



Vol. 5 Issue #10

October 2013

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K-16 STEM in the NEWS**Virtual History App Receives Award**

FORTMEIGS

Ohio's War of 1812 Battlefield

"SimMarch: 1812", an iPad app focused on immersing students in a virtual history experience, has been chosen for the Outstanding Achievement Award through the Ohio Local History Alliance. The award was presented at their annual meeting in Columbus on October 5th.

The project was developed at the Fort Meigs Historical Site in Perrysburg, Ohio with the goal of fully immersing third and fourth grade students in the War of 1812 by giving them the opportunity to experience it "virtually" on an iPad - connecting technology to history. Students from seven northwest Ohio school districts had the opportunity to interact with the app last spring. "SimMarch: 1812" retraces the long journey from Urbana, Ohio to the Maumee River Rapids that members of the Ohio militia made in 1812. Students worked in groups to collaboratively solve several challenges along the way and simulated the actual march with the iPads in their hands. They also prepared for battle with a rifle drill, allowing the students to truly and virtually experience the life of a soldier in 1812. Teachers prepared students in the classroom with background history lessons, which included accounts from actual soldiers. Pre-activities further enhanced the lesson with the students' working with timelines, maps, and re-telling history in their own words. This unique learning experience and traveling program began with an educator from Fort Meigs in full period costume lively explaining a soldier's life during that time period in history.

Rick Finch, the Director of the Fort Meigs Historical Site and Dan Woodward,

[We Can Change the World Challenge](#)

Fort Meigs Program Manager, developed the rich historical content for the app. Michelle Klinger, an Education Consultant and Curriculum Development specialist, created the pre-activities, which align with Ohio third and fourth grade content standards. She also wrote a successful grant to the Martha Holden Jennings Foundation to fund the project.

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Jared Bendis and Dr. Larry Hatch of Lemming Labs Limited developed the software. Dr. Hatch, professor emeritus of Technology Education from Bowling Green State University stated, "This app is quite an amazing and effective way to get kids motivated to learn about history. It helps them walk along the path of soldiers on an historical trail while doing a variety of activities. Kids have to [virtually] cut trees and learn to work together in groups like a true soldier in 1812."

Jared Bendis is the Creative New Media Officer at Case Western Reserve and also on faculty in Game Design at the Cleveland Institute of Art. The artist for "SimMarch:1812" was Amanda Almon of the Cleveland Institute of Art, and Jacob Burgoon of NWO at BGSU was the Evaluator of the project.

Students can learn all about the life of a soldier, the War of 1812, and the Fort Meigs Battlefield's role in the War through this visually stimulating app and program.

Fort Meigs: Ohio's War of 1812 Battlefield, is home to the largest reconstructed, wooden-walled fort in the country, and is a National Historic Landmark in Perrysburg, Ohio. For more information, please contact Rick Finch at rfinch@ohiohistory.org and by visiting www.fortmeigs.org.

Community STEM in the NEWS

Manufacturing Day Held at Penta Career Center

Manufacturing is filled with high paying jobs but people aren't joining the field, and the industry reports a true disconnect with students entering these high-paying career tracks.



The Good Jobs Committee of Wood County is hoping to positively address this issue and held "Manufacturing Day" at Penta Career Center on October 4, in an effort to learn how to attract high school students to manufacturing careers and jobs in northwest Ohio, filling needed positions while supplying the area with a skilled workforce. The group discussed some of the barriers to filling these high paying jobs, which include:

- Parents aren't encouraging of these fields; and

- Only 17% of people view manufacturing as a top career choice.

Meanwhile, the Manufacturing Extension Partnership of the NIST reports a 67% moderate to severe shortage of available, qualified workforce, with the highest paid new college graduates being chemical manufacturing engineers.

The group took a tour of the First Solar Corporation, a company in Perrysburg which manufactures solar panels, followed by the Walgreens Drugstore Distribution Center, in an effort to experience a first-hand look at jobs in these companies. This was followed by a panel discussion on how to increase high school students' attraction to this field.

