



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

Vol. 6 Issue #2

January 2014

In This Issue

K-16 STEM in the NEWS

[Reaching Out To Rural County School Districts](#)

Community STEM in the NEWS

[Family Science Night](#)

STEM Opportunities

[Ohio JSHS](#)

[STEM Leaders' Academy \(SLA\) Accepting Applications](#)

[Science and Engineering of the 2014 Olympic Winter Games](#)

[Ohio Educational Technology Conference](#)

[NWO STEM Education Inquiry Series](#)

[Hooked on Science](#)

[American Electric Power Teacher Vision Grants](#)

[NCTM issues RFPs for PreK-8 Action Research Projects](#)

K-16 STEM in the NEWS

Reaching Out To Rural County School Districts

Reaching out to rural school districts to conduct professional development training has proved to be a beneficial endeavor for the Northwest Ohio Center for Excellence in STEM Education.

iTraining, a series of computer integration trainings, have reached the mid-way point for this project in Putnam County Schools. With the assistance from a grant from the Martha Holden Jennings Foundation, thirty elementary school teachers received three sessions of professional development which were designed to train teachers in effective and engaging technology integration for the digital classroom. Topics have included:



- Using mobile apps for professional collaboration;
- Managing a digital classroom; and
- Implementation of mobile apps.

The enthusiastic response of the teachers who participated was proof positive that the program is worthwhile, as an overwhelming majority of teachers stated they left each session with tools and resources to use in their classrooms almost immediately.



The project's concept is to conduct outreach to rural county school districts, bringing skills and expertise to them, as it can be difficult for some educators in rural areas to travel to sites where trainings are conducted. This way, professional

[Vernal Pool Workshop - Northwest Ohio](#)

[Titanic: The Artifact Exhibition](#)

[ServoCity Scholarship](#)

[Engineers in the Classroom](#)

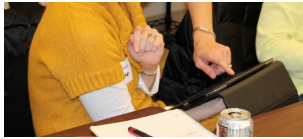
[SECO](#)

[Inquiry Workshops for Educators at The Toledo Zoo](#)

[Experience Math & Science with Gizmos](#)

NWO Hands-On STEM Activity

[Snow Science: Prediction and Observation](#)



development is taken 'on the road' - bringing current and effective courses to the teachers. Putnam County was chosen as the first rural area to work with because many of their schools

recently implemented a one-to-one iPad program. While some teachers are comfortable with the basic usage of the iPad, the potential educational component of the technology is almost limitless and thus trainings are essential for optional implementation. The project will now reach high school teachers with three sessions of trainings beginning in January, and will be conducted at an accelerated pace, as these teachers are more familiar with the technology.

One teacher stated, "Teaching while using the iPad interactively with students is worthwhile and has had a very positive impact on the students. Arming teachers with knowledge, skills and resources is key."



The Putnam County Educational Service Center is our partner on this project and the professional development sessions are being led by two of the ESCs Curriculum Coordinators, Beth Hench and Gary Herman. Beth was the lead instructor for the elementary training sessions and Gary will be leading the high school sessions starting in January.

Community STEM in the NEWS

Family Science Night



Another fun and engaging "Family Science Night" took place at Findlay High School last November, with over 400 parents, students, and volunteers in attendance. The theme, "Famous Male and Female Scientists"

proved to be a success. Teachers posing as Alexander Graham Bell, Daniel Bernoulli, Sylvia Earl, Thomas Edison, Albert Einstein, Jane Goodall, Sir Isaac Newton, Werner Stengel, Alanson Wood, and the Wright Brothers provided students with many exciting science experiences. In addition, volunteers from the Millstream Career Center provided students with valuable one-on-one experiences that night. The success of this program is due to the hard work of the following teachers: Ron Bowerman, Heather Bryan, Sue Davis, Laura Finney, Brian Niemeyer, Beth Ann Nissen, Barb Tidd, Kyle Watts, and Deb Wickerham.

