



Hello Science Education Leaders,

Happy New Year! Here are the latest science education resources and opportunities 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

- [Elementary Science Summit w/ WSELA](#) - Feb 12
- [Webinar Series on Inquiry in Science and Social Studies](#) - Feb 5, 3:45pm
- [Summer Teacher Institute at National Air & Space Museum](#) - deadline Feb 21
- [Summer Science Institute in Waunakee](#) – sign up to present by Jan 31
- [Storylines, NGSS/WSS in Practice, and OpenSciEd](#) - CESA 1 workshop series on Feb 4 and Mar 11
- [WSS/NGSS Assessment Workday](#) - CESA 11 on Feb 25
- [Workshop on GIS in the Classroom](#) - Feb 21 in Middleton

Resources

- [Storylines Resources](#) - creating a coherent unit
- [Don't start the year w/ a unit on the "scientific method"](#) - research article
- [Science, Arts, and Creativity](#) - article from Inc.
- [Webinar Recording on National STEM Strategic Plan](#)

Student Opportunities

- [State Water Inquiry Project](#) - ongoing
- [Badger State HS and Junior High Science Fairs](#) – March 14 at Marquette
- [Recognizing Aviation and Aerospace Innovation in Science and Engineering Awards \(RAISE\)](#) - for HS students
- [Science Strikes Back!](#) - an all ages science fair in MKE Feb 5th

Details

Learning Opportunities

- Elementary Science Summit w/ WSELA - Feb 12

[Draft agenda](#) - this meeting of the Wisconsin Science Education Leadership Association (WSELA) will focus on elementary science. We'll meet at the DeForest Comfort Inn & Suites from 9 to 3 on Feb 12th, with an 8:30 check-in, networking, and light breakfast time. The cost is \$20 for returning attendees, or free for new attendees. Please, RSVP by Feb 1st to Kevin Niemi - kjniemi@wisc.edu - so we have a count for food. We'll be discussing ideas of integration, equity, and scheduling, as well as collaboratively looking at what instructional resources people are using and how/why.

- Webinar Series on Inquiry in Science and Social Studies - Feb 5

On Feb 5th we'll have the first webinar of this series, looking at inquiry in both science and social studies instruction. It will be from 3:45 - 4:45pm. We will focus on K-5 learning, though it will certainly be relevant K-8 and beyond. Building on workshops from last summer, Kris McDaniel (DPI Social Studies Consultant) and I will facilitate this first webinar, with an emphasis on reviewing actual lessons to determine whether they're really just literacy or include inquiry too. Educators from across the state will facilitate further webinars in this series on Mar 3, Apr 9, and at the beginning of May (TBD). There is not a specific registration form; you can simply join us through this Zoom link: <https://widpi.zoom.us/j/242062320> or by calling (646) 876- 9923 with meeting ID 242 062 320.

- Summer Institute at National Air & Space Museum - deadline Feb 21

<https://airandspace.si.edu/teacher-innovator-institute#apply> - Interested in connecting with STEM educators across the country to dive into the idea of “authentic learning”? This exciting program at the Smithsonian from July 6 to July 17 is being offered free of charge to middle school (grades 5-8) STEAM teachers with an interest in expanding their practice to include informal education techniques. Teachers will be provided with transportation, food, and lodging.

- Summer Science Institute in Waunakee – sign up to present by Jan 31

They are still accepting presenters for the 4th annual Summer Science Institute on Wednesday, August 12, 2020, at Waunakee Intermediate School. Anyone interested in presenting should complete this brief [Google Form](#) by Friday, January 31. Please see their [promotional flyer](#) and [conference website](#) for additional information on this great summer learning opportunity (registration opens Apr 1).

- Storylines, NGSS/WSS in Practice and OpenSciEd - CESA 1 workshop series on Feb 4 and Mar 11

[Flyer with details](#) - In this two-day (non-sequential) workshop, we'll dig into the [OpenSciEd](#) resources to see a WSS/NGSS unit in action. On the first day we will experience initial portions of these free materials including working with phenomena, using driving question boards, and building toward consensus models. In the second day, we'll focus on student discourse, equity, storylines, and assessment as we continue through the unit. For reference, here's [an article from EdWeek](#) on these materials. While these OpenSciEd materials are for grades 6-8, the learning we do through them will be applicable beyond those grades.

Facilitator will be Kevin Anderson.

