



Winter 2017 Newsletter

MINNESOTA **STEM** NETWORK

POWERING STEM LEARNING AND INNOVATION ACROSS MINNESOTA

AN INITIATIVE OF **SCIMATH^{MN}**



Science - Technology - Engineering - Mathematics

SciMathMN advocates for effective, engaging, and rigorous STEM educational opportunities for all Minnesota students, preparing them for citizenship, career, and college.

Major initiatives include policymaker briefings, the [STEM Teacher Center](#) online resource and the Minnesota STEM Network.

The Minnesota STEM Network

is an outreach initiative of SciMathMN which

- Increases engagement in education
- Builds community among stakeholders
- Promotes STEM
- shares practices and resources and
- Improves communications

Learn more about the [Minnesota STEM Network](#)

Calendar Highlights

Letter from the SciMathMN Executive Director

As this newsletter shows this is a busy time for STEM education advocates. A new Presidential Administration in Washington DC while federal ESSA funding is not yet determined along with a new legislature in Minnesota raises lots of questions and opportunities for engagement.

As advocates we know the value of strong STEM opportunities for all Minnesota students. It's our job then to communicate that importance to our elected officials on both the federal and state levels. Funding is of course key as is the policy decisions that the state is developing for their ESSA implementation plan. I urge you to become a part of the deliberations on both levels, and with your local school district.

The calendar highlights that accompanies this newsletter includes a number of opportunities to collaborate and network with colleagues from across the state. I hope you can take advantage of some of the opportunities. You can also save the dates of November 29-30, 2017 for the second SciMathMN and Ignite Afterschool STEM education conference. The conference will bring together the full breadth of the STEM community to learn, exchange, plan, and be inspired. There will be much more about the conference soon but in the meantime please block out those dates on your calendar.

Jim Davnie
Executive Director
SciMathMN



ACT Report Quantifies the Value of STEM Coursework

Minnesota graduates who took advanced science and math courses show higher levels of achievement on the recent [ACT Report](#):

- 32,524 students (51%) who took physics earned significantly higher average ACT science scores and were more likely to meet or surpass the ACT College Readiness Benchmark in science than those who did not.

[Earth Science Teacher Conference \(MESTA\)](#)

February 3
Plymouth, MN

[MCTM Spring Conference](#)

April 28-29
DECC Convention
Center, Duluth, MN

[MTEEA Conference](#)

September 29-30

[MnSTA Science Teachers Conference](#)

November 10-11
St. Cloud, MN

Support

SciMathMN



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Post announcements on [MN STEM Network group](#) on



Communicating the Value of STEM to the Public

The Minnesota High Tech Association has developed these infographics for sharing with the general public.

[Why STEM](#)

- Students who took a fourth year of math in high school (67%), regardless of the course, significantly outperformed those students who did not, in both ACT mathematics scores and in Benchmark attainment.
- 23% of student met the STEM Benchmark of 26, which is above the national rate of 20%.

Read more at http://www.act.org/content/dam/act/unsecured/documents/STEM2016_24_Minnesota.pdf

Every Student Succeeds Act (ESSA) - The New Education Law

"With this bill, we reaffirm that fundamentally American ideal—that every child, regardless of race, income, background, the zip code where they live, deserves the chance to make of their lives what they will." — President Barack Obama

The Every Student Succeeds Act (ESSA) was signed by President Obama on December 10, 2015, and represents good news for our nation's schools. This bipartisan measure reauthorizes the 50-year-old Elementary and Secondary Education Act (ESEA), the nation's national education law and longstanding commitment to equal opportunity for all students...

Read more at <http://www2.ed.gov/policy/elsec/leg/essa/index.html>

Minnesota will submit State Plan in September 2017

Last month, the U.S. Department of Education (USED) released [final regulations](#) on accountability, state plans and data reporting for the implementation of the Every Student Succeeds Act that push back several key dates for implementation. These changes impact the development of Minnesota's state plan under the law. Most notably is that states have until the 2018-19 school year to begin identifying schools for support and improvement. The dates for submitting state plans for approval have also changed. We will prepare our draft plan for the September 2017 submission date, which will allow for additional stakeholder engagement and community outreach. USED has created a helpful [summary of the final regulations](#). Information about ongoing engagement around the development of our state plan will be available on our [ESSA webpage](#).

Read more at <https://content.govdelivery.com/accounts/MNMDE/bulletins/1799e06?reqfrom=share>

New State Toolkit for Afterschool and Informal STEM Advocates

The STEM Education Coalition Policy Forum and the Afterschool Alliance have collaborated to develop a toolkit of materials to help advocates make the case at the state and local level for science, technology, engineering, and mathematics education to be a top priority and to integrate afterschool and informal learning strategies into overall plans to improve STEM learning.

See the toolkit [here](#).

Read more at <http://www.stemedcoalition.org/2016/10/26/new-state-toolkit-for-afterschool-and-informal-stem-advocates/>

MnSTA Adopts Position Statement on Elementary Science

The [Minnesota Science Teachers Association \(MnSTA\)](#) strongly supports the concept that science must be a basic component in the daily curriculum of every elementary school student at every grade level. In the last decade, numerous reports have been published calling for reform in education. Each report has highlighted the importance of early experiences in science to allow students to develop lifelong curiosity for the natural world and problem-solving skills that empower them to participate in an increasingly scientific and technological world.

In their recently released position statement on Elementary Science, MnSTA recommends that every

elementary student in Minnesota should receive the equivalent of at least 3 hours of science instruction per week.

See the [full position statement](#).

Scholarships

The [University of St. Thomas Center for Engineering Education](#) will be awarding graduate course scholarships for summer 2017 courses. More information at <http://www.stthomas.edu/cee/>

ZOOMS Summer Workshops for Educators

Minnesota Zoo

Three-Day Institute

August 7 -9, 2017

Time: 9:00am - 3:00pm

Grades: K-12 Educators

Fee: \$50/person (Includes breakfast and lunch)

CEUs: Eighteen (18) available

This institute will engage teachers in utilizing animals and the Zoo as a tool to integrate engineering concepts into their curriculum, based on MN State Science Standards. Sessions will focus on engineering BY animals, engineering FROM animals, and engineering FOR animals through presentations, behind-the-scenes experiences, and activities that can be taken back to the classroom.

ZooMS Institute 2.0

August 10, 2017

Time: 9:00am - 3:00pm

Grades: K-12 Educators

Fee: \$25/person (Includes breakfast and lunch)

CEUs: Six (6) available

ZooMS 2.0 will expand attendees' zoo knowledge of authentic STEM work with presentations from Minnesota Zoo field biologists and conservationists. Attendees will engage in STEM integrated lessons and become better equipped to challenge students to be engineers for conservation.

2017-18 ZooMS Design Challenge

The design challenge for 2017-18 and the FREE design challenge workshop date this fall will be announced in May 2017. For more information, visit www.mnzoo.org/STEM or email questions to STEM@mnzoo.org.

Infographic: Breaking Barriers to Math Success for English Language Learners (MIND Research Institute)

Math has been called the universal language. More than any other subject, math skills are the top predictor for student success. But with lengthy word problems and other language-heavy instructional methods, how can English language learners (ELLs) have the same access to this essential and universal language? Author and Stanford Professor of Mathematics Education Jo Boaler provides research on how teaching math through visual representations improves student math performance significantly...

Read more at <http://blog.mindresearch.org/blog/infographic-ell-math-success>

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