

Hi Everyone:

Welcome to May! Thanks for passing this information to other teachers of science in your building. We appreciate this work, and look forward to hearing any information you might have to pass on in future eblasts. It is getting near the end of the year, and we don't want to lose your school from our system next year. If you are leaving, please find someone in your school who would be willing to disseminate this information and send their name, school and email address to me (walter@montana.com). We have one more eblast (June) so send any of that summer information that we can include.

Upcoming events in Montana Math and Science include:

May 5 – 6 – 10th Annual Water Summit – Greenough, MT

May 15 – Last day to sign up to present at MEA

June 6 – 7 – Sun River Watershed Tour – Simms, MT.

June 9 -12 – Math & Science Integration Workshop – Canyon Ferry

June 24 -26 - Upper Marias Watershed Tour – Boone & Crockett Club

June 23 – 27 – Petroleum Resources Workshop – MSU – Billings

July 9 – 11 – Grant Writing Workshop – U of M, Missoula

July 10 – 11 – Yellowstone Watershed Workshop – Terry, MT

July 14 – 17 – Indian Education for All Writing Workshop – Helena

July 24 – 25 – Water Quality Monitoring Workshop –Terry, MT

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1. Present at MEA next year

We are down to the final 15 days and we need you to present next year at MEA. The on-line application for presenting sectionals at the fall conference is now open. There's a link off the MSTA home page. <http://montanascience.org>. The deadline for registering is May 15. When famed memory expert Harry Lorayne was once asked the best way to remember to do something, he replied – “do it now.” So please log on and make plans to present.

2. Join the New Teacher’s Academy

Are you a 5 – 12th grade teacher in your first three years of teaching? If so, you’ll want to join the New Teacher’s Academy. What is the benefit? There are many; free membership in a national online mentoring program. free membership to NSTA, free access to special web casts and list serves and a totally free trip (transportation, ! lodging, meals, registration, etc) to the National NSTA conference in New Orleans, plus joining a group of highly professional science teachers. To fill out the short application go to:

<http://www.nsta.org/academy/2008/fellowapplication.aspx>

3. Money for you in a Lesson Workshop

To: All Interested K-12 Teachers of Science

RE: Application to Participate in Indian Education for All Mathematics Lesson Development Workshop

When: July 14-17, 2008 from 8:00 AM to 4:00 PM each day

Where: Wingate Inn, Helena, MT

Stipend: \$1200 [\$100/day + \$400 for each of the 2 lessons] plus mileage, room\* and board

The vision of this grant is to bring together K-12 teachers to develop lesson plans that will integrate The Montana Science Standards and Indian Education for All. The workshop will be four days in length. During this time, the participants will become familiar with the Montana Indian: Their History and Location, Connecting Cultures & Classrooms K-12 Curriculum Guide, IEFA resources in all public school libraries and the Montana Science Standards. The participants will design two lessons each that integrate science and IEFA. Select lessons will be presented at the MEA/MFT Educator's Conference (October 16-17, 2008 in Missoula, MT) and the MSTA/MCTM Leadership Conference (January 30-31, 2009 in Bozeman, MT) and all lessons will be available to MSTA/MCTM Leadership participants.

If you are interested in applying to be a member of the writing team – the application needs to be returned by May 15, 2008. Drop me a line to obtain the application (walter@montana.com)

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#### 4. Help your Students Understand their Impact to the Environment.

You might want to make your students aware of how much energy they use and how much they impact the environment. The Nature Conservancy offers a calculator at [www.nature.org/initiatives/climatechange/calculator](http://www.nature.org/initiatives/climatechange/calculator) or at the EPA's site at [www.epa.gov/climatechange/emissions/ind\\_calculator.html](http://www.epa.gov/climatechange/emissions/ind_calculator.html). It's neat not only for students to look at these tools, but also to consider how a few simple changes in their lifestyle helps to lessen the impact to the environment.

