



Vol. 6 Issue #8

August 2014

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**K-16 STEM in the NEWS****Schedel Gardens Holds New Science Camp**

A new initiative to expose elementary school students to the outdoors and science resulted in a weeklong summer science camp at Schedel Gardens in Elmore. Woodmore High School science teacher Ellen Saffran, who favors botany as a hobby, led the camp with much enthusiasm. She engaged the children early on by letting them get "wet and dirty" in the Portage River, which runs through Schedel, with the emphasis on water-quality sampling. The students learned about the river's ecosystem, including its micro-organisms. Ms. Saffran exclaimed, "I tried to make it as hands-on as possible. And with the river running through the property, it gave us great access to get out in the water. The students learned the names of bugs and got to play in the dirt, which they really enjoyed!" The students also collected data and constructed data science boards, adding new data after each session. Ms. Saffran also used 3D water sampling models, which added to the hands-on learning and fun.



Rod Noble, Schedel's Executive Director, stated that the camp was intended to demonstrate "how important nature is in our age of technology". He also stated that Schedel Gardens recognizes that as society evolves and becomes ever more reliant on technology, the significance of science and nature is waning, which is an ever increasing concern in the lives of children who are becoming more and more tethered to electronics rather than valuing hands-on, real life experiences for both learning and stimulation - particularly when it comes to outdoor activities. <http://www.schedel-gardens.org/>

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## Community STEM in the NEWS

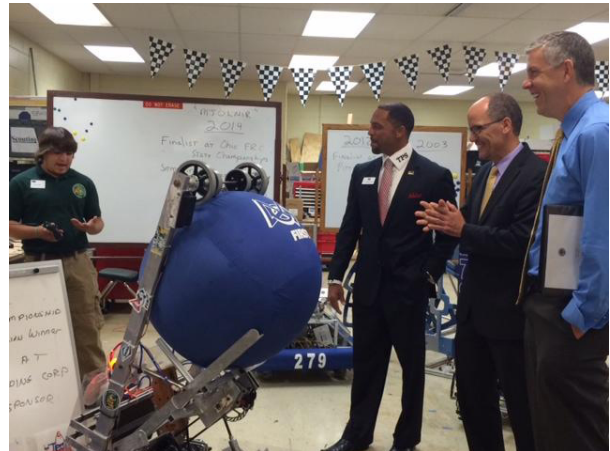
### U.S. Leaders Visit Toledo

U.S. Department of Education Secretary Arne Duncan and U.S. Department of Labor Secretary Tom Perez visited Toledo Technology Academy (TTA) and Owens Community College last month to see firsthand how programs and partnerships are equipping students with the knowledge, skills, and career-relevant education they need to get on the pathway to success. They observed job training programs at TTA that combine students with veteran skilled tradesmen from General Motors Powertrain, Ohio Belting and Transmission, and others.

At Owens Community College, Mr. Duncan and Mr. Perez were invited to become simulated accident victims as part of an exercise in rescue techniques to aid workers injured while doing high wire or wind turbine repairs. Mr. Perez said the entire day allowed himself and Mr. Duncan to observe first-hand how job-training programs and skills acquisition function in America at the micro level.

Dale Price, lead mathematics teacher at TTA, acted as the host of a classroom where two TTA students were featured, one explaining Computer Aided Design (CAD) and the other FIRST Robotics. He is optimistic there can be some "big positives" for TTA in the long term. "Our goal was to have Mr. Duncan and Mr. Perez interface with students as much as possible before an all adult roundtable discussion. There they asked questions of us and I spoke to what makes TTA different and why being different is good for our students. At the close, I personally invited both to return when school is open," Mr. Price stated.

At TTA, students in grades 7 - 12 receive an intense integrated academic and technical education that prepares them for careers in engineering or manufacturing technologies. The students receive unique



hands-on training in plastics technologies, automated systems, manufacturing operations, computer-automated design, electronics and other manufacturing technologies.

