

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



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In This Issue

K-16 STEM in the NEWS

[Ohio STEM Learning Network Design Challenge Announced](#)

STEM Opportunities

[STEM in the Park - Online Pre-registration now OPEN!](#)

[Future City Competition](#)

[Presentation Proposals Are Now Being Accepted For The 35th Annual Women in STEM program](#)

[Ohio Technology Summit](#)

[Believe In Ohio](#)

[Exploration of Other Worlds Using NASA Solar System Treks Webinar](#)

K-16 STEM in the NEWS

Ohio STEM Learning Network Design Challenge Announced

This article is from the OSLN blog

The Ohio STEM Learning Network (OSLN) will once again host an annual statewide design challenge for K-12 students. This year, OSLN is partnering with DriveOhio to explore the topic of Smart Mobility through the [#STEMdrivesOhio Design Challenge](#). [DriveOhio](#) is a partnership of the state agencies housed in the Ohio Department of Transportation and devoted to advancing the Smart Mobility in Ohio.

In simple terms, Smart Mobility means using emerging technologies to improve the mobility of people and goods. It's the use of new technologies to move things from Point A to Point B in the safest, most convenient and most cost-effective way. From autonomous vehicles, hyperloop technology, or simply making ride-sharing more accessible to people with disabilities, there are a number of ways to engage students in this topic AND incorporate learning standards.

DriveOhio uses five "SMART" pillars- Safety, Mobility, Access, Reliability and Talent - guide its team as they work to deploy smart mobility solutions across the state. This year's challenge asks students to consider smart mobility to improve their community's well-being.

[Science Buddies' STEM Lesson Plans](#)

SMART pillars were used to break down the question into smaller bits. Students may tackle any aspect of smart mobility, but solutions need to tie back to the main question.

[NSTA Conference in Cincinnati on Nov 14-16, 2019](#)

This year's challenge question is: How might you re-imagine mobility in your community to increase your community's happiness/well-being?

[Rocket Learners to Success-Use Free Tools to Build Adaptive Experiences Webinar Series](#)

Safety: How can you make transportation safer in your community?

NWO STEM Activity

Mobility: How do we make improvements to the way people and goods move around your community? This could be an opportunity to invent a new mode of transportation, improve on an existing system, or combine transportation modes to increase efficiency.

[No Pressure!](#)

Accessibility: How do we make sure that all people have access to transportation, regardless of economic, geographic or physical limitations?

Reliability: How can we better predict travel times, road conditions, or make the best use of infrastructure and resources?

Talent: How do we train people to use emerging technologies related to transportation?

Through #STEMdrivesOhio Design Challenge, students practice solving real-world problems, collaborate with others, consult with experts, and gain experience using the engineering design cycle. The Ohio STEM Learning Network selects the challenge and works with partner organizations to provide supports to teachers and schools. Schools implement the challenge locally.

How to participate: In past years, schools incorporated the design challenge into individual classes, extra-curricular activities, or even experiences for entire grade-levels or schools. Here's what we ask of participating schools:

Students must work in teams to create, design, and prototype their solution to the problem.

Teams must create a physical prototype of their solution. The prototype does not have to be a working model, but students need to explain how it would work. If it can be operational, it should be.

The school must have a local showcase, or exhibition of student work, where students present to an "authentic" audience-parents, community members, and/or experts who know about the problem.

Each school selects one team to present at the statewide showcase at Battelle in May 2020.

Timeline: When the challenge is completed is the decision of each school. Some schools work on it over a grading period, while others do it over a few weeks. Guidelines:

Let OSLN know of participation. OSLN will send a form for confirmation later this fall. Schedule a school showcase and give OSLN the date. OSLN staff will try to attend as many school showcases as possible. School showcases must be completed by Friday, April 24th, to be eligible to participate in the Student Solutions Showcase at Battelle in May.

Those interested in learning more about the challenge, sign up here. This is not a commitment to do the challenge but keeps students informed about the challenge. Later this fall, OSLN will ask for commitments from schools.

The Northwest Ohio Center for Excellence in STEM Education at BGSU is one of the seven hubs of the Ohio STEM Learning Network (OSLN).

For more information on the OSLN blog:

<https://osln.org/2019/08/stemdrivesohio-challenge-question-professional-development-and-other-resources/>

For more information on OSLN: <https://osln.org/about/>

The Northwest Ohio Center for Excellence in STEM Education at BGSU is one of the seven hubs of the Ohio STEM Learning Network (OSLN).

STEM Opportunities

STEM in the Park - Online Pre-registration now OPEN!

Go Green with STEM in the Park!
Because there is no Planet B!

Featuring the new ECO ZONE

SATURDAY, SEPTEMBER 28, 2019

9:30 a.m. - 2:00 p.m.

Perry Field House @ BGSU



[Click Here](#) for Online Pre-registration!

STEM in the Park will feature interactive displays and activities created by area universities, community partners, and local businesses to engage children of all ages in science, technology, engineering, and mathematics, featuring the new ECO ZONE with Earth-Centric Activities.

Join us for a family day of hands-on fun at Bowling Green State University, featuring everything from giant bubbles to edible DNA. Families will receive at-home STEM activities and free healthy snacks. You won't want to miss it!