#### 5. Websites You Might Use:

From England, this site has thousands of pages of lessons and activities in Physics organized by grade levels. [www.schoolphysics.co.uk](http://www.schoolphysics.co.uk)

For some general science resources check out: <http://sciencegems.com>

For a climate change curriculum refer to:  
[www.worldwildlife.org/climate/seclimatewitness](http://www.worldwildlife.org/climate/seclimatewitness)

For astronomy reference charts, aids and other resources:  
[www.dale93108.com/Meteor.html](http://www.dale93108.com/Meteor.html)

## 6. Some Science Writing Ideas for Your Students

We've been fortunate this year in our BaP eblast to have professional author Carolyn White share with us ideas and tips on writing ideas in science. Carolyn produces some of the best resources for integrating reading and science and as order requisition time comes around you should check out her website ([www.snowff.com](http://www.snowff.com)). This is a fantastic series to teach students about weather, and her materials will add a new dimension to your next school year. Thanks again Carolyn for some wonderful ideas. Now hereeeeeees Carolyn.

It's the first of May!! We've made it!

Let's do something special this time like combining science, reading, writing, music and art into one big extravaganza - (fun, like with SNOWFF). Let's create a story that teaches a scientific concept - a concept like Density. How about giving our imaginations permission to run wild?

First of all, in a story, we must have a protagonist. In this story, (silly and fun) we'll have two - Mr. and Mrs. Density.

Let me introduce you to them: Mr. Density, true to his name, girds himself with muscles of steel throughout his frame - But no fat, not even an ounce. Mrs. Density, on the other hand, pretty as a picture cuddly, soft, rolley-polly and round, contrary to her name,

"Dense" doesn't fit her frame.. Watching from a distance, let's join them on their evening walk. Hand in hand they stroll To the dirty, dirt-bank they go High above the Wilifalloff River, that's their destiny. Suddenly the dirty, dirt bank rumbles Under their weight, it crumbles, Tumbling, it falls, creating a muddy jumble! And The Densities? - they take a terrible tumble! Mr. Density, with muscles of steel, Throughout his frame of fat, not even an ounce, splashes and plops, then drops like a rock.

Mrs. Density, cuddly and soft, rolley-polly and round, her name, unbecoming her frame splashes and bobs, then floats like a top! (use for song lyrics) Why oh why does he sink like a rock. Why oh why, does she float on the top Study your science - then you'll know why- he drops like a rock while she floats on top

Now, if you and your student's would like to finish the story, have fun! If you'd like to create a melody and rhythm for the song, that too, would be neat ( use a meter of 4/4 time - 1 2 3 4, accenting beats one and three). What do you suppose Mr. and Mrs. Density look like? Let your students' imaginations go wild as they create unique drawings of the characters.

So, now we've covered it: Science, Reading, Writing, Music and Art and wasn't that fun?

Have a GREAT Summer!

Note from Walt: Think about having your students take a science concept you just taught and create characters and a story like this? What might a story on force and motion be like? How about a story involving cells?

## 7. Telescope Time in Yellowstone

You are invited! to share the ink-black skies of Yellowstone National Park with the Montana Southwest Astronomical Society this summer on June 6,7: July 4,5; and August 1,2.

2008 marks the tenth anniversary of the 'Stars Over Yellowstone' event when volunteers from Montana, Idaho and Wyoming will share telescope time with park visitors as they tour the night sky at Madison Campground and view the daytime sun at Old Faithful.

The Museum of the Rockies is funding park passes and camping for a limited amount of volunteers. So, if you are interested in joining us, let me know ASAP and I'll secure you free entrance and free camping.

We set up scopes at sundown on Friday night and start viewing when the astronomy talk at the amphitheater is finished. Saturday afternoon, a few of us take solar scopes to Old faithful and we show visitors sunspots and H-alpha prominences. Other folks go on hikes, go swimming, view geysers, etc. On Saturday night, we repeat Friday's activities with star viewing after the astro talk. For more information, contact Ivy Merriot at [ivy@abaetern.com](mailto:ivy@abaetern.com)

## 8. The Mickelson ExxonMobil Teachers Academy Expands Opportunities for Teachers to Attend the 2009 Program

The Mickelson ExxonMobil Teachers Academy recently announced a new way for elementary-school teachers to get a chance to attend the 2009 Mickelson ExxonMobil Teachers Academy and improve their math and science teaching skills.

