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

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K-16 STEM in the NEWS

Winter STEM Challenge in Northwest Ohio

On December 14th and 15th of 2011, Zone 6 (Ottawa, Sandusky, Seneca, Huron, and Erie counties) of the NWO STEM Hub hosted a **Winter STEM Challenge** for regional eighth grade students. The focus of the event was to provide a forum for students to engage in one of 6 STEM-related challenge venues hosted by professionals from STEM-related industries. Each challenge was composed of three to four *Discovery Stations* hosted by STEM professionals followed by a *Challenge Station* where the students had to apply what they had learned at the *Discovery Stations* in order to successfully navigate the challenge.



The event was structured to engage 300 students per day for two days (for total of 600 students) with a limit of 30 students per school district. Invitations were sent to district superintendents, middle school principals, and curriculum coordinators from 38 school districts throughout Ottawa, Sandusky, Seneca, Huron, and Erie counties. Thirteen schools took part in the event with Norwalk City Schools and Perkins Local Schools providing 60 students each for

a total of 450 students across the two days. [\(read more\)](#)

Community STEM in the NEWS

Lourdes University LIFE LAB Program Provides Natural/Sustainable Environmental Science Education

Field Classes at the Lourdes LIFE LAB make the the "habits and habitats" that support and sustain life in the natural world real for northwest Ohio students. Student learning experiences at the LAB foster appreciation - a genuine caring enthusiasm for living things. The seasonal cycles of nature in Northwestern Ohio can be an exciting "seedbed of ecology" when absorbed willingly and early on in the educational process.



From windows inside the LIFE LAB, a host of year-round, as well as migratory birds can be observed frequenting feeders located in an ideal woodland-edge habitat. The well-maintained Aviary inside the LAB allows students and their teachers to meet and come to understand the natural uniqueness of birds along with various reptiles, mammals, amphibians and fish. When the weather permits, classes take to the outdoors for interdisciplinary natural science experiences that can include the life cycle stages of native butterflies and moths. Imagine discovering Swallowtails in striped or "green-eyed" caterpillar attire busily munching host plants or a Luna Moon Moth drying exquisite wings after emerging from a cocoon that was protected by winter's snow blanket and the fallen leaves of an Ohio autumn. [\(read more\)](#)

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STEM Opportunities

The Toledo Zoo presents a New Life Science Inquiry Workshop Series for Educators

During this three-part series, learn basic principles for doing a life science inquiry with your students using the **QUEST** model; learn inquiry techniques by participating in guided inquiry lessons; and work in grade-level teams to perform an open inquiry utilizing animal exhibits at the Zoo.

Who - All science teachers elementary through high school

Dates - Thursday February 9, 23 and March 1

Time - 4:30-6:30PM

Location - The Toledo Zoo

Cost - \$70/person for all three sessions - includes light dinner, refreshments, instruction, and handouts for each of the 3 sessions and an outreach inquiry program for each participant's classroom (new zoo education program) plus 6 contact hours from NWO at BGSU.

Register today at - <http://www.toledozoo.org/eComm/products.php?cat=669>

NWO Monthly Inquiry Series Professional Development

February 16, 2012 from 5:00-8:00PM at Rossford High School, 701 Superior Street, Rossford, OH.

February's topic: Teaching and Learning for ALL Students

Tools for helping all your students learn, including the new 6E Model (an updated 5E science lesson model including targeted formative assessment activities) and ways to differentiate science instruction. Information to help teachers of grades K-12.

Presented by Dr. Emilio Duran and Dr. Lena Duran. *Three contact hours available.*

Registration for this hands-on session is limited, so please register soon at <http://nwocenter.org/inquiryseries>. Advance registration costs \$15 for teachers and administrators, \$10 for undergraduate students. More information at: <http://nwocenter.org/inquiryseries>

Attention Chemistry Teachers!

Special Chemistry Educator's Workshop - June 18-22, 2012

Ohio Northern University's Department of Chemistry and Biochemistry is hosting a rewarding five-day workshop specifically designed to provide high school chemistry teachers with a unique professional development opportunity.

The 30-hour workshop features lecture, laboratory and networking time:

- Use a Vernier spectrophotometer and Vernier probes
- Conduct associated laboratory exercises
- Modify and troubleshoot existing protocols

- Receive a Vernier instrument for use in your educational institution
- Join specialized breakout seminar/laboratory periods

To learn more and complete an application, visit www.onu.edu/ctw

A continuing education certificate will be available upon workshop completion.

10 Essential Twitter Feeds for STEM Educators

Have you ever thought about Twitter as a source of STEM education? It can be an excellent source for learning more about the latest initiatives, finding lesson plans, watching videos, and keeping up with engaging science and technology news to share with students. Here are a few of the best STEM-related feeds out there to inspire, educate, and encourage.