[\[back to top\]](#)

STEM Opportunities

Ohio Junior Science and Humanities Symposium (OJSHS)

**Join us for the 51st Anniversary of the OJSHS
March 19 - 21, 2014 at BGSU**

Each year, over 48 JSHS symposia are held throughout the United States. In Ohio, the JSHS is sponsored by Bowling Green State University and The Northwest Ohio Center for Excellence in STEM Education, with continued support of the U.S. Army Research Office, U.S. Office of Naval Research, and U.S. Air Force Research Office. Two student finalists and three alternates from the Ohio JSHS program are chosen (all expenses paid) to attend the National JSHS. The OJSHS first place finalist presents his/her research paper to compete for six opportunities to represent the United States at the London International Youth Science Fortnight (LIYSF). The OJSHS second place finalist also presents his/her research paper in a competitive session at the National JSHS and a chance to attend the LIYSF. **A total \$4,500 in undergraduate, tuition scholarships are awarded at \$2,000, \$1,500, and \$1,000 to each of three regional symposium finalists.**



For registration and more information visit: http://cosmos.bgsu.edu/nwo_ojshs

STEM Leaders' Academy (SLA) Accepting Applications

Battelle's Ohio STEM Learning Network is accepting applications for the second cohort of its STEM Leaders' Academy (SLA). The four-day intensive SLA is scheduled for May 1 - 2, 2014 in Columbus, Ohio and June 24 - 25, 2014 in Dayton, Ohio. The SLA is an interactive series of workshops designed to:

- Develop leaders' concept of leadership in a STEM school.
- Enhance leaders' capacity to promote STEM instructional practices across the curriculum.
- Strengthen leaders' capacity to improve staff effectiveness, learning, and teaching in a STEM school.

- Prepare leaders with the procedures and policies of opening a STEM school.

[Online applications](#) are now available and are **due March 3, 2014**. If you have any questions, contact Stephanie Johnson at johnsonsa@battelle.org or 614-946-8358.



The National Science Foundation has partnered with NBC Learn (the educational arm of NBC News) to release the "**Science and Engineering of the 2014 Olympic Winter Games**" - the latest installment in the Emmy Award-winning "Science of Sports" series.

This enlightening 10-part video collection, narrated by NBC Sports' Liam McHugh, delves into the physics, engineering, chemistry, design and mathematics behind the world's foremost sporting event:

- **Physics of Slopestyle Skiing:** Nick Goepper
- **Engineering the Half Pipe:** Shaun White
- **Engineering Competition Suits:** Shani Davis
- **Injury and Recovery:** Lindsey Vonn
- **Science of Ice:** J.R. Celski, Brittany Bowe, Gracie Gold
- **Engineering Faster and Safer Bobsleds:** Steve Langton, Steve Holcomb
- **Alpine Skiing and Vibration Damping:** Julia Mancuso, Heath Calhoun
- **Figure Skating Physics:** Evan Lysacek, Gracie Gold, Ashley Wagner, Meryl Davis, Charlie White
- **Olympic Movement and Robotic Design:** Meryl Davis, Charlie White, Julie Chu, Shaun White

The series' diverse topics reveal how key engineering and science concepts and cutting-edge technology play an integral part in each athlete's respective sport and help maximize their performance at the 2014 Sochi Games.

Each episode is available for free to teachers, students and the public at NBCLearn.com and NSF websites (<http://www.science360.gov/files>).

Ohio Educational Technology Conference - January 27 - 29 Greater Columbus Convention Center

The Ohio Educational Technology Conference is the third-largest state educational technology conference in the nation. Each year, more than 5,000 educational technology professionals and enthusiasts come together to explore the forefront of P-20 learning and innovation in Ohio.

For more information: <http://oetc.ohio.gov>

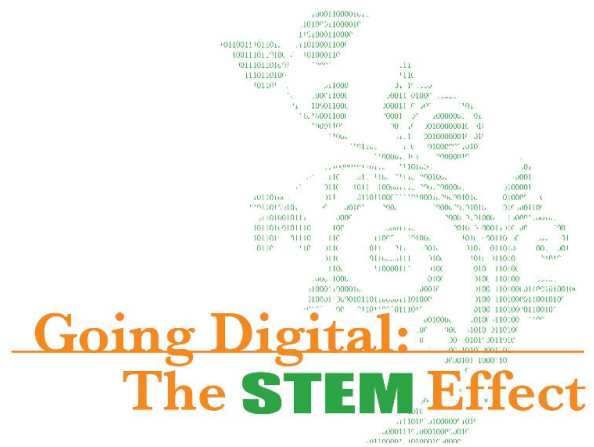
NWO STEM Education Inquiry Series

The theme of this year's series is **Going Digital: The STEM Effect** and focuses on incorporating digital tools and technology into the preK-12 STEM classroom.

February 11, 2014 - Savilla Banister: Embrace the Chaos! Using Digital Resources to Empower Learning

March 4, 2014 - Carrie Rathsack: Using Creativity Tools for Active & Engaged STEM Learning

Registration information is available at:
<http://cosmos.bgsu.edu/inquiryseries>



"Mr. Science" with Hooked on Science offers a variety of hands-on STEM programs to hundreds of schools each year. Please visit: www.hookedonscience.org to learn more. The most popular STEM program, the Hooked on Science Mobile STEM Lab, uses Vernier's LabQuest 2 to help create the next generation of scientists and engineers. Each lab engages students with hands-on science in the classroom or in the field.