Teachers can be nominated from Grades 3, 4 and 5 and urge them to apply for an all-expense paid trip to the Academy's math and science professional development program by logging on to [www.sendmyteacher.com](http://www.sendmyteacher.com).

## 9. Water Activities in Montana

### UPPER MARIAS WATERSHED TOUR FOR EDUCATORS

When: June 24, 25, 26 – 2008 Where: Dupuyer, MT (Theodore Roosevelt Memorial Ranch)

Description: Using local insights of the Marias to connect students and teachers to their watershed. Spend three days exploring the historical, cultural, and scientific aspects of the river and its tributaries by foot, by van and by raft. The course will begin at the headwaters of the Marias located at the intersection of Cut Bank Creek and Two Medicine River and end at Williamson Park in Shelby.

Credit / Renewal Units: 22 OPI renewal units and 1 graduate credit from MSU-Northern will be offered. Cost: depends on credit and lodging options (range: \$80 - \$240)

Registration: Registration information is available at on-line at [mtwatercourse.org](http://mtwatercourse.org).  
\*Register by June 2 to reserve your spot.

Contact: Kelly Hayden – phone: 994-6425 or email: [kelly.hayden@montana.edu](mailto:kelly.hayden@montana.edu) for more information.

### A TWO-PART WATER QUALITY TRAINING FOR EDUCATORS

#### PART I:

What: LOWER YELLOWSTONE WATERSHED TOUR FOR EDUCATORS

When: July 10 from 8:30 – 6:30 and July 11 from 8:30 – 3:30pm

Where: based out of Terry, MT (Watershed Tour will travel from Miles City to Glendive).

Description: Spend two days exploring the Yellowstone River and its tributaries. Through a lively mix of field tours, discussions, and hands-on activities, participants will explore their watershed through multiple perspectives.

Credit / Renewal Units: 17 OPI renewal units or 1 credit from MSU-N

Cost: \$15 (w/o credit) or \$135 with graduate credit

PAR! T II:

What: VOLUNTEER WATER QUALITY MONITORING TRAINING FOR!  
EDUCATORS

When: July 24 from 8:30am – 4pm and July 25 from 8:30am – 3:00 pm

Where: based out of Terry Public School (in-class session) and O' Fallon Creek for field session.

Description: This field training covers the basic principles of monitoring the chemical, physical and biological properties of water. Participants will also learn how to start a volunteer monitoring group that fits the needs of their classroom and addresses the water quality issues prevalent in their watershed.

Credit / Renewal Units: 14 OPI renewal units or 1 credit from MSU-N

Cost: \$15 (w/o credit) or \$135 with graduate credit \*\*Note: Teachers are encouraged to take part in both weekends of this two-part water quality training. The cost of participating in both trainings is: \$150 (w/ grad. credit) \$30 (w/o grad credit).

Registration: Registration information is available at on-line at [mtwatercourse.org](http://mtwatercourse.org).

\*Register by June 27 to reserve your spot.

Contact: Kelly Hayden – phone: 994-6425 or email: [kelly.hayden@montana.edu](mailto:kelly.hayden@montana.edu) for more information.

## SUN RIVER WATERSHED TOUR FOR EDUCATORS

When: June 6 from 9am – 5pm and June 7 from 9am – 3pm

Where: Tour will begin and end in Simms at the Fireside Inn on both June 6 & 7. Tour will travel from Gibson dam to Manchester.

Description: Participate in a field-based watershed tour and spend two days exploring the historical, cultural and scientific aspects of the Sun River and its tributaries. Through a

lively mix of field tours, discussions and hands-on activities – participants will explore geography, the science of a watershed, historical settlement and land use.

Renewal Units: 12 OPI renewal units

Cost: \$20

Registration: Registration information is available at on-line at [mtwatercourse.org](http://mtwatercourse.org).  
\*Register by May 23 to reserve your spot.

