

NEWS JOURNAL

A publication of the Montana Science Teachers Association

Winter 2019



Submitting articles to MSTA

When submitting articles, please adhere to the following criteria:

- Electronic submissions are preferred in Microsoft Word format. These can be attached to your email message.
- If in doubt about format, submit your work in .rtf format.
- If truly in doubt, paste your submission in the body of the email message.
- Lab activities may be mailed. Please cite any references.

Judy Boyle, Editor Tentative Submission/Publication Dates

sagemountaintrail@gmail.com August/September (Fall Issue)
December/January (Winter Issue)
February/March (Early Spring Issue)
April /May (Late Spring Issue)

Happy New Year, everyone! I hope you are feeling rested and ready for the second half of the school year. There are many wonderful events occurring in 2019 that are included in this news journal. It was wonderful to see so many of you at the Montana Educators Conference in Billings. The 2019 Educator Conference in Belgrade is October 17 and 18, 2019. Please think about presenting at this conference. You have so much to share with other Montana educators, and this is a great opportunity to spread your knowledge and expertise. Jami Wood will be sending a call to present email later this year so keep an eye out for it. There are also opportunities for you to present at the many conferences NSTA will offer this year. MSTA has a new joint membership with NSTA which can be found on the membership page of NSTA. MSTA is providing webinars for our members, and the next webinar will be January 30th at 7:30 pm so please mark your calendars!

Thank you for providing exceptional science education to our Montana children.

Judy Boyle, MSTA President

**NSTA National Conference on Science Education
April 11-14th in St. Louis, Missouri
Keynote speaker is
Former NASA Astronaut Mike Kelly**

Apollo Next Giant Leap Student Challenge

NASA is celebrating the 50th anniversary of the Apollo 11 mission to the Moon, and NASA has planned a competition for middle and high school students. The MLC is looking for formal and informal educators to train in programming and lead groups of middle and high schools students in a lunar landing mock-up competition using drones and Lego rovers. A statewide competition will be held at the Montana Learning Center at Canyon Ferry Lake in July 2019. Registration details will be coming in January 2019. Contact MLC's Executive Director Ryan Hannahoe (MontanaLearningCenter@gmail.com) for more information about this exciting opportunity.



EVENTS

March 7 – 9th-10th grade Science Fair – MT Tech, Butte

March 8 – Butte Tech Symposium – MT. Tech, Butte

March 12 – 5th – 8th grade Science Fair – MT Tech, Butte

April 3 – 6 – NCTM National Conference, San Diego

April 11-14 – NSTA National Conference, St. Louis.

July 11 – 13 – Earth Science Field Experience – YBRA, Red Lodge

August 6 – 7 – 2nd Annual MT., Science Summer Institute - Bozeman

Montana Learning Center

The Montana Learning Center at Canyon Ferry Lake is hiring camp instructors and camp counselors

The Montana Learning Center at Canyon Ferry Lake is hiring camp instructors and camp counselors for their '2019 Summer Learning Camps for Kids.'

<https://goo.gl/forms/sc75H48ri4a65pkr2>

They offer competitive pay, room and board at the MLC during camps, a beautiful place to work, and an award-winning staff to work with. Montana teachers who work at camp can earn up to 60 OPI Renewal Units.

Please direct any questions to MontanaLearningCenter@gmail.com. Apply today!

Montana Aerospace Scholars is Seeking Teachers. Apply today!

The Montana Aerospace Scholars program is seeking STEM teachers to evaluate online coursework and participate as an academic facilitator during the summer experience at the Montana Learning Center at Canyon Ferry Lake for our sophomore program.

In addition to being exposed to university level curriculum and content, teachers will also have opportunities to interact with professionals working in STEM fields, tour engineering and research facilities that are not open to the general public, work with highly engaged and motivated students, and learn new techniques for demonstrating STEM concepts in their classrooms.

Up to \$850 in stipends and 30 Montana OPI Renewal Units are available.

Teacher applications are due February 15th and can be found at:

<https://form.jotform.com/83336805095158>

For more information please email WAS@museumofflight.org or call 206-764-5866.



Montana Aerospace Scholars Program Seeks High School Sophomores

In collaboration with NASA, Museum of Flight, and the University of Washington, registration for the Montana Aerospace Scholars program is now open!

Apply for this free dual-phase program that focuses on Earth & Space Science. This experience exposes students to the opportunity to work face-to-face with professional engineers, NASA scientists, university students and educators.

Students who successfully complete the online course will be invited to participate in an all-expenses paid STEM-focused experience at the Montana Learning Center at Canyon Ferry Lake near Helena.

For more information, visit

https://www.museumofflight.org/Education/Explore-programs/Montana-Aerospace-Scholars?fbclid=IwAR15KCFcwGDPQqt5keGVQpiCnyFIT_ob3r3AFxOtD_z6tlGgnGNfBMjuaB4

Student applications are due February 15th.