American Electric Power (AEP) Teacher Vision Grants

PreK - 12 teachers who live or teach in the AEP service area or in communities with major AEP facilities may apply. Any project that has an academic focus and a goal to improve student achievement will be considered. AEP has a special interest in science, mathematics, technology, electrical safety, the balanced study of energy and the environment, and energy efficiency. The AEP Teacher Vision Grant program accepts grants for consideration annually through the **fourth Friday of each February**

For more information, go to [Teacher Vision Grants](#).

NCTM Announces RFPs for PreK-8 Action Research Projects

The National Council of Teachers of Mathematics (NCTM) is calling for proposals for PreK-8 Action Research Projects. NCTM will award grants to fund action research conducted as a collaborative by university faculty, pre-service teacher(s), and classroom teacher(s) seeking to improve their understanding of mathematics in PreK-8 classroom(s). For 2014 - 2015, grants up to a maximum of \$3,000 will be awarded. The deadline for applying is **May 2, 2014**.

See more at [PreK-8 Preservice Teacher Action Research Grants](#).

Vernal Pool Workshop - Northwest Ohio

Event Date: Saturday, April 5, 2014 - 9:00am

Location: The Buehner Center at Oak Openings, 5240 Wilkins Road, Whitehouse, OH 43571

Announcing the 2014 Northwest Ohio Vernal Pool Monitoring Workshop at Oak Openings.



Enjoy a review of the importance of vernal pools and how to monitor one. Participants will go into the field to see a vernal pool and the creatures that call it home.

Topics will include amphibians, macroinvertebrates, fairy shrimp, vernal pool ecology, and how to successfully monitor a vernal pool.

For more information visit: <http://www.theoec.org/events/vernal-pool-workshop-northwest-ohio>

Titanic: The Artifact Exhibition

February 15 - June 15

Teachers: Plan a field trip to see Titanic: The Artifact Exhibition. Take your students on a journey back in time to experience the legend of Titanic like never before. The galleries in this fascinating exhibition feature real artifacts recovered from the ocean floor along with room re-creations and personal stories. Engineering, physics, and social studies are all addressed as students explore the science of Titanic.



<http://imaginationstationtoledo.org/content/2013/12/titanic-educators-page>

A Titanic Educator Professional Development opportunity will be held on: February 15, 9:00am - 12:00pm.
Cost: \$25 with registration required and parking included. Call 419.244.2674 ext. 250 to RSVP.

This educational program will feature:

- Keynote speaker, Marty Wendler, Maumee Valley Historical Society's curator, discussing Northwest Ohio's ties to Titanic.
- Hands-on presentations from Imagination Station, Maumee Valley Historical Society, and The Blade's Newspaper In Education, featuring resources and activities for the classroom.
- A private guided tour of Titanic: The Artifact Exhibition.

For more information: <http://imaginationstationtoledo.org/content/2013/12/titanic-the-artifact-exhibition-teacher-professional-development>



In support of STEM and encouraging young minds, ServoCity.com is accepting applications for their new scholarship. "By offering this scholarship, we want to assist young engineers and innovators in reaching their educational and career goals," said Brian Pettey, RobotZone President. **The application deadline is March 31, 2014.** Those eligible must be a high school senior with at least a 3.0 GPA. Applicants must be planning to pursue a degree in STEM at an accredited post-secondary institution. ServoCity is looking for well-rounded students who not only excel academically, but are actively involved in their high school and extracurricular activities. The \$500 scholarship will be announced April 10, 2014. **Applications must be submitted online.**

For more info visit: https://www.servocity.com/html/servocity_scholarship.html

Engineers in the Classroom

Through the support of Lockheed Martin's K-12 education initiative, [Engineers in the Classroom](#), First Book and Lockheed Martin are pleased to provide these STEM educational resources to schools and programs serving children in need. All activities meet national education standards of learning for math, science, and technical literacy. Visit the STEM website periodically at stem.firstbook.org to access new classroom resources and information about STEM education.



Science Education Council of Ohio

The Ohio chapter of the National Science Teachers Association

The Ohio chapter of the National Science Teachers Association announces:

The Ohio Science Institute: Standards, Instruction & Assessment

January 30 - 31, 2014

Columbus Hilton Easton

For registration information: <http://www.secoonline.org/documents/23757/95df3b5c-90ce-4154-bc0d-a5304e87e231>

Inquiry Workshops for Educators at The Toledo Zoo

Attention Educators: The Toledo Zoo is partnering with NWO to offer a series of inquiry workshops for grades K-12 teachers.