Contact: Kelly Hayden – phone: 994-6425 or email: [kelly.hayden@montana.edu](mailto:kelly.hayden@montana.edu) for more information.

From Sharla Dowding t! he next item.

10. Earth Science XI: The Cryosphere/WA! IS Divid e Ice Core Project Outreach

July 20-26

[http://www.tufts.edu/as/wright\\_center/workshops/wkshps08.html](http://www.tufts.edu/as/wright_center/workshops/wkshps08.html)

In this seven-day workshop during the International Polar Year, teachers will participate in scientific data collecting in Glacier National Park, Montana, learn how to monitor cryospheric change, interpret polar and temperate glacier data, and understand how environmental science can be used in all classrooms. Participants will collaborate with international colleagues to develop materials custom made for their classrooms.

Applicants must apply as a teaching team--a team consists of two or more teachers. This is one in an ongoing series of Wright Center workshops on change in the natural environment Co-sponsored by the Chandra X-Ray Observatory Outreach Program, The Glacier Institute, the Crown of the Continent Learning Center, Clean Air-Cool Planet, and the Wright Center. This workshop will take place at the Glacier Institute, Glacier National Park, Montana. Wo! rkshop conducted by Zach Smith and Scott Battaion.

For more information contact Scott at: [scott.battaion@tufts.edu](mailto:scott.battaion@tufts.edu)

Here's a link to a plant phenology project.

[http://www.windows.ucar.edu/citizen\\_science/budburst/teachers.php](http://www.windows.ucar.edu/citizen_science/budburst/teachers.php)

There's tons of info on the site, but the basic idea is that volunteers track the budding and flowering of some select species of plants in their area and record the dates in a national database. This allows scientists to see how these events change over time. Some data go back to Thoreau and his days on Walden Pond. Scientists have found that certain plants

such as Rhodendron are flowering weeks earlier than they used to, indicating a warming environment.

## 11. A Lunar Creation Game

Educators:

Looking for an enrichment activity as a treat for students?

Consider Selene: A Lunar Creation GaME.

Educators asked NASA for authentic, hands-on activities for learning! hard science. Educators asked for instruction that involves students with real scientists. Selene does all this while helping students in grades 5-12 to achieve National Education Science Standards for Earth and space science.

During the Selene game, players create the early Moon and then evolve its surface by throwing projectiles and erupting lava flows. Gameplay is followed by a 15 minute presentation by lunar scientist Chuck Wood, using authentic NASA images to illustrate the origin and evolution of the Moon.

The NASA-sponsored "Classroom of the Future" at the Center for Educational Technologies at Wheeling Jesuit University in Wheeling, WV, brings you this opportunity as part of an ongoing NASA research study on videogame learning. We are in phase 2 of data collection and need about 1000 players.

While helping NASA researchers study some key videogame design principles the Selene videogame is also a great opportunity for students ages 13-18 to learn about lunar geology. Players are guided through Selene by the director of the Center for Educational Technologies, Chuck Wood, an internationally known lunar geologist who writes a monthly column on the moon for Sky and Telescope and who is the author of "The Modern Moon: A Personal View". The game features excitement of gameplay - but with an opportunity to learn plenty about Earth's glowing satellite and how planets and moons are formed.

The game is quite an experience for students. Since this is a research study, the opportunity is available only to students who have been recruited by adults like you!

Please consider giving students this opportunity to take part in real NASA research by serving as an adult recruiter for Selene research participants.

(We even have students across the country using Selene to conduct their own videogame research! Contact us if your students want to establish a research partnership.)

To sign on as a recruiter or to find out more, contact the Research Department at the Center for Educational Technologies by e-mailing [selene@cet.edu](mailto:selene@cet.edu)

Be sure to provide your contact information, including your phone number and time zone.

You can also find out more about this exciting project by visiting the Selene website:

<http://selene.cet.edu>.

As one student who tested the game said, "It made me want to get out my telescope!"

Take this opportunity to be a genuine pioneer on the frontiers of cyber learning available to the young people you know. You can also help us by passing this information along to your friends and colleagues.

