



Hello Science Education Leaders:

I thought I'd send out a final newsletter for 2015 before school's out – I hope you enjoy a much deserved break! I have A LOT of resources to share – click on a link for further information. Please, let me know if you have any questions or I can support your work in any way. Note: an archive of these emails is available here: <http://dpi.wi.gov/science/social-media>

Statewide Updates

- 1) [Forward Exam](#) – details on new items and format for the state science assessment in grades 4 and 8

Opportunities for Students/Classes

- 1) [National Youth Science Camp](#) – great summer opportunity for graduating seniors
- 2) [Discovery Education 3M Young Scientist Challenge](#) – competition for students in grade 5-8
- 3) [Free field trip transportation to Aldo Leopold Nature Center](#) - Monona, WI
- 4) [Toshiba/NSTA ExploraVision](#) – contest for students in grades K-12
- 5) [EngineerGirl Essay Contest](#) – grades 3-12 boys and girls
- 6) [MIT Research Science Institute for Juniors](#) – 6 week post-Junior year summer institute
- 7) [USA Biology Olympiad](#) – premier biology competition for high school students

Resources and Professional Learning for Teachers

- 1) [Math/Science Partnership Grants](#) – looking for science projects this year!
- 2) [FabLab \(STEM\) Grants](#) – up to \$25,000 per district
- 3) [ELL-focused Science Teacher Group](#) - beginning at WSST
- 4) [Connecting Science and Literacy Instruction](#) – free WSST/DPI online Book Study Jan-Apr
- 5) [New classroom video series showing how to link science and engineering](#) – from the Engineering is Elementary creators
- 6) [Reading to Learn in Science](#) – free online course from Stanford
- 7) [AIR Implementation Planning Tool](#) – guiding work with program renewal
- 8) [Effective Science Instruction](#) – Madison elementary classroom highlighted in new NSTA video!
- 9) [Volunteer Judges needed for MS Science Olympiad](#) – at UW-Oshkosh on Feb 13th
- 10) [Wisconsin Science Education Leadership Association](#) – next meeting Feb 16th
- 11) [Presidential Awards for Excellence in Mathematics and Science Teaching](#) – know a great K-6 science teacher?

Statewide Updates

- 1) Forward Exam – <http://dpi.wi.gov/assessment/forward>

The WI Forward Exam in Science in Spring 2016 for 4th and 8th grades will each contain 40 multiple-choice questions that will look a lot like the traditional WKCE questions. One area of change compared

to prior WKCE tests is that there will also be two sets of scenario-based questions in both 4th and 8th grade. In a scenario question, students will read a technical science context passage and answer multiple choice questions about the scenario (4 per each). These scenarios and questions will connect to the science and engineering practices and may have an engineering design component. A scenario example could be: Students read a passage about ecosystems and invasive species in the Great Lakes with multiple-choice questions about food webs and biodiversity, requiring students to analyze data and use evidence to support claims. In future years, expect further science and engineering practices alignment. Beyond the WMASS, more information about these practices can be found in the National Research Council (NRC) [*Framework for K-12 Science Education*](#).

Opportunities for Students/Classes

1) National Youth Science Camp – application: <https://nysc.fluidreview.com/> information: <http://www.nysf.com/w/programs/nysc/>

This is a fabulous 4 week long, residential, all-expenses paid, summer science bonanza for graduating seniors. Those involved speak very highly of it, especially getting to know interesting people from around the country. Wisconsin can send two delegates. Applications are due by Feb 17, 2016.

2) Discovery Education 3M Young Scientist Challenge -

http://www.youngscientistchallenge.com/enter?utm_source=DiscoveryEducation

Students in grades 5-8 are asked to propose a new invention or solution to an everyday problem, and explain their solution in a one-to-two minute video. Parents/guardians must register their child. The grand prize winner receives \$25,000, though there will other finalists, and a winner from each state will receive a \$250 technology package.

3) Free field trip transportation to Aldo Leopold Nature Center (ALNC), Monona, WI –

<http://aldoleopoldnaturecenter.org>

During the month of January, you and your students can get free transportation to the Aldo Leopold Nature Center. For a list of programs, visit their website: <http://aldoleopoldnaturecenter.org/>, click on Programs, then click on School Programs. Be sure to mention this offer when you schedule.

ALNC is also looking for feedback on its programs – please, complete this brief survey if visiting this nature center in Monona may be in your purview: link <https://www.surveymonkey.com/r/39NNF22>

4) Toshiba/NSTA Exploravision - <http://www.exploravision.org/>

Student teams envision a technology 20 years from now. Categories are K-3, 4-6, 7-9, and 10-12. The extensive project write-up and presentation, which could certainly be linked to your science standards, is due Feb 1st.

5) EngineerGirl Essay Contest - <http://www.engineergirl.org/26567.aspx>

In this contest open to boys and girls, students write about a new technology and how it can improve safety, health, well-being, and/or sustainability. Due Feb 1, 2016. Grade banded 3-5, 6-8, 9-12.

6) MIT Research Science Institute for Juniors – <https://www.cee.org/apply-rsi>

During the summer after their junior year, students can participate in this prestigious summer STEM institute from June 26 to Aug 6 at MIT. The only cost is travel to get there and back. Very high academic qualifications are required.

7) USA Biology Olympiad - <https://www.usabo-trc.org/>

Registration for high school student teams and teachers for the premier biology competition in the U.S. is due January 15th.