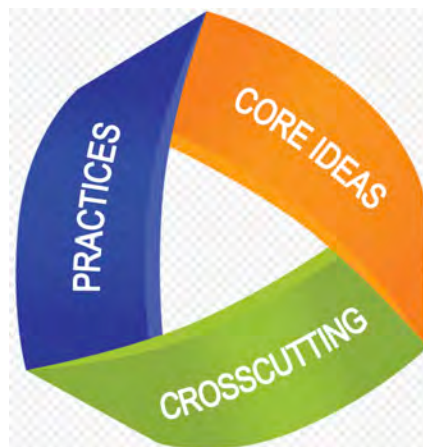
For more information, please email WAS@museumofflight.org or call (206) 764-5866.

NEW Course Opportunities! [Teacher Learning Hub](#)

Facilitated: 3D in your Classroom Course: 6 weeks enrollment is now open (Christine O'Shea Facilitator)
Runs January 20 through March 2nd 2019 *We only had one participant in the fall, and poor Christine had to try to teach it!*

Facilitated: Crosscutting Concepts: Making Learning Real Through the Big Picture Course: 4 weeks
(enrollment will open soon), Runs February 4th through March 1, 2019

Self-paced: Watershed Education 3-5: Place-based Education



Southwest Montana School Services (SWMSS)

and

the MSU Science Math Resource Center (SMRC)

invite you to submit a proposal to present at our *2nd Annual Science Summer Institute: Connecting Classrooms to Careers*, August 6-7, 2019 at Montana State University in Bozeman, MT. This conference is designed for educators and administrators at all grade levels, PreK-12, as well as for out-of-school time professionals and pre-service teachers seeking to deepen their expertise Science teaching and learning, STEM education, and to collaborate and learn with and from educators from around the state and beyond.

Participants last year raved about the high-quality content, resources, and networking opportunities. Registration for the event will open in March.

This will be a great opportunity to network with teachers, administrators, curriculum leaders, and other science education professionals from across the state. We are in search of presentations regarding best practices in 3-Dimensional/STEM teaching and learning aligned with NGSS, MT Science Content Standards, and our theme of "Connecting Classrooms to Careers" to help make learning relevant and authentic, and to broaden students' view of applications of Science in their lives.

Please complete the information in this [presenter proposal form](https://docs.google.com/forms/d/e/1FAIpQLScYUI-ZfOXjWbrsB2T97qXhtD_Rn50oj28PBcyQiDV_gsQ_Yq/viewform) (https://docs.google.com/forms/d/e/1FAIpQLScYUI-ZfOXjWbrsB2T97qXhtD_Rn50oj28PBcyQiDV_gsQ_Yq/viewform) and click "submit" when complete. Submissions will be accepted through February 1, 2019. After all presentation proposals have been reviewed, we will notify you of the status of your proposal.

As a thank you to our selected presenters, your registration fees for the full event will be waived. Thank you for your consideration!

p.s. We also have a form to complete if you'd like to receive updates about the institute - such as when registration is up and what sessions will be offered

2019 Science Conference

Updates (https://docs.google.com/forms/d/e/1FAIpQLSfznOxsjqCGegl3MBU9GOdwnITEN6uQ-Pnnu8EwUGb_NUzXgA/viewform)

Share Your Ideas!

NSTA's CONFERENCES ON SCIENCE EDUCATION

Have an idea for an inspiring presentation or workshop on science or STEM education? Submit a session proposal today for...

8th Annual STEM Forum & Expo, *hosted by NSTA*

San Francisco, CA July 24–26 (2019)

Proposal Deadline:
12/3/2018

2019 Area Conferences

Salt Lake City, UT October 24–26

Cincinnati, OH November 14–16

Seattle, WA December 12–14

Proposal Deadline:
1/15/2019

2020 National Conference

Boston, MA April 2–5

Proposal Deadline:
4/15/2019

To submit a proposal, visit

www.nsta.org/conferenceproposals

NSTA National
Science
Teachers
Association

Case Study Inquiry Strategy

Perhaps you've been involved as a student working through a case study or maybe you've used them in your teaching or perhaps you've never heard the term. Regardless, here's an inquiry strategy that creates a great opportunity for your students to engage in a mysterious, problem-based, real-life scenario that needs a solution. The NGSS science & engineering practices can ALL be used to solve the case.

[The National Center for Case Study in Science has great resources.](#)

Once you see how a case study is created and used in the classroom, you can create your own that are more specific to you and your students.

Examples of case study ideas other teachers have brainstormed include the following:

Watershed issues

Flooding

Cyanobacteria blooms in lakes/ponds

Earthquakes

Antibiotic resistance in bacteria

Elk and brucellosis

Reintroduction of wolves

Local effects of climate change

Ecological effects of dams



MSTA Regions