This research is ongoing. Your participation will go a long way in advancing teaching and learning.

Thank you.

## 12. Professional Grant Proposal Writing Workshop

The Grant Institute's Grants 101: Professional Grant Proposal Writing Workshop will be held at the University of Montana, Missoula, July 9 - 11, 2008. Interested development

professionals, researchers, faculty, and graduate students should register as soon as possible, as demand means that seats will fill up quickly

All participants will receive certification in professional grant writing from the Institute. For more information call (888) 824 - 4424 or visit The Grant Institute at [www.thegrantinstitute.com](http://www.thegrantinstitute.com).

Please find the program description below:

The Grant Institute

Grants 101: Professional Grant Proposal Writing Workshop

will be held at the

University of Montana, Missoula

Missoula, Montana

July 9 - 11, 2008

8:00 AM - 5:00 PM

The Grant Institute's Grants 101 course is an intensive and detailed introduction to the process, structure, and skill of professional proposal writing. This course is characterized by its ability to act as a thorough overview, introduction, and refresher at the same time. In this course, participants will learn the entire proposal writing process and complete the course with a solid understanding of not only the ideal proposal structure, but a holistic understanding of the essential factors, which determine whether or not a program gets funded. Through the completion of interactive exercises and activities, participants will complement expert lectures by putting proven techniques into practice. This course is designed for both the beginner looking for a thorough introduction and the intermediate looking for a refresher course that will strengthen their grant acquisition skills. This class, simply put, is designed to get results by creating professional grant proposal writers.

Participants will become competent program planning and proposal writing professionals after successful completion of the Grants 101 course. In three active and informative days, students will be exposed to the art of successful grant writing practices, and led on a journey that ends with a masterful grant proposal.

Grants 101 consists of three (3) courses that will be completed during the three-day workshop.

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### (1) Fundamentals of Program Planning

This course is centered on the belief that "it's all about the program." This intensive course will teach professional program development essentials and program evaluation. While most grant writing "workshops" treat program development and evaluation as separate from the writing of a proposal, this class will teach students the relationship between overall program planning and grant writing.

### (2) Professional Grant Writing

Designed for both the novice and experienced grant writer, this course will make each student an overall proposal writing specialist. In addition to teaching the basic components of a grant proposal, successful approaches, and the do's and don'ts of grant writing, this course is infused with expert principles that will lead to a mastery of the process. Strategy resides at the forefront of this course's intent to illustrate grant writing as an integrated, multidimensional, and! dynamic endeavor. Each student will learn to stop writing the! grant a nd to start writing the story. Ultimately, this class will illustrate how each component of the grant proposal represents an opportunity to use proven techniques for generating support.

### (3) Grant Research

At its foundation, this course will address the basics of foundation, corporation, and government grant research. However, this course will teach a strategic funding research approach that encourages students to see research not as something they do before they write a proposal, but as an integrated part of the grant seeking process. Students will be exposed to online and database research tools, as well as publications and directories that contain information about foundation, corporation, and government grant opportunities. Focusing on funding sources and basic social science research, this course teaches students how to use research as part of a strategic grant acquisition effort.

Registration

\$597.00 tuition includes all materia! ls and certificates.

Each student will receive:

- \*The Grant Institute Certificate in Professional Grant Writing
- \*The Grant Institute's Guide to Successful Grant Writing
- \*The Grant Institute Grant Writer's Workbook with sample proposals, forms, and outlines

#### Registration Methods

- 1) On-Line - Complete the online registration form at [www.thegrantinstitute.com](http://www.thegrantinstitute.com) under Register Now. We'll send your confirmation by e-mail.
  
- 2) By Phone - Call (888) 824 - 4424 to register by phone. Our friendly Program Coordinators will be happy to assist you and answer your questions.
  
- 3) By E-mail - Send an e-mail with your name, organization, and basic contact information to [info@thegrantinstitute.com](mailto:info@thegrantinstitute.com) and we will reserve your slot and send your Confirmation Packet.