<http://www.toledotechnologyacademy.org/>

**Photo:** Making STEM cool: @ttaToledo students on the robotics team earn a varsity letter. @LaborSec & @ArneDuncan get a demo.

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## STEM Opportunities

### 2014 - 15 NWO Inquiry Series Presents the...



#### ***Connecting the Standards to Best Mathematics Teaching Practice (K - 12)***

The NWO Inquiry Math Mini-Series will examine the standards for mathematical practices and the best practices for mathematics teaching through 4 evening meeting dates (16 hours of mathematics professional development).

**Dates and Times:** Wednesday's from 4:30 - 8:30 PM (4 hours per evening)

October 29, 2014  
November 12, 2014  
November 19, 2014  
December 3, 2014

#### **Price and Space Limitations:**

- \$160.00 total for all four events. Teacher's must sign up and commit to all four meetings. Meals and snacks provided for all events.

- **Space is limited to 20 teachers** in the K - 5 elementary session and 20 in the 6 - 12 secondary session. Both sessions meet on the dates listed above but in separate classrooms.

## Register and pay today to guarantee your spot in the training!

**Location:** Life Science Building, Bowling Green State University

**Instructors:** Each mini-series will feature two instructors who will co-teach the mini-series session. One instructor is a Mathematics Education faculty member at BGSU and the other is a local K - 12 mathematics educator with current teaching experience in the classroom.

- K - 5 Elementary

Dr. Gabriel Matney, Bowling Green State University  
Tami Matney, Imagine Clay Avenue Community School

- 6 - 12 Secondary

Dr. Jonathan Bostic, Bowling Green State University  
Diane Mott, Liberty Center Schools

[Click here](#) to register for the Math Mini-Series

For more information visit <http://cosmos.bgsu.edu/inquiryseries/index.htm> or e-mail [nwo@bgsu.edu](mailto:nwo@bgsu.edu) with questions.

## Join us for STEM in the Park!

**Saturday, September 27, 2014, 10:00am - 2:00pm**  
**in the Perry Field House @ BGSU.**

A free event for all northwest Ohio families and the entire community. STEM in the Park features:

- Four hours of engaging, hands-on STEM activities from over 60 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.STEMinthepark.org](http://www.STEMinthepark.org)

## Water Education Program

A **Project WET/Healthy Water Healthy People Facilitator Workshop** is scheduled for **October 7-8** at the Horace Collins Lab, located at Alum Creek State Park in Delaware, Ohio. **Project WET** is a national, non-profit, water education program for educators and students in grades K-12. The goal of the program is to facilitate and promote awareness, appreciation, knowledge, and stewardship of water resources. Classroom-ready teaching aids have been developed and used in state-sponsored **Project WET** programs. The **Project WET** Curriculum and Activity Guide is a collection of innovative, hands-on activities incorporating a variety of formats, including large and small group learning, whole-body activities, laboratory investigations, discussion of local and global topics, and involvement in community service projects. The activities were developed, field-tested, and reviewed by hundreds of educators and resource managers around the country.



To learn more about Ohio Project Wet, go to <http://www.projectwet.org/>

## Leopold Education Project

The Leopold Education Project (LEP) is an innovative, interdisciplinary conservation education curriculum based on the classic writings of Aldo Leopold, a renowned conservationist. The LEP helps students recognize their ties to the natural world - and their role in the conservation and protection of natural resources. Activities emphasize careful observation, critical thinking, and problem-solving skills. Both classroom lessons and outdoor activities are included. The ultimate goal of the LEP is to instill a love, respect, and admiration for the land, leading to environmentally responsible citizenship.



**What:** LEP educator workshop

**When:** Saturday, September 27th, 2014 9:00am - 4:30pm

**Where:** Toledo Botanical Garden Children's Education Building, 5403 Elmer Dr., Toledo 43615

**Whom:** Educators, Naturalists and curriculum coordinators who lead workshops for teachers of science, language arts, math, art, and history, non-formal educators, natural resource professionals, 4-H and Scout leaders - anyone interested in learning more about fostering a relationship between youth and the natural world.

