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K-16 STEM in the NEWS**Seventh Grade Students Win Second Place at the MIT App Inventor Summit**

This summer, on behalf of the Maumee Valley Country Day Lower School App Team, seventh grade students Jonathan Buchanan and Mihir Joshi accepted second place at the MIT App Inventor Summit. Hosted at the MIT Media Lab in Cambridge, MA, the MIT App Inventor Summit is a professional conference directed to the community that has grown around MIT's App Inventor software.

This year's summit drew inventors from across the nation ranging in age from 12 to 69. As the youngest presenters, Jonathan and Mihir participated in the Summit's poster presentation made up of 24 entries. Part of the competition included presenting their poster idea in front of the entire MIT conference.

While attending the Summit, Jonathan and Mihir met many MIT professionals including Hal Abelson, MIT's lead App Inventor Software Professor. Jonathan and Mihir also took a behind-the-scenes private tour of Google's Cambridge Offices.

Jonathan and Mihir brought home second place MIT App Inventor Summit certificates for the entire Maumee Valley Lower School App Team, who created an award-winning app "Beachteria", that won Best in Region earlier this year as part of the Verizon App Challenge



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competition.

Front row:
Isaac Grinberg of Maumee,
Mihir Joshi of Sylvania, Ivan
Stretten of Temperance

Middle row:
Jonathan Buchanan of Perrysburg, Stefan Radjenovic of Sylvania, Paradon
Pipatjarasgit of Sylvania, Jeremiah Taylor of Sylvania

Back row: Upper Intermediate Teacher, Mr. Brian Soash of Perrysburg
(faculty advisor)



Community STEM in the NEWS

21 Putnam Teachers earn STEM awards

The Ohio Academy of Science selected 57 Ohio schools and 486 teachers to receive the Governor's Thomas Edison Awards for Excellence in STEM Education for their accomplishments during the 2013-2014 school year. Each school will receive a special Governor's Award certificate and each teacher will receive a complementary membership to The Ohio Academy of Science.

Ottoville teachers are: Kyle Kumfer (technology/business), Judy Bosch (second grade), Jeanne Wehri (science/math), Andi Wertenberger (technology/English), Pam Hickey (Family Consumer Science), Susan Jones (science), Shelley Mumaw (technology coordinator), Diane Wurth (third grade), Alicia Haselman (social studies/language arts), Aaron Verhoff (math), Jim Hoersten (industrial tech), Kevin Blake (science), Sherri Edelbrock (third grade) and Jim Brown (math).

"We are excited and proud of our teachers," Ottoville High School Principal Jon Thorbahn said. "Our caring staff

is unmatched and they push our students to a higher standard we have upheld and the parents allow us to do. It's a combined effort between all three."

Fort Jennings teachers on the list include: Cheryl VonLehmden (computers/business), Rob Warnecke (technology coordinator/auto CAD), Kevin Horstman (math), Jeff Jostpille (science), Gaya Warnecke (second grade, retired), Jim Hoersten (industrial tech) and Heather Harmon (science).

"All of our teachers are very fluent in their teaching and delivery and have embraced all the new technology we share with our students," Fort Jennings High School Superintendent Nick Langhals said. "They think outside the box. Nothing is traditional anymore."

Putnam County Education Service Curriculum Coordinator Beth Hensch submitted the nominations for the teacher recognition.

"I oversee the county Science Fair so I track eligibility for this award and I was glad to have so many instructors to promote this year," Hensch said. "They also opened up the awards to K-12 so I could include the elementary teachers I thought were deserving and met the criteria."

Hensch prepares the applications and has to provide evidence of the teachers' and schools' participation in STEM education, including science fair entries and beyond.

"I'm happy to get these teachers the recognition they deserve for their hard work," Hensch added.

The criteria for the Thomas Edison Award for Excellence are: (1) to conduct a local science fair with 20 or more students, (2) qualify one or more of these students for one of the Academy's 16 district science days, (3) have students participate in at least one more youth science opportunity beyond the classroom such as State Science Day, visits to museums, mentorship programs, and extended field trips and (4) convince external professionals from STEM business and industry, government, and academia employers how and to what extent the school's program met the Academy's definition of STEM education.

Five schools received the maximum median score of 10 points: Bellbrook Middle School, Bellbrook; Carroll High School, Dayton; Nativity School, Cincinnati; Ottawa Hills High School, Toledo; East Richland Christian School, St. Clairsville. Scores of other awardees ranged from 7-9.

"Schools and teachers that are awarded the Thomas Edison Award for Excellence strive to provide their students with hands-on education opportunities," said Stephen McConoughey, PhD, the academy's CEO. "Science is a subject that is best learned by doing. These schools and their teachers are finding new, creative ways to engage the students above and beyond the traditional methods. The students will benefit from these experiences as teachers continue to develop our next generation of scientists for Ohio and the country. In addition, having volunteers from industry and academia to review these applications provides a great perspective from those who use science daily."

