



Hello Science Education Colleagues,

To start, a shout out to some great student work happening in Kenosha, where they've been planting trees as part of science learning and then donating them to their arboretum - [see more in this video](#).

Below are my latest science/STEM resources and opportunities, including a special section on student projects at the end. Let me know if you have anything for future newsletters or if could help out in your work in any way!

Cheers,
Kevin

Learning Opportunities

- [WSST Conference Mar 9-11](#) - submit a session and apply for a grant
- [New Storylines in Science Virtual Network](#)
- [Webinar on Assessment across a 3D Unit](#) (recording)
- [Wisconsin Science Education Leadership Association](#) (WSELA) - Apr 11
- [PAEMST](#) - apply or nominate someone by Dec 1.
- [Energy Career Pathways Online Panel Discussion](#) - Nov 29

Resources

- [NEJM Science Article on Masking](#) - Disciplinary Literacy option
- [Science Podcast for Kids](#) w/ Spanish version available
- [Regaining Your Child-Like Wonder](#) - Ted Talk by Zach King
- [Why do mosquitoes like some people more than others?](#)
- [Exploration Generation](#) - rocketry materials from NSTA and partners
- [Articles of note](#) - NGSS Implementation Review and Not Giving Zeroes

Student Opportunities

- [Kidwind](#) - Student Competition Building Wind Turbines -
 - [Submit Water-Related Ornaments for the State Holiday Tree](#) - by Nov 2
 - [Wonders of Physics Video Contest](#) - due by Apr 30
 - [Aviation Design Challenge](#) - register by Dec 17
 - [Capital Science and Engineering Fair](#) - register by Dec 15, on Mar 11
 - [Junior Science and Humanities Symposium](#) - register by Nov 18
-

- [ECybermission w/ Grants](#) - registration open now (deadline TBD)
 - [Toshiba ExploraVision through NSTA](#) - submit projects by Jan 31
-

Details

Learning Opportunities

- WSST Conference Mar 9-11 - submit a session and apply for a grant

<https://www.wsst.org/2023-conference> - I hope to see you at the WSST conference in Madison in March! While registration won't open for several more weeks, you can submit a session now (due Dec 15) and [apply for WSST grants](#) (due Dec 1) to support classroom materials or your learning. If you're not a member of WSST and never have been, ask me how you can get a free membership!

- New Storylines in Science Virtual Network

This new virtual network will connect educators using or wanting to use OpenSciEd, Illinois Storylines, NextGen Storylines, IHub, etc. These resources are packed with engaging phenomena, hands-on & minds-on activities, and a less polished teacher's materials that may be a little intimidating. Teaching a storyline-based unit is a bit different and can be a challenge if you are trying it out on your own. Kim Lemberger, Director of Learning at the Einstein Project, is organizing a storyline network to serve as a means of supporting teachers who are already using these materials or wanting to try them out. Please, contact her at kim@einsteinproject.org if you are interested in taking advantage of this opportunity. All meet-ups will be held virtually starting in January, except an in-person meeting at the WSST conference.

- Webinar - Assessment across a 3D Unit (recording)

<https://vimeo.com/553162991> - This recorded webinar delves into what "formative" and "summative" assessment looks like across a sample unit (using OpenSciEd in this case). It includes ideas for including sensemaking w/ the practices and crosscutting concepts in assessments, and then using the data from assessments. [Slides and materials can be found here.](#)

- Wisconsin Science Education Leadership Association (WSELA) - Apr 11

The next WSELA meeting will be on April 11th at Ripon High School in their community room. Anyone is welcome! We will be focusing on assessment, grading, and feedback, along with dual enrollment options (plus other agenda items as they come up). Email me if you'd like to attend and/or get on the WSELA listserv for further information.

- PAEMST - Presidential Awards - apply or nominate by Dec 1

<https://paemst.nsf.gov/> - nominate an amazing science, math, computers, and/or STEM teacher in grades 7-12 for this prestigious national award. Past applicants have shared how much they appreciate it as a learning process. State winners receive \$10k and a trip to DC.

- Energy Career Pathways Online Panel Discussion - Nov 29

<https://energy.wisc.edu/events/energy-career-pathways-wisconsin> - Will there be enough workers to build our next-generation energy system? This fall, the Wisconsin Department of Public Instruction, in collaboration with industry and education partners, will release an updated [Energy Career Pathway](#) resource to help high school students across the state understand and prepare themselves for careers and local in-demand jobs in the energy industry. On November 29 at 4:30 pm CT, join the Wisconsin Energy Institute, the Wisconsin K-12 Energy Education Program, and a panel of experts to discuss what's in the Energy Career Pathway and how it can be used for student career planning.

Resources

- NEJM Science Article on Masking - Disciplinary Literacy option

<https://www.nejm.org/doi/full/10.1056/NEJMoa2211029> - building students' disciplinary literacy through analyzing actual scientific articles is a great strategy in science classes. Check out this article sharing evidence that masking prevents COVID cases in schools!

- Science Podcast for Kids w/ Spanish version available

<https://www.sciencepodcastforkids.com/> - Tumble Science Podcasts for kids answers kids' questions about science. They find professional scientists to explain phenomena in an interesting way. It is on this website or Spotify, Apple, and Google. They also have podcasts in Spanish, which might give teachers an opportunity for students to hear about science in their own language. While the podcast is "telling about science," they try to have break spots where teachers could stop and let kids think and talk about the science before going on. They're free and funded in part by the National Science Foundation.