- WSS/NGSS Assessment Workday - CESA 11 on Feb 25

[Registration link for the event](#) - This day at CESA 11 will include some learning on effective K-12 science assessment, but the majority of the day will be networking, creating, sharing, evaluating, and enhancing formative and summative 3D science assessments. Kevin will facilitate the day and provide individual feedback on assessments, along with useful resources. We'll also discuss how this type of inquiry-based assessment mirrors effective instruction in both science and social studies.

- Workshop on GIS in the Classroom - Feb 21 in Middleton

<https://storymaps.arcgis.com/stories/3548be68ad8148daacb93c4f31a6ff96> - This workshop from the Wisconsin Land Information Association will take place on Feb 21 during their annual conference at the Madison Marriott West in Middleton, WI. It is for K-12 educators, where you will learn what GIS is and what resources are available to you. It will include training in various mapping and GIS tools and an introduction to free GIS lessons to integrate in your classroom. You'll also learn how to find and collect GIS data and how to display it to tell a story. Cost is \$40, [registration is here](#) (select the educator workshop).

Resources

- Storylines Resources - creating a coherent unit

<https://www.ngsnavigators.com/blog/QuickTipTuesday2>

- As a teacher, I sometimes found that a series of lessons in my materials felt more like a disjointed series of activities, rather than building toward being able to explain relevant phenomena. These storylines resources help with building coherence in student learning.

- Don't start the year w/ a unit on the "scientific method" - research article

<https://hechingerreport.org/a-study-on-teaching-critical-thinking-in-science/> - worthwhile article to reflect on teaching scientific thinking within units rather than a unit on the "scientific method" at the beginning of the year (based on research at the Univ of Virginia).

- Science, Arts, and Creativity - article from Inc.

<https://www.inc.com/leigh-buchanan/integral-molecular-philadelphia-biotech-artists.html> - this article describes a project where professional artists collaborated with biotech firms, leading to some creative problem solving. It made me think about how we might allow for artistic dialogue, expression, and evaluation in science and STEM courses to enhance avenues for creativity (of course, ensuring that it's not just some tag-on art project).

- Webinar Recording on National STEM Strategic Plan

<https://stemtlnet.org/theme/january2020-expertpanel> – the STEM Teacher Leadership Network convened this expert panel to discuss the national STEM Strategic Plan. It could be a useful way to reflect on your school/district STEM program and how it aligns with bigger

picture goals and effectiveness indicators.

Student Opportunities

- State Water Inquiry Project - ongoing

<https://dpi.wi.gov/inquiry> - This year DPI, the Wisconsin Science Festival, and dozens of partners from around the state are encouraging educators to engage students in a water-related inquiry project! This statewide inquiry project will continue through the next few years, with an aim of being able to share ideas and momentum for science learning across the state. This website has a core project idea, as well as other sample ideas at each grade level linked to the standards: <https://dpi.wi.gov/science/water> (scroll down). We'll be sharing pics, data and ideas at <https://siftr.org/WisconsinWater/>. There was even [a recent editorial in Cap Times](#) about this work.

- Badger State HS and Junior High Science Fairs – March 14 at Marquette

<http://bssef.org/> - Students can still submit projects for the Badger State Science and Engineering Fair at the high school and junior high level. They should submit the [student interest form](#) asap. Educators can also stop by to see what this ISEF pathway fair is all about. There are many ways for students to do innovative projects, beyond your traditional lab report.

- Recognizing Aviation and Aerospace Innovation in Science and Engineering Awards (RAISE) - for HS students

[RAISE Awards Info](#) - Have your high school students done interesting projects or research on aviation or aerospace this year? This award (for the high school division) could be a good way to recognize it. If you are interested in submitting or have additional questions, please contact Meredith Alt, WisDOT Aviation Education Program Manager (meredithl.alt@dot.wi.gov)

- Science Strikes Back! - an all ages science fair in MKE Feb 5th

[Science Strikes Back](#) - is a low-key science fair w/ projects from K-12 students and community members. Professionals representing organizations from around Milwaukee judge the projects and provide feedback, which could be particularly useful if students plan to enter it in another competition. Plus, it's great to talk sciencee! [Registration](#) is now live for anyone who is interested in submitting a project, participating as a judge or simply wants to learn more about the event. They place the emphasis on inquiry rather than perfecting the scientific process, and they find this opens the door to novice scientists as well as experienced researchers to share their discoveries in a community event fueled by curiosity and passion rather than strict academics. When: 5-8 PM Wednesday February 5, 2020, Where: 3628 West Pierce Street, Milwaukee, WI. There are awards, particularly for conservation in urban environments.

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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