Resources and Professional Learning for Teachers

1) Math/Science Partnership Grants - <http://tepd.dpi.wi.gov/programs/esea-title-ii-part-b>

This grant program is the largest scale professional development grant program in the state specifically for math and science teaching. This year we're hoping to get significant science applications! I can help you with ideas and give feedback on applications, but you'll need to establish a strong partnership between a district or districts and a higher education institution (can include CESAs too, though their role is limited). The website will be updated for this year soon. On March 4th in the Wisconsin Dells, we'll have a full-day conference for sharing information from current grants and supporting new grant applications.

2) FabLab Grants - <http://inwisconsin.com/community/assistance/fablabs/>

The Wisconsin Economic Development Council is offering up to \$500,000 in grants to districts to establish FabLabs. School districts are **required to contribute matching funds** such that the grant covers no more than 75 percent of the project cost in the first grant year. Selected applications will be ranked based upon curriculum, partnerships, financial need and evidence of long-range planning. The funds may be used to purchase equipment used for instructional and educational purposes by elementary, middle, junior or high school students. Applications are due Jan. 22.

3) ELL group at WSST – www.wsst.org

Do you teach English Language Learners (ELLs) or have a large population of ELLs in your school? At the WSST conference this year, on Friday, April 22nd, we'll have a special 2 hour networking session for science teachers of ELL students. We'll have some formal sharing of effective instructional ideas, though a major portion will be dedicated to creating a new resource-sharing group to help each other out in this work.

4) Science and Literacy Book Study by WSST/DPI – registration:

https://docs.google.com/forms/d/1vE3Ib5PuRZ0WKEjOB0kUt17NuNxBPjhKyw6_IRFCTC4/viewform?usp=send_form

In this inaugural WSST and DPI book study, we'll be diving into the book, *Inquiring Scientists, Inquiring Readers*. This book shares lessons and ideas for how to connect science and literacy instruction at the elementary level. It will be most relevant for grades 2-6, though others are welcome to join us. We'll have online meetings Jan 14, Feb 16, and Mar 10 from 3:30 to 4:30, and an in-person meeting at the WSST conference on April 22nd. There will be no cost to participate (in fact, WSST members can get a free book, as can PAEMST applicants – see item #11 in this email). 1-2 credits will be available through Viterbo (\$110/each).

5) New classroom video series showing how to link science and engineering –

<http://www.eie.org/engineering-elementary/eie-video-snippets>

Struggling with integrating engineering into science at the elementary level? The Museum of Science, Boston has released a series of videos to help K–12 educators understand and implement the NGSS. Created by Engineering is Elementary® (EiE®), the "EiE Video Snippets" illuminate the science and engineering practices specified in the NGSS, showing what these practices look like when young children try them in real classrooms. For each of the eight NGSS practices, the collection features a set of up to four short (1- to 2-minute) videos.

****Note: there will be a full-day training on Engineering is Elementary materials/methods at the WSST conference in April, by UW-Oshkosh professor Eric Brunsell.**

6) Reading to Learn in Science – stanford.io/1HioPQX

Free online course from Stanford! Why do so many students struggle to read and comprehend scientific texts? Most science teachers have witnessed it at least once: a student reads from a textbook or article, proceeding calmly and clearly from sentence to sentence, only to reach the period at the end of the paragraph with little comprehension of what he or she has just read. This course will build teachers' ability to authentically address this issue.

7) AIR Implementation Planning Tool -

http://www.gtcenter.org/sites/default/files/Implementation_Planning_Tool.pdf

With an emphasis on equity, this resource can help district and school leaders effectively manage implementation of new initiatives, such as NGSS or other science program improvement work (though it is not science specific).

8) Effective Science Instruction Video –

https://www.youtube.com/watch?v=Owp_YqvWNEE&feature=youtu.be –

This video documents the classroom science instruction of Molina Lozano, a 2nd grade teacher at Hawthorne Elementary School in the Madison Metropolitan School District. It includes a cameo by Emily Miller, NGSS writer and author of the highlighted NGSS-aligned lesson. Instruction happens in a bilingual classroom (Spanish/English).

9) Volunteer Judges needed for MS Science Olympiad in Oshkosh on Feb 13th

Are you interested in starting a middle school Science Olympiad team? What better way to understand the competition than to go be a judge! If you're interested in helping out, please email Samara Hamze, UW-Oshkosh STEM Outreach Center Director, at hamzes@uwosh.edu

10) Wisconsin Science Education Leadership Association (WSELA) Feb 16th

Hold the date for the next science leaders networking meeting. Location and exact topics TBD, though I'm sure high school course pathways will come up again, as will elementary science support. Not on the email list? Contact Kevin Niemi, UW-Madison WISCIENCE, kjniemi@wisc.edu.

11) Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST)–

www.paemst.org

Know a great K-6 science or STEM teacher? Nominate them for the PAEMST, the highest national award for math and science teachers in the country. It's an in-depth learning process, and we have mentors to guide you through it. You can also nominate yourself. Teachers who begin an application receive a free copy of the WSST/DPI Book Study book, *Inquiring Scientists, Inquiring Readers*.

Happy Holidays!
Kevin Anderson



Kevin J. B. Anderson, Ph.D., NBCT
Wisconsin Department of Public Instruction
Science Education Consultant
Content and Learning Team
(608) 266-3319
@wisDPIscience

“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