"Manufacturing Day" has been created especially for guidance counselors and school administrators in Wood County to showcase the benefits of manufacturing careers and manufacturing's value to our economy. It is a national initiative first established in 2012 by the Fabricators and Manufacturers Association, the Manufacturing Institute, the National Association of Manufacturers, and the Manufacturing Partnership.

The program is sponsored by the Good Jobs Committee of Wood County with representatives from Wood County Commissioners and Economic Development Commission, Penta Career Center, Owens Community College, BGSU, Bowling Green Economic Development, Northwest Ohio Building Trades, and the Mechanical Contractors Association of Northwest Ohio.

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STEM Opportunities

NCTM Connecting Mathematics to Other Subject Areas Grants for Grades 9-12 Teachers

The purpose of this grant is to create senior high classroom materials or lessons connecting mathematics to other fields. For 2014-2015, grants with a maximum of \$4,000 each will be awarded to persons currently teaching mathematics in grades 9-12. Materials may be in the form of books, visual displays, computer programs or displays, slide shows, videotapes, or other appropriate medium. The deadline is November 8, 2013. See more at the NCTM website. <http://www.nctm.org>

23rd BCCE at Grand Valley State University

Greener on the Grand: Empowering Chemical Educators for a Greener Tomorrow

August 3 - 7, 2014



WHAT IS BCCE?

The Biennial Conference on Chemical Education (BCCE), sponsored by the ACS Division of Chemical Education, is the largest gathering of chemical educators in the world and is designed for middle school science teachers, secondary school chemistry teachers, and college chemistry instructors. This conference emphasizes the improvement of chemistry education at all levels.

**INTERESTED IN PRESENTING?**

Groups of 2-4 teachers are invited to submit proposals for interactive workshops (3 hour blocks) or organize a symposium for peers to present short talks before December 6, 2013. Abstracts to present a 20-minute talk in a particular symposium will be accepted January 1 - February 28, 2014. Any questions, program ideas, or general suggestions for any of the BCCE program chairs can be sent to the BCCE email address, bcce2014@gvsu.edu.

For more information: <http://www.bcce2014.org>

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.

December 10, 2013 - David Harms:

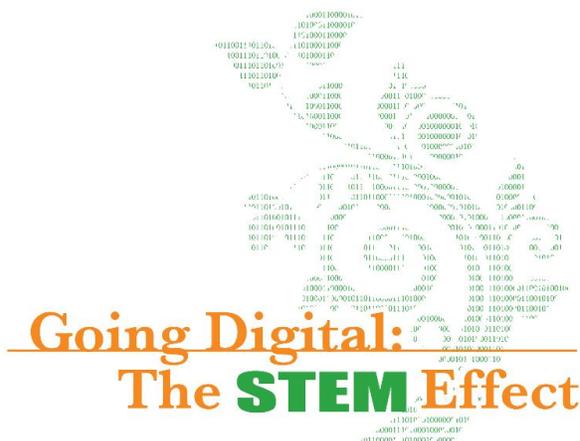
Using Flipped Technologies to Increase Student Performance in a Traditional Classroom

