

**Science Update
Aug 2016**

This periodic update from the [Minn. Dept. of Education](#) (MDE) is sent to a few email lists, including the [Minn. Science Teachers Assn.](#) (MnSTA) and district/organization contacts. We encourage you to forward this to other teachers and science leaders. See MDE contacts at the end of this document.

Note: MDE does not endorse any resource or event that is not conducted by MDE.

*** indicates an item that was not in the previous edition**



NSTA Conference coming to Minn.

News

* Presidential Awards Announced

The White House announced the Presidential Awards for Excellence in Mathematics and Science Teaching from the last two cycles. There will soon be an announcement of their reception at the White House and other celebratory events in Washington DC. The Minnesota science awardees are:

- Elementary: Frances Stang, O.H. Anderson Elementary School, Mahtomedi
- Secondary: Lisa Houdek, Central High School, St. Paul



Frances Stang

We also announce the Minnesota science finalists for 2016. Their applications were forwarded to the National Science Foundation for judging for the national award.

- Jill Jensen, Glacial Hills Elementary School, Eagan
- Jim Schrankler, St. Anthony Park Elementary School, St. Paul

Meet them at the MnSTA reception at the NSTA Conference on Oct. 27th.



Lisa Houdek

*STEM on a Stick at the State Fair, August 25



Opening day of the state fair is STEM Day at the Fair, a celebration of hands-on STEM and engaging stage performance in Carousel Park, near the ramp to the Grandstand. Nearly 30 exhibitors will present hands-on STEM-based challenges, robots, rockets and even an F-4 fighter cockpit. The stage shows feature large-scale demonstrations from the Physics Force, the Flying Gizmo Show, the Raptor Center and other groups. The Presidential Award finalists will also be recognized. For information go to the [SciMathMN website](#).

MDE Website is reorganized

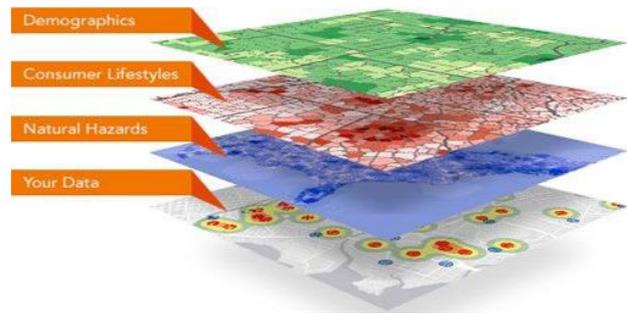
Many of the pages you may have accessed are now moved. Add the following bookmarks for the new locations of these science-related pages:

[Science Content Page](#), [MCA Testing](#), [Test Specifications](#), [MCA Item Samplers](#), [Licensing](#), [Green Ribbon Schools Award](#), [Geographic Information Systems \(GIS\)](#), [School Technology](#),

Teacher Events and Workshops

* Geographic Information Systems Educator Day II, Oct. 26, Duluth

The organization of statewide GIS professionals is inviting teachers to an Educators day at their conference at the Duluth Convention Center from 9 am – 4:30 pm. Teachers will learn about this online mapping resource ([ArcGIS Online](#)) that is available free to all schools. This FREE event (including lunch and snacks) will include sessions presented by teachers and professionals for both beginning and advanced users. The schedule provides opportunities to collaborate with other teachers and GIS professionals on projects for the classroom. CEUs will be available for teachers and administrators. Early registrants may get sub costs covered. For more information and registration, [click here](#).



We have the great opportunity to host one of three regional conferences that NSTA holds in the fall. Join 2000 science educators to hear national level presenters and grab resources at a large exhibition hall. Learn about the hottest topics in science education and network with like-minded educators. Here are examples of sessions in the three strands

Teaching Science in a Connected World

- NASA Astrobiology: The Search for Life Beyond Earth
- Direct Measurement Video for Science Inquiry
- Using News Media to Learn About Science in the Connected Science Classroom
- Evolution for Educators

STEMify Instruction through Collaboration across the Curriculum

- If They Make It, They Will Learn: The Maker Movement and K–12 STEM
- Laser Cutters + 3D Printers + Vinyl Cutters = Bolstered K–3 Math Curriculum
- Incorporating STEM Across the Curriculum Through Inquiry
- Engineering from Every Angle: Engineers as Proficient in Emotional Intelligence as Well as Analytical Skills

Celebrating Elementary Science and Literacy Connections

- Three New Lessons for Early Childhood STEM Educators: Engineering (as) an Answer to a Need
- Whoosh, Crack, Slide, and Crash Your Way into a Grade 5 Earth Science Unit
- Understanding Seed Dispersal with Engineering Practices and Tradebooks
- Disciplinary Literacy and Reading in the Content Area of Science: Yes! You Can Do Both as an Elementary Teacher!

Download [this letter](#) and give it to your principal to support your request for conference attendance.

Membership in MnSTA qualifies you for the member rate for the conference.

Register by September 16 for a \$45 discount, by Oct. 7 for a \$25 discount.

Volunteering for the conference provides a 50% discount for 8 hours work and 100% for 16 hours work. Go to [this website](#) for details.



* Ecology Professional Development in exotic sites

Ecology Project International (EPI), an international education & conservation nonprofit, has 8-day professional development opportunities in Costa Rica, Baja California Sur, and Yellowstone National Park. Applications for a 2017 fellowship to cover some of the cost of the program will be accepted until September 1, 2016. To review the programs' focus areas, watch a promo video, and submit an application go to the [program website](#).