Participants will learn basic principles for doing life science inquiry with their students using the QUEST model. Working in groups, teachers will learn inquiry techniques by participating in guided inquiry lessons on days one and two. The series will culminate with teachers working in teams to perform an open inquiry lesson utilizing animal exhibits at the zoo *****When you register, you will be signing up for all three sessions in the**

series.

- **When** - Thursday's: February 13, February 20, and March 6
- **Time** - 4:30 - 7:00PM
- **Where** - The Toledo Zoo, 2 Hippo Way, Toledo, OH
- **What** - Applying life science inquiry lessons in the classroom
- **Who** - Elementary teachers; Secondary Audience - middle and high school life science/biology teachers
- **Cost** - \$85/person - includes light dinner, refreshments, instruction, and handouts for each of the 3 sessions and an outreach inquiry program for each participant's classroom.
- **Contact Hours** - 6 contact hours will be awarded at the conclusion of the series.
- **Of Special Note** - The maximum number of registrants is 24, so register soon!

To Register:

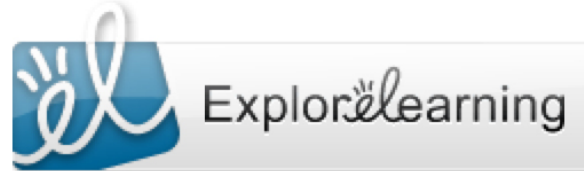
Please visit the following link: <http://onlinesales.toledozoo.org/eComm/products.php?cat=669>

Questions?

Email Mitch Magdich, Curator of Education at The Toledo Zoo, mitchell.magdich@Toledozoo.org.

Experience Math & Science with Gizmos

ExploreLearning Gizmos®, the world's largest library of interactive online simulations for math and science education in grades 3-12. Gizmos are:



- Fun, easy to use, and help students develop a deep understanding of challenging concepts through inquiry and exploration.
- Research-based, flexible tools used by teachers across all 50 states in a wide variety of ways. Gizmos are ideal for small group work, individual exploration, and whole class instruction using an LCD projector or interactive whiteboard.
- Designed to supplement your existing curriculum. Gizmos are correlated to state curriculum standards, the Common Core standards, and over 300 textbooks, making them easy to integrate into your instructional program.
- Backed by first-rate training and professional development services that help maximize the value of your investment.

For more information visit: <http://www.explorelearning.com>

[\[back to top\]](#)

NWO Hands-On STEM Activity

Pinterest (<http://www.pinterest.com/pin/235313149254068297>) is a pinboard-style photo-sharing website that allows users to create and manage theme-based image collections such as events, interests, and hobbies.

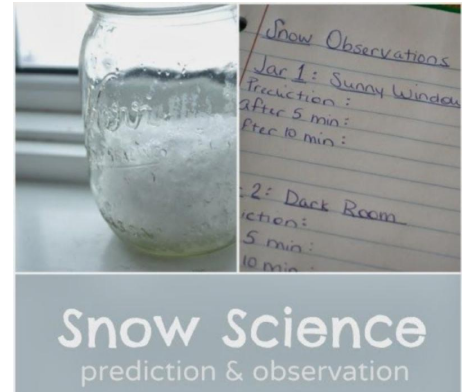
Snow Science: Prediction and Observation

This month's Hands On Activity is from Pinterest.

We've had plenty of snow this year, but the sub-zero temps have been keeping us inside most days. Luckily, with the exception of a quick trip outside to gather snow, this simple science experiment is done indoors. We used the snow to practice both prediction and observation.

Supplies Needed:

- Snow (if you don't have snow, you can use crushed ice)
- 4 clear jars or drinking glasses
- Ruler
- Notebook



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

[\[back to top\]](#)

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.

Join NWO on [Facebook](#)

Follow NWO on [Twitter](#)

Find Even More Ohio STEM Education Resources

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

Print and eNewsletters from the past!

Looking for past articles from our print and eNewsletters?

[Click here](#) view and download from our **Print Newsletter** archives.

[Click here](#) view and download from our **eNewsletter** archives.

[Forward email](#)



This email was sent to laddis@bgsu.edu by nwo@bgsu.edu |
[Update Profile/Email Address](#) | Instant removal with [SafeUnsubscribe™](#) | [Privacy Policy](#).

NWO/COSMOS | 241 Math Science Bldg. | BGSU | Bowling Green | OH | 43403-0212