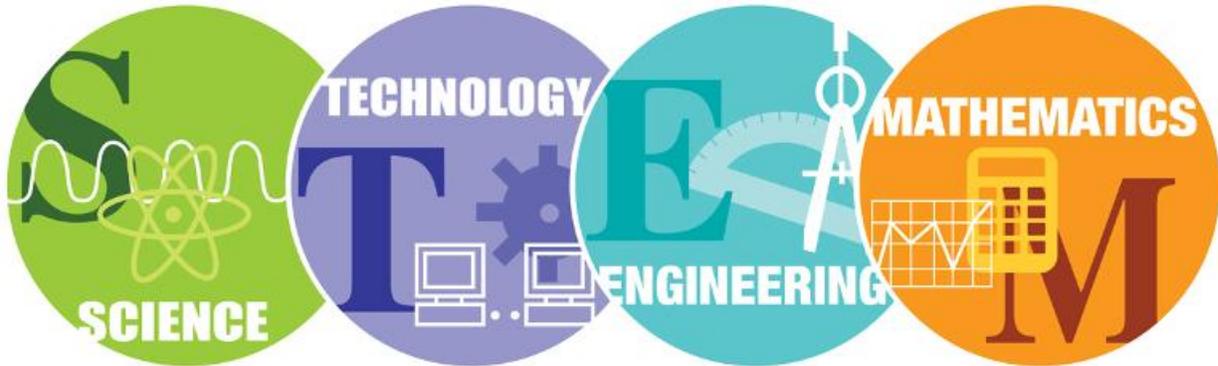
January 14, 2014 - Betsy Hood: Connect, Communicate, and Collaborate with Web 2.0

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 on our website at: <http://cosmos.bgsu.edu/inquiryseries>

**NWO Symposium on STEM Teaching**



Northwest Ohio Symposium on Science, Technology, Engineering, and Mathematics Teaching

NOVEMBER 2, 2013 @ BGSU's OLSCAMP HALL

KEYNOTE SPEAKER: ALFIE KOHN, who will speak on: "Overhauling the Transmission Model: Teaching your students to be active meaning makers".

The traditional "bunch o' facts" model of education applied to STEM subjects consists of filling students with information about decimals and variables, cells and minerals. The process typically relies on lectures, worksheets, grades, tests, and homework. But our challenge is to help students think like scientists and mathematicians so they can actively make sense of ideas - and, ideally, to take pleasure in doing so. In his keynote address, Alfie Kohn invites us to reflect on how we can bring about just such a shift in our classrooms.

Attendee Registration is OPEN! Visit <http://cosmos.bgsu.edu/nwoSymposium/AttendeeInfo.htm> for more information and registration details.

Imagination Station Ongoing Programs

Science of Halloween/Spooky Science Activities

October 1 - 31, 2013

National Chemistry Week

November 5 - 9

Celebrate National Chemistry Week at Imagination Station. This year's theme, **Energy: Now and Forever!**

allows students to experience demonstrations which can't be replicated in the classroom, celebrating the wonders of chemistry.



<http://imaginationstationtoledo.org/content/2013/08/national-chemistry-week-2/>

Society of Women Engineers Annual Conference

Oct 24 - 26, 2013, Baltimore, MD

The Afterschool Alliance will be presenting with Science Club for Girls on Friday October 25th from 1:30-2:30 pm. <http://we13.swe.org/conference>

The Society of Women Engineers (SWE) is a not-for-profit educational and service organization that empowers women to succeed and advance in the field of engineering, and to be recognized for their life-changing contributions as engineers and leaders. Founded in 1950, SWE is the driving force that establishes engineering as a highly desirable career for women through an exciting array of training and development programs, networking opportunities, scholarships, outreach and advocacy activities, and much more. More than 6,000 members from across the globe will join in a three-day educational celebration of all things engineering.

National Conference on Summer Learning

Nov 11 - 13, 2013, Orlando, FL

The 10th annual conference theme, "Advancing Outcomes for Youth: Demonstrating Your Value in a Data-Driven Age, encourages presenters and participants to explore the best ways to collect data, track progress, and make the case for summer learning to funders, policymakers, and the public.

<http://www.summerlearning.org/?page=conference>



The Siemens We Can Change the World Challenge is the premier national environmental sustainability competition for grades K-12 students. Through project-based learning, students learn about science and conservation while creating solutions that impact their planet. Beginning August 13, 2013 through March 4, 2014, teams from across the country will be challenged to create sustainable, reproducible environmental

improvements in their local communities.

To date, more than 80,000 students have participated in the Challenge. Give your students the opportunity, tools and inspiration to make a difference and become agents of change.

