course fee: \$175 (includes contact hour certificate) with the option to purchase 1 hour of graduate credit from Lourdes University for an additional \$200.

Contact: The ERC at 419-380-4602 to register via phone.

Nanotechnology: a workshop sponsored by the Nanoscale Science and Engineering Center (NSEC) at The Ohio State University and the National Science Foundation

When: June 12, 2012

Who: High school science teachers

What: An 8:30 a.m. to 5:00 p.m. hands-on workshop with experiments and a tour of the OSU facilities. A kit with nanotechnology experiments for the classroom valued at \$150 will be provided to each participant.

Where: NSEC, 1012 Smith Lab, 174 W. 18th Ave, Ohio State Campus

Cost: \$30 Registration fee by check made out to The Ohio State University.

Application Deadline: May 28, 2012

For an application, contact gordon.679@osu.edu.

Each participant receives a certificate of completion from the Office of Extended Education at The Ohio State University specifying 0.75 CEU (Continuing Education Units), equivalent to 7.5 contact hours

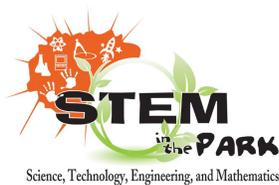
New! The Toledo Zoo will come to you for professional development!

Is it difficult to get to workshops hosted at the Zoo? Our education staff will come to your school and bring activities, live animals and biofacts, information and indicator-aligning ideas to help make your science teaching easier and help you to better meet science standards. Note: Arrangements for outreach workshops must be made at least one month in advance.

Topics include *Using the Zoo as a Teaching Resource*. This 1 hour workshop is **FREE!**

The cost for other topics is \$50 per hour. Days, times and lengths of workshops are arranged to fit with your teaching schedule. Other topics may be planned with sufficient notice and available expertise. Be sure to ask! Call Peggy Coutcher at **419-385-5721, X 2042** to schedule a workshop.

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.

The Great Park Search at Toledo Area Metroparks



The Great Park Search, a nine-week scavenger hunt in the Metroparks, will return the first week in June. Give students something engaging to do over the summer. Watch for details about how you can win prizes in weekly and grand prize drawings, just for taking a walk in the park. Visit: MetroparksToledo.com.

NWO Hands-On STEM Activity

Non-Point Source Pollution Activity

This activity comes from Project *pi r2 two*, (Funding provided by the Ohio Board of Regents)

Non-Point Source Pollutants are pollutants of water that come from several different sources



Recommended for and aligned with revised K-5 science standards.

Background: This activity is designed to demonstrate to students what an average storm drain collects during a rainfall and how the water from storm drains can impact the water quality and aquatic environments of local streams, rivers, and bays.

Materials Needed:

- * One small rectangular 2.5 gallon aquarium (PetSmart.com)
- * Plant food to represent pesticides/fertilizer (You may also use a 4 oz. mixture of water and green food coloring)
- * Foil bread loaf pan (11 3/4 in x 5 5/8 x 3 3/16) to fit just inside the aquarium
- * Metal 1 1/2 inch sink strainer basket (drain)
- * Duct tape
- * 2 oz. of vegetable oil mixed with red food coloring to represent motor oil
- * A collection of soil, sand, and pebbles to create erosion
- * A one-gallon watering can filled with water
- * Grass clippings, twigs, leaves to represent yard/natural waste
- * Bits of paper, Styrofoam cups, cardboard containers, and other non-food trash that people throw away
- * Banana peels, apple peels, coffee grounds, & eggshells to represent food waste
- * Storm Drain Activity Sheet (attached)

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

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NWO is the Northwest Ohio Center for Excellence in STEM Education. NWO's offices are located on the campus of Bowling Green State University. NWO is a consortium of many area businesses, institutions of higher education, and K-12 schools in a 29-county region and the Northwest Region's Ohio STEM Learning Network Hub. Our mission is to advance STEM education for people of all ages.

Please Share Your STEM Success Story with us!

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.

Join NWO on [Facebook](#)

Find Even More Ohio STEM Education Resources

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

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