

## February 2006 Eblast

Hi Everyone:

Welcome to February! Hopefully everyone is having a great school year. We have another eblast full of new announcements, events and happenings and thanks for passing these on to your fellow colleagues at your school.

Upcoming events in Montana Math and Science Include:

Feb. 3 – Paper Car Challenge – Bozeman

March 4 & 5 – eMSS conference - Bozeman

March 17 & 18 – Science Expo - Billings

March 19 – 21 – State Science Fair - Missoula

March 23 – 25 – T-3 Conference – Canyon Ferry

April 6 – 9 – NSTA National Conference – Anaheim, CA

April 15 – Expanding your Horizons Workshop – Bozeman

June 12 – 15 – Toying Around with Skimmers, Gliders, and Gears Workshop – Canyon Ferry.

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1. Expanding Your Horizons

During April (April 15) each year, the Burns Center and MSU in Bozeman sponsor "Expanding Your Horizons" workshops. This is for students in grades 6,7 & 8th grade and it features hands-on workshops. It's main focus is to encourage young women in science and math courses (so please pass this info on to your math teachers), however boys can attend the workshops. You might contact the Burns Center and have them send you some brochures that you can pass out to interested students. Contact by phone (406) 994-6683 or email [outreach@montana.edu](mailto:outreach@montana.edu)

2. Chemistry Scholarships Available

The American Chemical Society is currently receiving applications for scholarships from students who plan to attend college and pursue degrees in the chemical sciences. Just the fact that you as a teacher might recognize some of your top science students, might be worth your time to do. You can access information from the ACS website at <http://chemistry.org/scholars>. The Deadline is March 1 for these applications. Go ahead and get some information and pass it out to your top science students.

### 3. Using Music in Science

Howard Gardner explored the idea of multiple intelligence in which student's dominate intelligence might be something other than Verbal-Linguistic or Math-Logic that we commonly assess in school. One intelligence is Musical and many of you have heard of songs being placed to science lyrics. Musician Chemistry teacher Mark Rosengarten has composed a number of songs with a chemistry theme. One might listen to "Rock Me Avogadro" that cements the link between ideal gas behavior, Avogadro's hypothesis and the gas laws. "Acids and Bases" gives the students a musical Venn diagram of acids and bases, with the catchy refrain "Acids and bases, in life you have a place...acids have a hydrogen, hydroxide for a base." You can check out all his material at <http://www.markrosengarten.com>. Regardless of the grade that you teach, you might wish to incorporate some music into some of your lessons. Challenge students to come up with songs that illustrate and teach some of the science concepts that you are teaching.

### 4. HP Technology for Teaching Grant

Hewlett-Packard will award grants of up to \$8 million in cash and technology that are designed to facilitate innovative programs teaching with mobile technology in classrooms around the country. Grant applications are due by February 15. <http://email.e-mailnetworks.com/ct/ct.php?t=1138771&c=645734314&m=m&type=1>>[grants.hp.com/us/programs/tech\\_teaching/index.html](http://grants.hp.com/us/programs/tech_teaching/index.html)

### 5. 2006 Science Workshops for Educators

These interactive one-week workshops are lead by faculty at Penn State. Middle and high school educators can participate in this 2-graduate credit course. The workshop website is <http://teachscience.psu.edu/>

Grants from the Pennsylvania Space Grant Consortium and NASA will provide all participants with lodging allowance, reimbursements for travel costs up to \$100, breakfast in the dining commons, and an allotment for lunches and dinners.

Tuition subsidies are available for ALL workshops on a competitive basis. The tuition subsidies are need-based and assessed on a first-come, first-served basis.

Workshops for 2006 include topics like Smart Sensors, Weather Workshops, Solar System to the Stars, Origins of the Cosmos and Life in Extreme Environments.

For more information about the program and applications see the program website:

<http://teachscience.psu.edu/>. For more information about program content, contact

Angela Phelps at 814-863-3608 or e-mail at [teachscience@psu.edu](mailto:teachscience@psu.edu). For more

information about applications and accommodations, contact Lorene Stitzer at 814-865-2535 or e-mail at [spacegrant@psu.edu](mailto:spacegrant@psu.edu).

## 6. Astrobiology Summer Science Experience for Teachers (ASSET)

The third annual ASSET will be held at San Francisco State University, June 14 - 19. This summer institute for high school teachers will be intense and exciting, interactive and content rich, with presentations by leading astrobiology researchers from the SETI Institute, NASA, and the California Academy of Sciences. Scientists will share the latest in astrobiology research on the origin of life on Earth, the extreme conditions in which life exists, Mars, the formation of planetary systems around Sun-like stars, and the search for life in the universe. Participants receive the entire Voyages Through Time (VTT) curriculum and complementary astrobiology materials, for use in their classrooms. VTT is a standards-based integrated high school science curriculum, delivered on CD-ROMS. Curriculum, travel, room and board expenses are grant funded. Applications will be accepted January 16 through March 17. Visit <http://www.seti.org/ASSET> for application and details.

## 7. More Science Websites

We have many teachers who appreciate the listing of some science websites (thanks Sharla Dowd for sending these websites our way). Some sites you may have use for in your class include:

The Reconstructors Solve Medical Mysteries - Center for Technology in Teaching and Learning, Rice University. Students have three problem-based adventure games to choose from that engage the player in the role of scientist, historian, and detective. The knowledge gained from each mission will help in understanding how infectious diseases are spread. <http://medmyst.rice.edu/>

For those interested in geologic time one can use a drag tool, to move around the span of the different geological eons, eras, periods, and epochs in a direct fashion. Clicking on each of the icons within each division of time brings up a brief overview of each segment, along with a map of each period.