For more information: www.wecanchange.com

Upcoming Project Learning Tree PreK-12 PD workshops

November 2 workshop: Conservation of Soil & Water Resources. To be held at Miller Conservation Farm, Tiffin, 8:30 AM - 4:00 PM, lunch provided. Registration fee \$10. The deadline for registering is October 19.

Optional 1-2 semester hours of Ashland University graduate credit is available for those who attend two or more workshops in this series. For more information, see the [Project Learning Tree brochure](#).

It's Time for Speak Up 2013 in Ohio!

Participate in Speak Up 2013 and learn what K-12 students, educators, and parents have to say about educational uses of technology in your schools and home!

Speak Up provides an easy way for students, parents, and educators to participate in your local decisions about technology, as well as contribute to the state and national dialogue about educational technology. To learn what survey topics are being offered this year, how to get started, and more, go to <http://www.tomorrow.org/speakup/ohio.html>

America's Home Energy Education Challenge

Sponsored by the US Department of Energy, and administered by the National Science Teachers Association, America's Home Energy Education Challenge gives students the chance to LEARN about energy, DEVELOP techniques for reducing energy consumption, and SAVE money in their own homes by reducing household energy use.



All students grades 3-8 can participate as long as they have a Team Advisor, including:

- Public and private schools

- Home schools
- After school programs
- Boy Scouts, Girl Scouts, and other organizations

Students can also participate in the Energy Fitness Award by demonstrating a level of knowledge about energy after completing the lesson plans. Five (5) sessions are provided to educators about energy generation, transmission, consumption, conservation, and management.

For more information: www.homeenergychallenge.org

The DEN Fall Virtual Conference: Tech or Treat!

Combining the Best of Virtual and Face-to-Face Events

Date: October 19th
Time: 9:00 AM - 4:00 PM ET
Cost: FREE



The DEN Fall Virtual Conference is a free professional development event for educators to learn about the most effective ways to integrate digital media into their instructional practices. It is unique because of its blended environment. The sessions will be broadcast online, but can be attended either from home or at one of the many face-to-face (F2F) events around the world. For more information please visit:

<http://virtconlive.com>

Earth Science Week October 13-19

Participants are invited to explore the many exciting uses of maps and mapping technologies through this year's theme of "Mapping Our World", NASA is participating in this year's event by showcasing Earth science missions, their data, and how that data is used to create maps and visualizations of our home planet. The NASA Earth Science Week website is filled with free resources supporting this year's event, including a beautiful poster that would be a great addition to any classroom! A blog has also been created, to update participants on NASA specific events. <http://nasaesw.strategies.org/>

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NWO Hands-On STEM Activity

Pinterest (<http://pinterest.com/equinekdh/stem-activities>) is a pinboard-style photo-sharing website that allows

users to create and manage theme-based image collections such as events, interests, and hobbies.

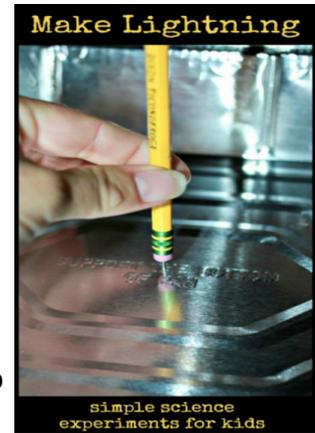
Teachers! During your next lesson on weather, have students do this activity to make a spark of lightning.

How To Make Lightning

Supplies:

- pencil with an eraser
- aluminum tray or pie tin
- wool cloth
- Styrofoam plate
- thumbtack

To make lightning, stick a pushpin through the center of the aluminum tray then stick the pencil eraser to the pushpin. The pencil served as a handle to lift the aluminum tray.



Next, vigorously rub the wool on the Styrofoam tray for two minutes. It really takes two solid minutes to rub hard and fast for the experiment to work. **Note:** If you don't have wool, rub the Styrofoam on hair for two minutes.

Finally, pick up the aluminum tray using the pencil handle and set it on the Styrofoam plate. Watch for the spark.

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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.

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