1. **@TeachingSTEM:** Visit TeachingSTEM to network with other educators and find helpful resources and news articles on science, tech, engineering, and math.
 2. **@stemschools:** The STEM School Blog shares additional resources and information through this feed, full of great ideas on promoting STEM education at all levels.
 3. **@CADREK12:** CADRE is dedicated to supporting STEM education researchers funded by NSF. These tweets are a great place to learn about this research and other NSF initiatives.
 4. **@STEMschool:** Looking for some new techniques? This feed is full of ideas for teaching STEM subjects.
 5. **@SciAfterSchool:** This feed is a great place to find STEM resources.
 6. **@crsscience:** Those working in elementary level science teaching should give this feed a try. It's full of news and education insights, and may just inspire you to change up your own curriculum
 7. **@STEMAhead:** STEM Ahead is an organization that provides training for STEM educators and aims to get students more involved with math and science.
 8. **@stemnetwork:** STEM teacher and ed tech enthusiast Jim Forde shares ideas and information about STEM on this feed.
 9. **@STEM_Works:** Run by Southern Methodist University, this resource helps educators to find new information on teaching all STEM topics.
 10. **@iteea:** The International Technology and Engineering Educators Association shares tips, tools, and information for educators working in these fields.
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Join NWO March 21-23, 2012 for the 49th Annual Ohio Junior Science and Humanities Symposium

Attention Junior High and High School Students and Teachers: Call for Research Papers and Posters!

This premiere event is sponsored by NWO and The School of Teaching and Learning at Bowling Green State University in cooperation with The Academy of Applied Science and with the support of the Departments of the Army, Navy, and Air Force.

Registration: The deadline for registration is February 17, 2012. Visit http://nwocenter.org/nwo_ojshs for information and the online registration form. The registration fee is \$25 per student. *Online registration is required for all participants including Paper Presenters, Poster Presenters, Teachers, and Student Delegates.*

Questions? Contact Iris Snelgowski at iriss@bgsu.edu.

Register now for Imagination Station's Camp In!

Imagination Station's Camp-In is an overnight program designed to inspire boys and girls in 2nd-7th grades and their accompanying adults to discover science in an entertaining, educational and interactive overnight adventure. Register at:

<http://www.imaginationstationtoledo.org/content/2011/09/camp-in-3/>



During Camp In, enter the wonderfully puzzling world of Mindbender Mansion, an eclectic place full of puzzles, brainteasers and interactive challenges guaranteed to test the brain power and problem solving skills of even the most experienced puzzlers.

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Upcoming Conferences

The 2012 Environmental Education Council of Ohio Annual Conference

The conference runs April 26-29, 2012 at beautiful Shawnee State Park in Portsmouth, Ohio. The 2012 theme is Rivers Run Through It and recognizes the importance of rivers to our state.

Visit www.eeco-online.org for more information.

The NSTA 2012 National Conference - *At the Crossroads for Science Education*

March 29-April 1, 2012 in Indianapolis, Indiana.

Visit <http://www.nsta.org/conferences/2012ind/> for registration and detailed information.

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NWO Hands-On STEM Activity

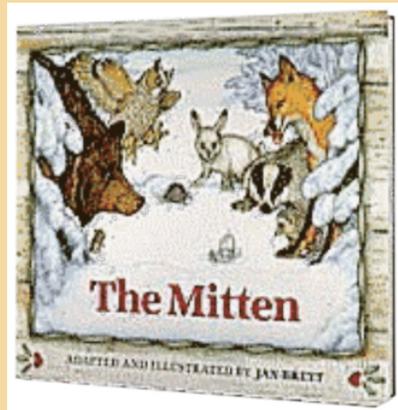
Mathematics and Language Arts with The Mitten by Jan Brett

Suggested Grade Levels: preK-3

Standards Alignment: Geometry K, 1, & 2.
Measurement and Data K, 1, 2, & 3

Materials:

- Mitten cutout* (one per group)
- Animal cutout* (enough animals so that each group has one) - rabbit, hedgehog, etc.
- Linking cubes
- A leather or cloth mitten and a knit mitten
- The Mitten by Jan Brett



Connecting the Text:

1. Ask students: "How many of you wear mittens? How many of you wear gloves? Are your mittens or gloves made of stretchy material?"
2. Show students a mitten made of stretchy yarn and another made of leather. Ask students which one they think will stretch and why. Explain that you are going to read a story about a very stretchy mitten.

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

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](#)

Find Even More Ohio STEM Education Resources

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

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