Hello Science Education Leaders,

I hope you're surviving and finding some joy in the beginning of this stressful school year. It's important to consider self-care - some resources here - and clearly, a primary focus on student well-being will be important too.

Please, let me know if I can help with some resources or a facilitated discussion, like a brief after-school dig into virtual science teaching ideas. Send me an email. I'm working with WSST and PBS to do create PD and resources for science teachers in the coming weeks - *please*, **take this 5 minute survey** to share your ideas on what you need (will close Friday, Sept 11).

Below are a few science education resources I've heard about. If you have announcements to share about science or STEM-related professional learning and resources, please send them my way for the next edition. A record of these emails can be found on my website: dpi.wi.gov/science/social-media.

Cheers,
Kevin

Learning Opportunities

- Monthly Book Study and Equity work - starts Sept 21 at 4pm
- STEM Forward Conference (virtual this year) - Oct 29

Resources

- Fall 2020 Return-to-School Resources and Ideas
- Essential Standards - ideas to keep in mind
- Lab Safety - Lab Out Loud Podcast and New State DHS Guidance
- Phenomenon! Simulation shows WI position on earth through time
- Keeping Students Engaged, Even in Virtual Learning
- Free Middle School Unit on Learning about COVID
- New National Academies Brief - Teaching Science During a Crisis
- Educator Effectiveness and SLOs in Era of COVID

Student Opportunities

- Statewide Girls Aviation Day Event - Sat, Sept 26

- State Water Inquiry Project - ongoing
- Science Fairs and Toshiba/NSTA Exploravision

Details

Learning Opportunities

- Monthly Book Study and Equity work - starts Sept 21 at 4pm

https://forms.gle/ChkVDbzgGBm82yge6 - We are planning to hold the WSST/DPI Book Study this year on the third Monday of each month. Our first resource to dig into will be the new WSST/DPI Equity and Access in Science Education Policy Statement. As optional background reading, we'll also suggest the introduction to Doug Larkin's book, *Teaching Science in Diverse Classrooms,* and chapter three of the NSTA book Helping Students Make Sense of the World, by Megan Bang et al, which focuses on equity. Join your colleagues for an important and relevant discussion on equity in science education!

- STEM Forward's sySTEMnow Conference (virtual this year) - Oct 29

https://www.stemforward.org/systemnow-conference - This annual conference is a great way to connect with new STEM ideas and learn from districts doing unique work in STEM education. The focus for this year is equity. If you're not familiar with Milwaukee, it is a regional STEM hub/non-profit in Milwaukee, with relevance for work across the state. I'll be attending this meeting!

Resources

- Fall 2020 Return-to-School Resources and Ideas

https://dpi.wi.gov/sites/default/files/imce/science/return-to-school-science-considerations-2020.pdf - this document includes ideas, reflection suggestions and links to several other resources related to science learning during COVID. A similar set of documents was created by the Council of State Science Supervisors on topics including instruction, curriculum, assessment, and safety/well-being.

- Essential Standards - ideas to keep in mind

https://wisdpiscience.blogspot.com/2020/09/essential-standards-in-science.html - In science, our Wisconsin standards have already condensed the content at each grade band, so it's important to be cautious in narrowing further to "essential, power, or priority" standards. This article, written in conjunction with Rochelle Sandrin, Science Curriculum Coordinator for Milwaukee Public Schools, details some finer points to consider in this process. Ryan King, Elementary Science Teacher Leader for Madison Schools, shared guidance documents they created for prioritizing standards for educators using FOSS or using Amplify.

- Lab Safety - Lab Out Loud Podcast and New State DHS Guidance

https://laboutloud.com/2020/08/episode-229-pandemic-lab-safety/ - This latest Lab Out Loud podcast from NSTA (led by Wisconsin educators Dale Basler and Brian Bartel), features lab safety guru Ken Roy talking about considerations for in-person learning with COVID. There are several other resources listed on the site. Wisconsin DHS also released new safety guidance for schools - https://www.dhs.wisconsin.gov/covid-19/schools.htm.

- Phenomenon! Simulation shows WI position on earth through time

https://dinosaurpictures.org/ancient-earth#0 - from now through 750 million years ago, have students engage with a 3D movable globe, where you can pinpoint where Wisconsin (or other locations) have been through time. Interesting connections are possible to earth science standards.

- Keeping Students Engaged, Even in Virtual Learning

https://www.edutopia.org/article/science-keeping-kids-engaged-even-home -This Edutopia article details research on how to engage students and describes how that might be adapted to a digital environment. Relevance is a big theme, as it not talking too much (one of my own children just sat through forty minutes of the teacher talking at him - NOT ideal!).

- Free Middle School Unit on Learning about COVID

https://source.wustl.edu/2020/08/isp-launches-middle-school-covid-19-curriculum/ - This article describes a new middle school life science unit, linked to NGSS/WSS standards, that has students dig into COVID and related phenomena. Here's the direct link to unit information and resources: https://schoolpartnership.wustl.edu/covid-19-module/.

- New National Academies Brief - Teaching Science During a Crisis

https://www.nap.edu/catalog/25909/teaching-k-12-science-and-engineering-during-a-crisis - this new brief shares some in-depth ideas and considerations for instruction during a crisis, where students may or may not be learning in-person. While very pertinent for now, there were lessons considered from Hurricane Katrina, for example. Some examples even come from Wisconsin instruction this fall! A webinar detailing the report will be this Thursday, Sept 10 at 1pm CT - https://www.eventbrite.com/e/teaching-k-12-science-and-engineering-during-a-crisis-registration-119533579153.

- Educator Effectiveness and SLOs in Era of COVID

https://dpi.wi.gov/ee/navigating-covid-19-supporting-educators-through-ee - The DPI Educator Effectiveness team shared some new resources on EE with a lens toward challenges due to COVID. In particular they focus on effective coaching. Careful consideration of effective assessment and SLOs should also be a discussion this fall. I wrote on that topic for the EE blog about a year ago: - https://dpi.wi.gov/ee/making-student-learning-objectives-meaningful

Student Opportunities

- Statewide Girls Aviation Day Event - Sat, Sept 26

Statewide Girls in Aviation Day event on Saturday, September 26th - The Wisconsin chapters of Women in Aviation International are excited to host the first, ever statewide Girls in Aviation Day! The event will be held on Zoom, from 10:30am – 12:00pm, and will feature female aviators from across the state and include interactive activities for three age groups: upper elementary school, middle school, and high school. In addition to fun activities planned, five participants will be randomly selected at the end of the event to receive a $25 gift card. Pre-registration is required using the online registration form.

- State Water Inquiry Project - ongoing

https://dpi.wi.gov/science/water - this ongoing project can engage students in meaningful, local phenomena, and give them an opportunity to make a difference in their communities. Through the GIS platform, you can share data and information on what you're doing with other across the state.

- Science Fairs - Still possible!

https://dpi.wi.gov/science/science-fairs/opportunities - It's always a possibility to get students engaged in meaningful science projects (as noted above), which hopefully look different than a cookbook procedure on a tri-fold. Toshiba/NSTA Exploravision is another route to spice things up. This could be a unique home-school or school-community connection during COVID.

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“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