- Regaining Your Child-Like Wonder - Ted Talk by Zach King

https://www.ted.com/talks/zach_king_the_trick_to_regaining_your_childlike_wonder - I appreciate the beauty and wonder of science and always hoped to help develop that in my students. This Ted Talk is a nice reflection on regaining that wonder!

- Why do mosquitoes like some people more than others?

<https://www.rockefeller.edu/news/33019-why-mosquitoes-bite-some-people-more/> - It has always seemed that I get bit by mosquitoes more often than anyone else in my family, and now there's a study that helps me understand why - what a cool phenomenon!

- Exploration Generation - rocketry materials from NSTA and partners

<https://www.nsta.org/exploration-generation> - Exploration Generation (ExGen) provides K-12 educators with engaging, classroom-ready lessons and resources to help immerse students in real-life applications of STEM while exploring various concepts in aerospace, engineering, and rocketry. The American Institute of Aeronautics and Astronautics (AIAA), Estes Education, and NSTA launched ExGen to inspire the next generation of scientists and

engineers and bring high-quality, research-based aerospace education to classrooms nationwide. There is a recorded webinar that explains the program.

- Articles of note: NGSS Implementation Review and Not Giving Zeroes

<https://nap.nationalacademies.org/catalog/26766/taking-stock-of-science-standards-implementation-planning-for-progress-proceedings> - this report from the National Academies reviews where the country is at in relation to the implementation of the NGSS. A couple key points are the need for more aligned resources, especially at the high school, and the need for more science in elementary school.

<https://www.edutopia.org/article/why-i-stopped-giving-zeros> - Another article I read recently and appreciated was this one from Edutopia, which talks about not giving students zeroes. It's an equity issue to focus on student learning rather than behaviors!

Student Opportunities

- Kidwind - Student Competition Building Wind Turbines - register by Jan 15

<https://energy.wisc.edu/events/2023-wisconsin-kidwind-challenge-saturday-march-4-2023> - The KidWind Challenge is a hands-on design competition for 4th – 12th grade students. Student teams bring small-scale wind turbines to the challenge where they will be tested in a wind tunnel. Teams meet with a panel of expert judges to present their design process and demonstrate their knowledge of wind energy, tackle instant challenge activities, and explore careers in clean energy. The Challenge is free to attend and any group of students in grades 4 to 12 is eligible to participate. The event happens on Saturday, March 4th, at the Discovery Building at UW–Madison.

- Submit Water-Related Ornaments for the State Holiday Tree - by Nov 22

<https://content.govdelivery.com/accounts/WIGOV/bulletins/335fe64> - fabulous theme this year for the Wisconsin Holiday Tree - "Wisconsin Waters" - have your students do something science-y and mail them in by Nov 22.

- Wonders of Physics Video Contest - due by Apr 30

<https://wonders.physics.wisc.edu/contest/> - UW-Madison's Physics Dept is hosting its annual video contest again. The contest is open to anyone, but they encourage students to make and submit a video demonstrating a physics concept, under the supervision of a parent, guardian, or teacher. The video should run two to three minutes in length and can be made either as a class project or by an individual student. Students can use materials from around their home or from their school science lab. "The Wonders of Physics" will acknowledge all submitted videos with a certificate. Plaques will be awarded for the best demonstrations in various categories, and there are also awards for teachers. Video clips must be received by April 30, 2023. Awards will be announced by May 31, 2023.

- Aviation Design Challenge - Register by Dec 17

<https://gama.aero/opportunities-in-ga/aviation-challenge/> - The General Aviation Manufacturers Association (GAMA) is sponsoring the Aviation Design Challenge - open to

150 high schools across the United States. Schools registered for the competition will receive complimentary [“Fly to Learn” curricula](#), which comes with flight simulation software powered by X-Plane. Teachers will guide students through the science of flight and airplane design, completing the curricula in approximately six weeks in the classroom or in four weeks through an accelerated program. Each high school will apply what they have learned by modifying the design of an airplane. The schools will then compete in a virtual fly-off and be scored. Register by Dec 17th.

- Capital Science and Engineering Fair (CSEF) - March 11, register by Dec 15

<https://dpi.wi.gov/science/science-fairs/csef> - are you considering an anchor project for students this year? Consider having them present at one of the many WI opportunities to share with authentic audiences, like CSEF or others below.

- Junior Science and Humanities Symposium - register by Nov 18 (soon!)

<https://www.uwlax.edu/ex/jshs/register-submit-forms/> - Students in grades 9–12 are encouraged to share their original research (e.g., experimental, field, observational, applied) during a 12-minute oral presentation or poster presentation. Research presented at the regional JSHS competition can align with chemistry, engineering, environmental science, life science, mathematics, computer science, medicine and health, physics, or biomedical science.

- ECybermission w/ mini-grant support - registration is open

<https://www.ecybermission.com/> - ECybermission is a virtual competition for students in grades 6-9. Teams of 3-4 students choose a problem in the world around them, research it, and design a solution. There are [mini-grants available](#) to teachers, with an amount given for every team supported.

- Toshiba ExploraVision through NSTA - submit projects by Jan 31

Students in grades K-12 submit projects to the competition, with unique requirements for each grade band. Generally, the teams envision what current technologies will look like in the future - submitting research and a write-up in support of their ideas.

“Science is not a body of facts, [it] is a method for deciding whether what we choose to believe has a basis in the laws of nature or not.” – Marcia McNutt