**Cost is FREE** including instruction, all educational materials and lunch.

This program is supported by Metroparks of the Toledo Area, Toledo Botanical Garden, Nature's Nursery, Environmental Education Council of Ohio and the Wood Lucas Chapter Pheasants Forever.

Registration is now open at [www.metroparkstoledo.com](http://www.metroparkstoledo.com) click on Program Calendar

## Transportation Grants to Attend a Walleye Game

**Mud Hens-Walleye Transportation Fund** of the Toledo Community Foundation is pleased to announce transportation grants for schools wishing to attend a Toledo Walleye hockey game. The goal of the fund is to address financial barriers, which prevent schools from spending an unforgettable day at the ice rink. Awards of up to \$1,000 will be granted to schools that meet the eligibility requirements. This funding supports transportation costs for schools and nonprofits to attend one Walleye Hockey game during the 2014-2015 season.



**The deadline to apply is October 1, 2014.** Follow the link for grant guidelines and the online application form - <http://www.toledocf.org/grants/mud-hens-walleye-transportation-fund/>. You will find the Ohio standards-aligned Toledo Walleye Hockey Curriculum with STEM integrated lessons to complete before and after your visit to the game at <http://www.toledowalleye.com/images/uploads/pdfs/WalleyeCurriculum.pdf>.

## National Science Teachers Association

The National Science Teachers Association, with support from Shell Oil Company, is inviting nominations for the Shell Science Teaching Award, an annual program that recognizes an outstanding K-12 classroom teacher who has had a positive impact on his/her students, school, and community through exemplary science teaching. The award includes a \$10,000 cash prize and an all-expense paid trip to attend NSTA's national conference. Two finalists will also receive an all-expense-paid trip to the conference. Nominees must be K-12 classroom teachers whose responsibilities include teaching science. In addition, nominees must have a minimum of eight years of experience (not including the current school year) as a teacher of science, and must teach in a private or public school in the United States, a U.S. territory, a Department of Defense school, or Canada.



Visit the NSTA website at: <http://www.nsta.org/about/awards.aspx#distservice> for complete program guidelines, information about previous winners, an informational webinar, and nomination instructions.

## PD Program for New Science Teachers: Apply Today!

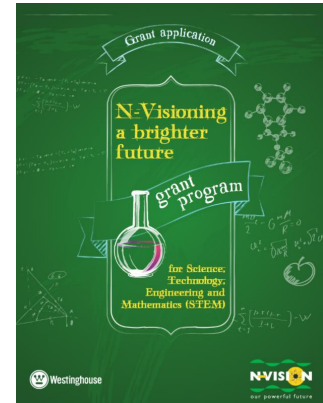
The 2014-2015 NSTA New Science Teacher Academy provides educators in their second through fifth year of

teaching middle or high school science high-quality professional development to enhance their teaching skills and content knowledge. This exciting enrichment program (online learning, mentoring, and an emphasis on quality science teaching and classroom excellence) positively impacts teacher performance. Don't miss this opportunity that enables early career science teachers to be successful and remain committed during the first challenging years in the classroom. **Apply now-deadline is August 22.** <http://www.nsta.org/academy/>

## Westinghouse Electric Company N-Vision a Brighter Future

Schools and teachers who want their students to learn more about STEM through a hands-on project are invited to apply for the "N-Vision a Brighter Future" grant. Any U.S. elementary, middle, or high school can apply. **Online applications must be received by noon EST on Friday, November 14, 2014.** Three schools will be awarded \$1,000 to complete their project by the end of the school year. Another \$2,000 will be granted to each of these schools' science department for its needs. Therefore, the total grant amount a school will receive is \$3,000. Any creative hands-on project dealing with STEM will be considered.