STEM Certificate Program, Bethel University

Bethel University has designed a 10-credite STEM Certificate program for elementary teachers. The program will develop skills in teaching STEM and help you prepare young students for

future STEM learning. Learn to engage your classroom through creative hands-on learning activities and become a teacher-leader in STEM education. Learn more information [here](#).

Bakken Teacher Academy 2016-2017: Science Learning from the Works of Scientists

Join fellow secondary science teachers to learn how to use your scientific thinking skills to investigate scientific text. Includes a summer institute and school-year workshops. Four graduate credits from Hamline University, stipend, and materials provided.



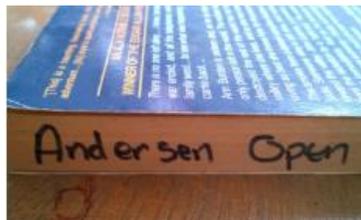
Please see <https://thebakken.org/teacher-academy> for more information and to register.

Environmental Education Courses

Hamline University offers a Master's Degree in Environmental Education! This program consists of face to face and online field study courses in environmental systems, pedagogy and connecting environmental education to STEM. This program is great for classroom educators, science teachers, curriculum specialists, and nonformal educators. Enroll and start any time. For more information visit [this website](#).

Teacher and School Awards and Opportunities

*** Send your used Science Books to Schools in Africa**



When John Olson went to Liberia*, he found that library of his school had many books with Minnesota school stamps. He planned his biology lessons with a textbook from Verndale High School and read a novel from Anderson Open School. These had been sent to Africa by a St. Paul based organization, Books for Africa (BFA). John was able to arrange to have a 40 foot container of books shipped to Liberia for distribution by Peace Corps volunteers.

BFA collects, ships and distributes books to students of all ages in Africa. They are the largest shipper of donated text and library books to the African continent. They collect all types of books appropriate for African students. High school and college textbooks are especially needed. As a general guideline, books should be less than ten years old. You can drop off books at their St. Paul warehouse or ship them to the Atlanta workshop. For details, go to the [BFA Donate Books](#) page. Help to end the book drought in African schools

*To learn more about John's Peace Corps activities in Liberia, you can access his journal at [this link](#).

* Chemical Disposal

The Chemical Safety Day Program is again being offered by the University of Minnesota. The program is designed to assist schools and colleges in disposing of unwanted chemicals and hazardous waste from science, art, industrial technology, and maintenance departments. The program comes to the school site for pick-up. [Click here](#) for Information about the program.

School Garden Grants for Schools

The Jeffers Foundation is now offering \$500.00 School garden Grants for the 2016-17 school year. To download an application form, go to this [Jeffers Foundation site](#) and click on “Garden Grant Opportunities.”



The Eat, Learn, Live, and Grow Grant supports schools that want to implement curricula that teaches about nutrition through edible gardening. For more information [click here](#). The deadline is August 31st.

*Farm to School Grant Program

This MN Dept. of Agriculture program supports Minnesota school districts and child care providers in the processing of Minnesota agricultural products. Grants are intended to:

- Create plans that identifies specific equipment, tools, training or policies needed by school districts and child care providers;
- Purchase equipment to allow schools and child care providers to purchase, prepare and serve more Minnesota grown and raised food.

For more information go to [this MDA website](#). Applications are due Nov. 2.



*Learning with Trees Grant

The Learning with Trees grant program partners with several Minnesota schools to educate youth about the importance of trees through hands-on environmental education each year. Schools come away with new trees for their school grounds, a usable outdoor classroom, and lessons for students about trees and the environment. This program is a lot of fun and has been a valuable learning experience for thousands of students and teachers across the state since 1992. It is FREE for schools to participate and it is valued at over \$10,000. For more information go to this [Tree Trust website](#).

Student Awards, Competitions and Programs

* Teaching the Science of the Olympics

The MnSTA website has collected several resources on the science going on in the Rio Olympics. [Click here](#) to check out their links.

* Scientists in the Classroom

The Scientists in the Classroom program is a platform for teachers and scientists to collaborate as colleagues, peers and partners in the scientific enterprise to further science education. While the scientist can act as a resource for the teacher and students, the teacher and students can, in turn, help the scientist better understand how to convey their work to a larger, more diverse, and often skeptical audience. By connecting early career scientists with educators, we hope to both enrich middle and high school students' climate change and evolution education, and to give scientists a better understanding of the challenges faced when teaching these often socially contentious and misunderstood topics. For information go to [this National Center for Science Education website](#).



Minnesota Competitions and Programs

Many competitions, out-of-school programs and field trip opportunities are listed in the [Reach for the Stars Catalog of Programs and Activities](#).

MDE Contacts:

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[John Olson](#), Science Content Specialist

[Doug Paulson](#), STEM Integration Specialist

[Jim Wood](#), Science Assessment Specialist

Send submissions for the Science Update to John Olson

Other Minnesota Links:

[Minn. Dept. of Education Science Page](#)

[Minn. Science Teachers Association](#)

[Frameworks for MN Science and Mathematics Standards](#)

[Get – STEM](#) Connections between schools and businesses

[Mn-STEM](#) STEM programs and resources for families, schools and community

[Sharing Environmental Education Knowledge](#) environmental education resources

[Minnesota Academy of Science](#): Science Fair, Science Bowl and other competitions

[Mn DNR Education website](#): Curriculum, professional development, posters, etc.