The Ohio Academy of Science initiated this educational partnership program in cooperation with The Office of The Governor and The Technology Division of The Ohio Development Services Agency to recognize schools and teachers who stimulate student scientific and technological research and extend STEM education opportunities beyond traditional classroom activities. The Technology Division of The Ohio Development Services Agency has supported this program since 1985 by grants to The Ohio Academy of Science.

Twenty-eight professionals broadly representing STEM employers from business and industry, government and academia evaluated the applications in a blind review process: AEP, Air Force Research Laboratory, Battelle Memorial Institute, Central State University, Chamberlain College of Nursing, DeVry University, Dinsmore & Shohl LLP, Lake County ESC, Lorain County Community College, Mount Union University, Notre Dame College of Ohio, ODNR, Office of Ohio Consumers' Council, Ohio Attorney General's Office, Ohio EPA, Ohio Northern University, Ohio University, Otterbein University, Procter & Gamble Co, Retired - Battelle Memorial Institute, Retired - Procter & Gamble Co, State of Ohio, Sumitomo Electric Wiring Systems, Summa Health System, TRC, University of Cincinnati, US Department of Energy, and US Geological Survey.

The Technology Division of the Ohio Development Services Agency funded the program.

From the Delphos Herald

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STEM Opportunities

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!



NEW Activity Zone This Year! - The Science of Sports

Check out our new featured zone dedicated to the Science of Sports!

How fast can you run?

How high can you jump?

How far can you throw a ball?

Analyze your golf or tennis swing.

You can do all of that and MORE in this new and exciting addition to STEM in the Park!

SAVE TIME... [Click here](#) to Pre-register online!

Visit the website for more info at www.STEMinthepark.org

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

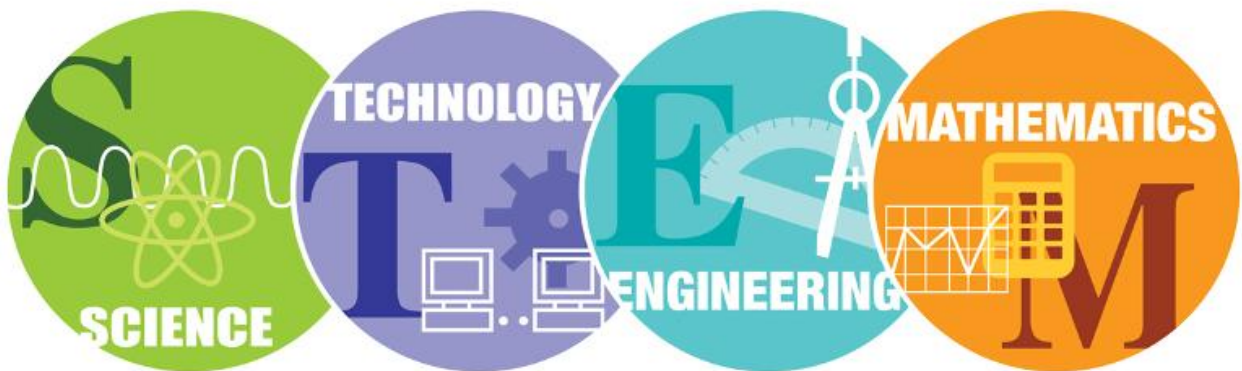
- 6 - 12 Secondary

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 with questions.

Announcing the 2014 NWO Symposium on STEM Teaching



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

Featuring a keynote presentation by NASA Engineer Kobie Boykins

A dynamic young engineer at NASA's Jet Propulsion Laboratory, Kobie Boykins is on the front line of Mars

exploration. He has overseen the designing, building and testing of mechanisms and other mechanical hardware for a wide range of robotic space vehicles. He designed the solar arrays that powered the Mars Exploration Rovers, Spirit and Opportunity, and currently supervises the mobility and remote sensing teams for the Mars Science Laboratory, better known as the Rover Curiosity. In 2013, Boykins was awarded a NASA Exceptional Achievement Medal, one of the highest honors given to NASA employees and contractors. A featured National Geographic explorer and presenter, Boykins is also a featured scientist for Dr. Robert Ballard's JASON project educating youth in STEM.

Online registration is now open! [Click here](#) to register.



The Lowe's Charitable and Education Foundation has announced the opening of its **Spring 2014 Toolbox for Education**, which supports projects that encourage parent involvement in local schools and build stronger community spirit.

