Science

#EachChildOurFuture
Ohio Department of Education

Jan. 2021

Updates from the Ohio Department of Education

January Meetup: Using Mathematics and Computational Thinking Video and Resources Now Available
For those unable to join the January meetup on Using Mathematics and Computational Thinking, the video and resources are now available on the Ohio Department of Education Science Resource page.

February meetup: Science & Engineering Practice: Constructing Explanations and Designing Solutions
Please join the Ohio Department on Feb. 2 at 3:30 p.m. for a meetup on the *Science & Engineering Practice: Constructing Explanations and Designing Solutions*. Connection information is also available on the Science Resource page.

Opportunities from Other Organizations

Believe in Ohio Statewide STEM Scholarship Program
All Ohio high school students, who are juniors or seniors during the 2020-2021 school year, and who meet the qualifications noted on the scholarship application, are invited to apply for a $1,000 Believe in Ohio STEM (Science, Technology, Engineering & Math) Scholarship.

The purpose of this scholarship program is to recognize students throughout Ohio for their contributions to STEM Innovation and Entrepreneurship. To ensure that students from all parts of Ohio receive recognition, at least one $1,000 scholarship will be awarded in each of Ohio's ninety-nine State House of Representative districts, and thirty-three Ohio State Senate districts.

Applications are being accepted until March 31, 2021. Please see the **Believe in Ohio** webpage for more information.

58th Annual Ohio Junior Science Humanities Symposium Registration is now open
Registration for the *58th Annual Ohio Junior Science Humanities Symposium* is open until Feb. 12, 2021 at 5:00 p.m. We ask that all students, teachers, parents, judges, and STEM professionals complete the free registration to virtually attend the Regional JSHS by Feb. 12, 2021.

Please see the OJSHS website for details and more information.

Notification to students to confirm participation in oral presentations will take place **the week of Feb. 26, 2021.**

University of Toledo's SCOPE Program Makes Transition to On-line Outreach
The *SCOPE Program at the University of Toledo* works predominantly with middle and high school students to give them exposure working with specialized scientific equipment such as scanning electron microscope and more. SCOPE currently offers two different types of engagements for students: Scanning Electron Microscope (SEM) and a Confocal Fluorescent Microscope. Other sessions including chemical analyses of different aromas and flavors using a Gas Chromatography Mass Spectrometer are in development.

A typical SEM session includes a brief introduction to the microscope and how it differs from a regular light microscope, followed by an overview of the types of samples loaded in the microscope, e.g., different types of pollen or even different fabrics and design of face masks. The laboratory scientists at University of Toledo present this information via video conference and load the samples. Following the presentation, the students can remotely control the microscope through desktop-sharing software. They can focus, zoom in and out, take measurements, switch between 10 pre-loaded samples, and perform qualitative and quantitative elemental analyses on the different chemical elements present. In general, they can do anything a researcher on campus would do without ever leaving their classroom--or home, in the current case of remote learning. The scientist helps with the controls and discusses with the students the observations, simultaneously sharing the SEM screen over the video conference so all students can see how the sample is being viewed.

Check out the SCOPE webpage or Facebook page for more information or to set up a session for your classroom.

Hhmi Biointeractive Releases new Animations

Hhmi Biointeractive has released new animations and resources, including cellular respiration animations, SARS-CoV-2 animations now available in Spanish, videos that explore how ecosystems recover from disaster and a Click & Learn feature; exploring the factors that regulate populations. Go to Biointeractive.org to examine these and other hhmi resources.

NASA Resources for Rover Landing

Teachers - don't miss the exciting landing of **NASA's Mars Perseverance rover** on Feb. 18, 2021. explore NASA resources about its upcoming mission as they ready for the rover to touch down on the Red Planet.

Spark student excitement about the landing with STEM resources, videos and activities found in the **Mars 2020 STEM Toolkit**.

Visit the **Watch Online** page to see the rover landing trailer and to learn how you can watch live coverage of landing events.

Check out the mission's **Landing Toolkit** for posters, stickers, fact sheets, education resources and more.

Ohio University and Ohio STEM Learning Network Offer Professional Learning

Ohio University and the Ohio STEM Learning Network will host a series of 1-hour webinars focused on STEM education. Participants will be provided a free certificate of attendance.

- **Feb 17, 3:30-4:30:** *Examples of Subtle Shifts for Promoting Student Inquiry*—This session will overview a framework for how teachers can modify their current science lessons to incorporate subtle shifts that allow for increased student inquiry. Participants will consider a “traditional” science lesson and then observe examples of how the lesson has been modified to promote specific aspects of inquiry.
- **March 17, 3:30-4:30:** *Incorporate More Student Inquiry in Your Science Lessons*—This session will provide participants with practice applying subtle changes to existing lesson plans in an effort to increase student inquiry. Participants will be provided with sample lesson plans and will be tasked with applying their own ideas for subtle modifications that will promote specific aspects of inquiry.

Register for the webinars or contact Jacob White for more information.

Disclaimer

The resources in this newsletter are free and have been reviewed using the Department’s Science resource filter against established criteria. Copies of the completed filter forms are available upon request. Inclusion in this newsletter does not represent a recommendation to use a resource. Many quality resources are available beyond those included here. Educators should use their professional expertise to determine the suitability of any particular resources for use in their districts, schools or classrooms.

Send comments/questions to:

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