For more information: <http://westinghousenuclear.com/About/Community-and-Education/Educational-Grant>



## National Council of Teachers of Mathematics Music and Math Grant

Apply for a grant to use music to teach mathematics for grades pre-k-2 teachers. The purpose of this grant is to incorporate music into the pre-k and elementary school classroom to help young students learn mathematics. For 2015-2016, grants with a maximum of \$3,000 each will be awarded to persons currently teaching mathematics in grades pre-k-2 level. This award is for individual classroom teachers or small groups of teachers collaborating in one grade or across grade levels. Proposals must address the following: (1) combining of mathematics and music, (2) plan for improving students' learning of mathematics, and (3) the anticipated impact on students' achievement.

The applicant must be a current (**on or before October 15, 2014**) Full Individual or E-Member of NCTM or teach in a school with a current (**on or before October 15, 2014**) NCTM PreK-8 school membership and currently teach mathematics or collaborate with teachers of mathematics in grades pre-k-2. **The deadline for applying is November 7, 2014.** For more information, see: <http://www.nctm.org/resources/>

## Ohio Board of Regents and Ohio Academy of Science

### Free New Program: Believe in Ohio

This program from the Ohio Board of Regents and the Ohio Academy of Science is designed to help prepare Ohio high school students for the





future by:

- Introducing them to the "Innovation Economy of Future"
- Inspiring them to pursue their STEM educations and careers in Ohio
- Encouraging them to become the future innovators and entrepreneurs Ohio needs to help develop the new products, services, and jobs of the future.

Although Believe in Ohio includes many activities and incentives for teachers and students to participate, the centerpiece of the program is an "Annual STEM Commercialization & Business Plan Competition" that will begin in 2014-2015 in which students will compete for nearly \$2 million in cash awards and scholarships to Ohio's colleges and universities.

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

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## NWO Hands-On STEM Activity

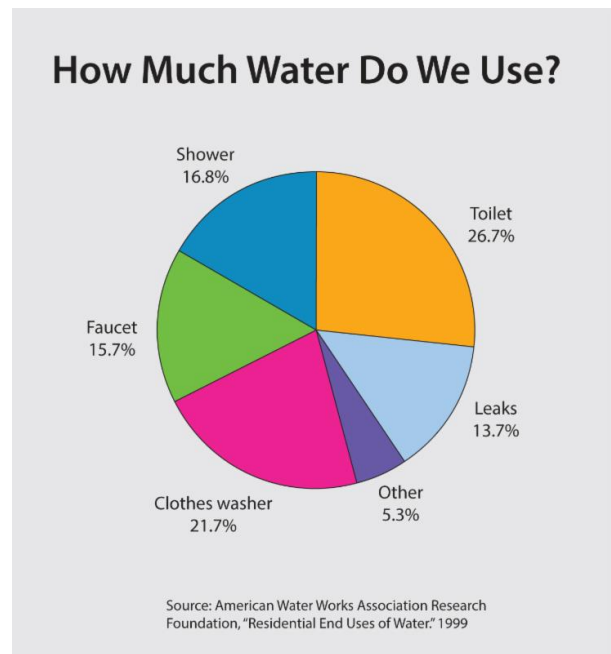
Sources: <http://www.get2knowh2o.org/student/Exp4.pdf>  
<http://water.usgs.gov/edu/wateruse.html>

### Water Usage

As most of northwest Ohio experienced the water crisis in early August, it's become very important for all of us to become aware of our water usage. Please use this activity in the classroom to help students at any grade level learn about everyday water usage and its value as a natural resource. Discover the uses of water in our daily lives and why water is important.

#### WHAT YOU NEED:

- Daily water usage log
- Graph and chart paper
- Pencils
- Markers
- Erasers
- Rulers



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](mailto: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](http://nwostemresources.org), for more STEM activities, programs, and information.

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