One-year grants of up to \$5,000 will be awarded in support of projects that have a permanent impact on a school community such as a facility enhancement (indoor or outdoor) or landscaping/clean-up project. In addition, Toolbox grants can be used as part of a large-scale project like the construction of a playground as long as the funds are used to complete a phase of the project within twelve months of the grant award. To be eligible for a grant, applicants must be a public K-12 school or nonprofit parent group associated with such a school. Parent groups that are applying (PTO, PTA, etc.) must have an independent EIN and official 501(c)(3) tax-exempt status. Preschools are not eligible to apply.

Complete application instructions and program guidelines are available on the Toolbox for Education website.

Deadline: October 15. <http://www.toolboxforeducation.com>

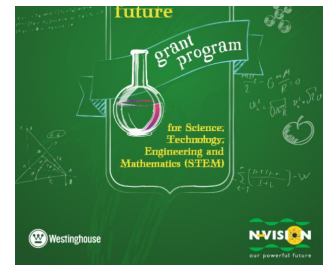
Westinghouse Electric Company Presents the "N-Vision a Brighter Future" Grant Program

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>



Lorrie Otto Seeds for Education Fund grants

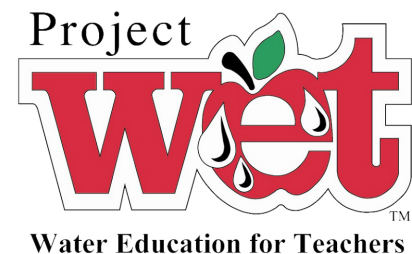
The **Wild Ones** organization works with schools and nature centers to plant and maintain natural landscapes in these centers of learning. The Wild Ones Board of Directors awards the Lorrie Otto Seeds for Education Fund to further foster such projects. Schools, nature centers, and other nonprofits that focus on educating elementary through high school students, including houses of worship, are eligible. These grassroots projects must have a site available for this stewardship project. Cash awards range from \$100 to \$500. The deadline for applying is **October 15**. Successful grants are eligible for partnership with SFE native-plant-nursery partners for discounts on seed, plants, etc. For more information visit <http://www.wildones.org/seeds-for-education/sfe/>



Project WET/Healthy Water Healthy People Facilitator Workshop

October 7-8 at the Horace Collins Lab, located at Alum Creek State Park in Delaware, OH

Project WET is a national, nonprofit, water education program for educators and students in grades K-12. Its goal 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.



To learn more about Ohio Project Wet, [click here](#). For more information about the **October workshop**, [click here](#).

Find Your Adventure



INFOhio Boot Camp 2014 Recordings Available!



Click on the URL or visit the INFOhio Webinar Archive to watch the recording and download materials provided for webinars.

<http://www.infohio.org/webinars>

(Click on the "Recordings" tab and choose "Current School Year" for the INFOhio Boot Camp recordings.)
CEU's are available.



The OSLN-Akron Hub is pleased to announce that the Goodyear Tire & Rubber Company has awarded the Hub an additional \$25,000 grant to help facilitate STEM-focused workshops for the Northeast Ohio region. This generous support enables the OSLN-Akron Hub to further impact educators, and ultimately students, throughout Ohio and beyond. With Goodyear's continued partnership, educators may register for the workshops offered and, on a first come, first serve basis, have their registration paid by utilizing the grant from Goodyear.

The upcoming Fall Professional Development workshops offered by the OSLN-Akron Hub are based largely on the professional development provided to the learning coaches (teachers) at the National Inventors Hall of Fame® School...Center for STEM Learning. Additionally, the OSLN - Akron Hub's professional development sessions can be taken on an individual bases, or collectively to maximize STEM capacities. To learn more or to register for a workshop, visit: <http://www.osln.org/hubs/akron/>

For additional information, please contact Alison White, Director, at awhiteua@akron.k12.oh.us or 330-761-3195.

Discovery Education

Free Standards-Aligned Energy Balance 101



Curriculum



Kick the school year off to a healthy, active start with the Energy Balance 101 curriculum by [Discovery Education](#) and the Healthy Weight Commitment Foundation as part of the Together Counts™ program. These FREE lessons developed by Discovery Education experts are aligned to National Education Standards, including: NAEYC, Head Start, SHAPE, SNAP-Ed, EFNEP, CACFR.

Available in Spanish and English, the Energy Balance 101 curriculum is designed to teach Pre-K through 5th grade students about the balance of calories consumed from foods and beverages (Energy In) with calories burned from physical activity (Energy Out). Every lesson has the flexibility to be taught individually or as a larger module.

[Click here](#) to download Energy Balance 101 lesson plans from the following modules:

- Introduction to Energy Balance: K-2 and 3-5
- Energy In: K-2 and 3-5
- Physical Activity: K-2 and 3-5
- Ready, Set, Balance!: K-2 and 3-5

Meet CIPA/E-Rate Requirements with Free Online Curriculum



Learning.com's EasyTech Online Safety Curriculum is available free to all Ohio K-12 public and private schools for the 2014-15 school year, thanks to funding by the Ohio Department of Education.