Back by popular demand at **STEM in the Park** are the Robotics Zone, the Food Science Zone, the Digital Media Zone, the Science of Sports Zone and the H₂O Zone, which explores the science behind all of water's amazing uses. A Roots to STEM Pre-K-2 Zone is also back this year, featuring activities that cater specifically to younger children.

For more information visit: www.STEMinthePark.org

Future City Competition

Future City program engages young minds and encourages independent thinking. It asks 6th, 7th, and 8th graders to think of ways to make the world a better place, and to work as a team to research, design, and build cities of the future that showcase their solutions. Whether you participate in class or with an out-of-school-time



club, this project-based STEAM program will inspire your non-traditional learners and challenge your high achievers.

For more information: <http://discovere.org/register-for-future-city/>

Presentation Proposals Are Now Being Accepted For The 35th Annual Women in STEM program

Wednesday, October 30, 2019 @ BGSU for 6th through 8th Grade Girls

The goal of the Women in STEM program at BGSU is to provide a rewarding experience for 6th - 8th grade girls that connects STEM education to the real world and sparks an interest in pursuing STEM majors in college and ultimately STEM careers.

Women in STEM provides young women with a positive experience at BGSU and offers them a variety of engaging hands-on activities that allows them the opportunity to learn and interact with a wide variety of successful STEM role models. Please [click here](#) to apply to be a presenter.

For more information visit the website at: www.bgsu.edu/nwo/programs/women-in-stem.html



Ohio Technology Summit

Ohio Technology Summit at Otterbein University's The Point on **October 29 from 9 AM to 4 PM**. The Point is Otterbein's new makerspace/design facility.



Sessions will be for educators from kindergarten through college and will include all things technology and engineering, including, among others, makerspace, drones and robots, computer science, elementary STEM resources, and hands-on sessions in laser engraving, vinyl cutting, CNC, and virtual reality. In addition, State Superintendent of Public Instruction Paolo DiMaria is planning a visit to the Summit as well.

Please see: <https://www.ohiosummit.org/>

Believe In Ohio

Believe in Ohio is a free, comprehensive, experiential learning STEM (Science, Technology, Engineering and Mathematics) entrepreneurship and innovation program for Ohio high school students that was collaboratively developed by The Ohio Academy of Science (OAS) and Entrepreneurial Engagement Ohio (EEO).



While specific details on how Ohio's STEM and business/economics teachers and their students can participate in the Believe in Ohio program will be available in mid-September, educators who wish to receive advance information about participating in the program are encouraged to email BelieveInOhio@ohiosci.org

Exploration of Other Worlds Using NASA Solar System Treks Webinar

Webinar: Exploration of Other Worlds Using NASA Solar System Treks

Audience: Formal and Informal Educators of Grades K-12

Event Date: Oct. 8 at 11 a.m. PDT

Contact: cherrera@ngcproject.org



The National Girls Collaborative Project presents a free webinar introducing educators to NASA's Solar System Treks, a free resource for STEM learning. Solar System Treks allow students to study the surfaces of the Moon, Mars, Vesta, Ceres, Titan and icy moons in our solar system. Webinar participants will hear directly from NASA outreach specialists, and will have the opportunity to ask questions about the Solar System Treks visualization tools

Visit website for more information: <http://ngcproject.org/exploration-of-other-worlds-using-nasa-solar-system-treks>



Science Buddies' STEM Lesson plans for the fall include 3 new NGSS-aligned lesson plans from Google's free Science Journal app.

Please see website for more information: <https://bit.ly/2zgCUNw>

NSTA Conference in Cincinnati on Nov 14-16, 2019

The Bridge to Endless Possibilities

Duke Energy Convention Center * 525 Elm St. * Cincinnati OH 45202

Mark your calendar for NSTA's second 2019 area conference in Cincinnati, Ohio

<https://www.nsta.org/conferences/area2.aspx>



Rocket Learners to Success-Use Free Tools to Build Adaptive Experiences Webinar Series

Rocket Learners to Success-Use Free Tools to Build Adaptive Experiences

Audience: U.S.-based Formal and Informal Educators of All Grades



Event Dates: Sept. 10, 17 and 24 at 3:30 PDT

Contact: jlswann@asu.edu

The [Infiniscope Community](#) empowers educators of all kinds to collaborate and create innovative, educational experiences that address the unique needs of all learners. Infiniscope's widget-based platform makes it easy to design custom digital experiences using NASA visualizations, real-time feedback and differentiated pathways. Join the Infiniscope team for a free three-part webinar series, and learn to build your own adaptive experiences.

[Register now](#) to save your spot!

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

NWO STEM Activity

No Pressure!

*This month's activity was featured at **STEM in the Park** and is brought to you by the Great Lakes Science Center*

What You Need

- Plastic bottle with a lid
- Sharp object such as a nail
- Water



What To Do

1. Using a nail, or other sharp object, have an adult poke a hole in the middle of the bottle.
2. Covering the hole with your finger, fill the bottle with water.
3. Screw the lid back on to the bottle.
4. Remove your finger from the hole.
5. Find an unsuspecting friend or family member and ask them to help you open the bottle.
6. Stand back.

[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.

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