<http://www.nmnh.si.edu/paleo/geotime/main/index.html>

From the American Museum of Natural History comes Infection Detection Protection. Allow your students a fun, interactive trip through topics such "Meet the Microbes" and "How Lou Got the Flu." <http://www.amnh.org/nationalcenter/infection/index.html>

For the astronomy lessons, check out Animation Slide Show on meteor showers plus some tips are included how to view these meteor showers. The web site is [http://www.msnbc.com/modules/meteor/meteors\\_dw.swf](http://www.msnbc.com/modules/meteor/meteors_dw.swf)

While you're looking at astronomy you might be interested in the 88 constellations. At <http://www.dibonsmith.com/constel.html>. you find some information.

CDC, Centers for Disease Control and Prevention- This website offers a comprehensive approach to the subject of fighting disease as well as overall wellness. Students can play interactive games covering issues like genes and heredity, physical fitness, disease prevention, and seeing the truth behind deceptive ads. Check this out at <http://www.bam.gov/index.html>

## 8. Teacher at Sea

Are you or your colleagues interested in gaining first-hand research experience on a government ocean research vessel?

If so, you might explore the opportunities offered by the National Ocean and Atmospheric Administration's (NOAA) Teacher at Sea program, now accepting applications until February 28, 2006. The mission of NOAA's Teacher at Sea program is to give teachers a clearer insight into our ocean planet and a greater understanding of maritime work and studies, and to foster an interdisciplinary educational experience that provides a unique environment for learning and teaching. The Teacher at Sea Program accepts applications from currently employed K-16 teachers.

Teachers may select a cruise aboard one of NOAA's 18 ships, of which there are three main types. Fisheries research vessels perform biological and physical science studies in support of fisheries research. Oceanographic and coastal research vessels perform physical science studies in support of physical oceanography, atmospheric studies, and bathymetric mapping. And hydrographic survey vessels scan the coastal sea floor with side-scan sonar and sophisticated bottom sounding systems to locate submerged obstructions and navigational hazards for the creation or update of the nation's nautical charts. Teachers can expect to be at sea anywhere from one week to a month. Most teachers take advantage of cruises offered during the summer, but cruises take place throughout year. All necessary travel costs are paid for by the NOAA Teacher at Sea Program. While airfare is paid for upfront, and by the government, all other necessary travel costs are reimbursed.

For more information please visit their Web site at:

<http://teacheratsea.noaa.gov/index.html>

## 9. Math/Science Leadership Conference a Success

Once again, the Math/ Science Leadership Conference was a sold out success. Karen Miller, building on last year's conference on "A Framework for Understanding Poverty," presented hands-on activities to help struggling students. The basis for these activities, which help all students, was developed by Ruby Payne. Specifically, Karen used hands-on, visual mental models to discuss the What (vocabulary and content), the Why (connection to the discipline) and the How (instructional plans and activities for the teacher as well as processes for the student) of developing effective lesson designs. Many of the ideas presented are helpful to a variety of students--be sure to visit with MSTA members who were able to attend the conference to learn about these ideas.

## 10. Presenting at MEA Next Year

We need you to present at MEA next year. You've got many great ideas and unique presentations, and we'd love to learn from you. The advantages for you are the opportunity to network on a higher level. When you present people tend to come up and visit with you, and you tend to gain even more information. This is also a good time to encourage other experienced teachers at your school to present. You can obtain an application from [www.mea-mft.org/edcon](http://www.mea-mft.org/edcon). The conference this year is held in Billings Oct. 20 – 21.

### 11. Science Expo

This is a Regional Middle School Science Bowl with the winner going on to a National competition in Denver. Teams compete in a tournament-style academic competition combined with a hydrogen fuel cell car race (they supply the car). The event takes place in Billings on March 17th and 18th and it's limited to ten teams so sign up now. The deadline is Feb. 10 so contact the Regional Science Bowl Coordinator, Rick Jones (rmjones@montana.edu, 406 – 690-3927) and see if there are any spots left.

### 12. Don't Forget the T3 Conference.

Don't forget about the T 3 conference at Montana Learning Center 24-25 March. There will be science presenters including Todd Morstein for high school and Barb Anderson for elementary. Check out information and download the registration form from: <http://www.montanalearning.org/>. This would be a good conference to take people from your school too.

### 13. What To Do in Winter With your Class: Try Mammal Tracks

Now that it's cold and the deciduous trees are bare, getting outside to observe nature can seem more trouble than it,s worth. But this quiet season conceals a lot of activity. After a snowfall some of that activity is revealed to the sharp-eyed observer.

Many mammals are nocturnal and hard to spot, but a fresh coat of snow on the ground creates perfect conditions for documenting their movements. Tracks can be found just about everywhere, once you start looking.

Take a couple of moments to observe: you have a great chance to find out what your local animal population has been up to.

A great web site to begin this process is:

<http://www.firsthandlearning.org/tracks>

Have your students examine the photographs of mystery tracks. Can they decipher what is happening?

### 14. Meet your Fellow Teachers in Anaheim

For those attending the NSTA conference in Anaheim, plan a couple of rendezvous times with your fellow Montana Teachers. The first is a free breakfast sponsored by the folks that give you this eblast – Building a Presence in Science. It's being held on Friday April 7 beginning at 8 AM in the Grand Salon F in the Anaheim Marriott. This is an event you must pre register for (it' FREE) so go to <http://ecommerce.nsta.org/bap/events.asp> and sign up. All the MT folks share a table and it's a good place to have breakfast plus say hello to everyone.

The second event is on April 7 from 4:30 – 5:30 PM is a get together for our Montana teachers. Stop by the Hilton Anaheim in the Captain room, have a drink and snack and say Hi to your follow teachers.