EasyTech's Online Safety Curriculum exceeds CIPA and E-Rate Internet safety training requirements and makes reporting compliance easy. New material for middle and high school students has been added this year. The curriculum also contains numerous resources for teachers and parents.

To get the curriculum, a school or district only needs to assign a coordinator to register with [Learning.com](#) and attend a 3-hour training session. More training sessions will be scheduled later in the fall. For more information, see the INFOhio Online Safety Training page or email: support@infohio.org.



"Dig into Mining: The Story of Copper," a new online destination that gives middle school students a real-world look into how the earth's resources shape the world geologically, societally and economically. Developed by Discovery Education in partnership with Freeport-McMoRan, this interactive program uncovers the use of transition metals, such as copper, in daily life and provides students a deeper understanding of today's copper industry. Interactive Learning Tools Develop key STEM, critical thinking and problem-solving skills in your students with these free, standards-aligned resources. Students will virtually investigate and explore the many ways they interact with transition metals every day.

Program Extensions: Reinforce core math and science concepts with free classroom and parent extensions. Students can match skills and interests to exciting career opportunities and share their classroom learnings about geology and the earth, at home.

STEM Supporting Materials: Create a successful future with STEM! Tap into a variety of additional STEM resources provided by Freeport-McMoRan and make STEM relevant in the classroom.

In addition, join a live expedition highlighting the copper industry, for real-world examples of how STEM and problem-solving skills are used in the industry and a variety of career paths for budding young scientists.

<http://www.digintomining.com>

STEM at the Farm

STEM at The Farm, an exciting professional development experience presented by The Ohio Soybean Council and The Works: Ohio Center for History Art and Technology.

Date: Thursday, October 2, 2014 8:30 am to 3:00 pm

Location: Devine Farms Outdoor Learning Classroom
672 National Road (Route 40), Hebron, Ohio 43025

This STEM-focused professional development opportunity is designed for third, fourth, and fifth grade teachers from Franklin, Fairfield, Perry, Knox, and Licking Counties. Teachers will receive contact hours for participating, along with curriculum materials to enhance classroom instruction.

There is no cost to attend this program! Stipends will be provided for classroom substitutes as requested.

Please register starting September 1, 2014. Hurry - registration is limited to 40 educators. Contact Jenna

Finehout at 740-349-9277 or jennafinehout@attheworks.org to sign up.



Shawnee State University will host the Art and Gaming Conference for college students on **November 7, 2014**. More information and registration details can be found at <http://www.shawnee.edu/shawnee-2014/>

Project Learning Tree GreenWorks!

Grants are available in three award levels: (1) the popular and traditional GreenWorks! grants up to a maximum of \$1,000, (2) GreenWorks! grants up to \$1,000 for schools involved in the USFS ClimateChangeLIVE Program, and (3) GreenWorks! grants up to \$2,000 for registered PLT GreenSchools!. The deadline to apply is September 30, 2014. For more information, go to the [Project Learning Tree grant website](#).



Equity in Mathematics Grants for Grades 6-8 Teachers

The purpose of this grant is to incorporate middle school classroom materials or lessons that will improve the achievement of student groups that have previous records of underachievement.



For 2015-2016, grants with a maximum of \$8,000 each will be awarded to persons currently teaching mathematics in grades 6-8. 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: the mathematics content as defined in the Principles and Standards for School Mathematics of NCTM; the plan for improving achievement of the targeted students; and the anticipated impact on their achievement.

Deadline: November 7, 2014 Please visit the NCTM website for more information. <http://www.nctm.org/resources/content.aspx?id=1322>

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NWO Hands-On STEM Activity

Sources: <http://www.popularmechanics.com/science/health/genetics/a-recipe-for-extracting-raw-dna-15159362>

A Recipe for Extracting Raw DNA

from Sarah Hansen/ Popular Mechanics

DNA, whose structure was discovered 60 years ago by Watson and Crick, carries a human's genetic code. But few of us actually get to see it. With this simple experiment, become a DIY geneticist and pull DNA from a strawberry.

Even if students know the story of Drs. James Watson and Francis Crick—who in 1953 co-discovered deoxyribonucleic acid (DNA) molecules and later received the Nobel Prize for their work—the building blocks of all living organisms remain mysterious. Packed into the nuclei of cells in strands called chromosomes, pure DNA is seen and handled by few except scientists.

Here's a chance. This classic experiment draws the substance from strawberries, whose cells carry eight copies of each chromosome, four times the number found in human cells.

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. 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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