BaP Updates for March, 2009

General: much of this information has been gathered from shares on Oneonta and NSTA list serves. The comments are from the originators. I hope it supports your teaching of science.

STEM educators: http://expertvoices.nsdl.org/pats-picks/

Elementary

Elementary Experiments

The American Chemical Society has two wonderful books filled with simple experiments that do not require a lot of materials. The are 'The Best of WonderScience' and 'The Best of WonderScience Volume2'. If your purchase them from their website, it costs about half as much as if you order it through Amazon. I created a year-long lab curriculum just from these 2 books.

http://portal.acs.org/portal/acs/corg/content?_nfpb=true&_pageLabel=PP_ARTICLEMAIN&node_id=552&use_sec=false&sec_url_var=region1&__uuid=d9704a00-ef78-4487-8892-09bbcb8f0ff6

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We use the Hands On Plastics unit from The American Chemistry Council. You can access their site at

http://www.americanchemistry.com/s_plastics/sec_content.asp?CID=1123&DID=4277
<http://www.americanchemistry.com/s_plastics/sec_content.asp?CID=1123&DID=4277>

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Here are some websites that have great matter activities for elementary/middle school students.

http://www.inquiryinaction.org/Downloads.html

http://www.exploratorium.edu/science_explorer/copper_caper.html
<http://nsdl.exploratorium.edu/nsdl/search.do;jsessionid=D5C6E1AAEE9E73880423FB8B272E5488?category=Curricular+Area-Physical+Sciences-Interactions+of+Matter>

http://www.exploratorium.edu/cooking/eggs/activity-naked.html

http://www.exploratorium.edu/cooking/bread/activity-yeast.html

http://www.exploratorium.edu/science_explorer/crystal.html

http://www.proteacher.com/cgi-bin/outsidesite.cgi?id=10634&external=http://www.alka-seltzer.com/as/experiment/student_experiment.htm&original=http://www.proteacher.com/110052.shtml&title=Alka%20Seltzer%20Experiments
<http://www.proteacher.com/cgi-bin/outsidesite.cgi?id=10634&external=http://www.alka-seltzer.com/as/experiment/student_experiment.htm&original=http://www.proteacher.com/110052.shtml&title=Alka%20Seltzer%20Experiments>

http://www.uen.org/core/lessonList.do?courseNum=3050&itemId=1224
<http://www.uen.org/core/lessonList.do?courseNum=3050&itemId=1224>

http://www.uen.org/core/lessonList.do?courseNum=3050&itemId=1226
<http://www.uen.org/core/lessonList.do?courseNum=3050&itemId=1226>

http://www.teachersdomain.org/collection/k12/sci.phys.matter/

http://www.sciencenetlinks.com/lessons.cfm?BenchmarkID=1&DocID=112
<http://www.sciencenetlinks.com/lessons.cfm?BenchmarkID=1&DocID=112
>

http://www.sciencenetlinks.com/lessons.cfm?BenchmarkID=4&DocID=404
<http://www.sciencenetlinks.com/lessons.cfm?BenchmarkID=4&DocID=404
>

http://www.geocities.com/CapeCanaveral/Hall/1410/lab-GS-contents.html

http://scifun.chem.wisc.edu/homeexpts/ACIDBASE.html

http://scifun.chem.wisc.edu/homeexpts/SOFTWATR.html

http://pbskids.org/zoom/activities/sci/polishingpennies.html

http://pbskids.org/dragonflytv/superdoit/dissolvetheeggshell.html

http://pbskids.org/dragonflytv/superdoit/invisible_ink.html

Earth Science

Download info

This has been mentioned here before, but the Download Helper extension for Firefox works like a champ for snagging video, converting video to a format you want, and more. It's simple to use, and intuitive, but there's also a manual and a video on how to use it here: http://www.downloadhelper.net/manual.php

Classroom Earth Science
The National Environmental Education Fund and The Weather Channel are beginning something called Classroom Earth.
http://www.neefusa.org/programs/classroom_earth.htm

Geology

Stumbled across this website. http://www.mrsciguy.com/resources.html

Arctic Methane
Although I was aware of the methane release phenomena and it has been discussed at least once on the list (I believe in relation to methane hydrates on more temperate shelfs), I was reading the latest issue of National Wildlife in which they reprinted an article on the subject from Yale's Environment 360 publication. It discusses the observed methane release from the submerged and warming permafrost on the Siberian shelf and the potential acceleration of this release due to global warming. It makes for some scary reading, certainly the implications of accelerated release are potentially catastrophic to ecosystems and human society.

As in any good scientific article, it ends with the ubiquitous more research is needed caution about drawing specific conclusions at this time. Nonetheless it prompted me to do a quick google search on other research efforts and this yeilded a plethora of articles on the same subject.

Submitted for comment is this representative list (please add more substantiated articles if you have them) of the above mentioned and other articles:

http://e360.yale.edu/content/feature.msp?id=2081
<http://e360.yale.edu/content/feature.msp?id=2081>
"**Ticking Time Bomb in the Arctic?**" Methane release from the Siberian continental shelf

http://news.nationalgeographic.com/news/2008/12/081219-methane-siberia.html
<http://news.nationalgeographic.com/news/2008/12/081219-methane-siberia.html> "**Methane Bubbling Up From Undersea Permafrost?**"

http://news.nationalgeographic.com/news/2006/09/060906-methane.html
<http://news.nationalgeographic.com/news/2006/09/060906-methane.html>
"**Methane Belches in Lakes Supercharge Global Warming, Study Says** "

http://www.esrl.noaa.gov/gmd/publications/annmeet2004/pdf_2004/walter.pdf <http://www.esrl.noaa.gov/gmd/publications/annmeet2004/pdf_2004/walter.pdf> "**Global Warming Feedbacks from Methane Bubbling along Expanding North Siberian Lake Margins** "

http://www.guardian.co.uk/environment/2008/sep/23/climatechange.scienceofclimatechange1 <http://www.guardian.co.uk/environment/2008/sep/23/climatechange.scienceofclimatechange1> "**Arctic 'methane chimneys' raise fears of runaway climate change**"

Saturn Images: http://www.photoshopsupport.com/resources/stock-photos/nasa-planets.html

Great Earth Science Images from around the world.
Whats neat about this site is that you can select a category from which image you want to view, a country, or type in a key word. I already found many images that I will use as examples in teaching earth science.

Each image has descriptions which is very useful too.

http://www.earthscienceworld.org/images/search/index.html

NASA

Here's the URL for NASA in Your Life.

http://www.nasa.gov/topics/nasalife/index.html.

Biology

Animal Diversity

www.animaldiversity.ummz.umich.edu
<http://www.animaldiversity.ummz.umich.edu/>

Exploring Nature

The activities are all free the **Exploring Nature Educational Resource** website.
http://www.exploringnature.org <http://www.exploringnature.org/>

heredity/genetics:
http://www.exploringnature.org/db/subcat_detail_index.php?dbID=45&dbType=act&subcatID=109
<http://www.exploringnature.org/db/subcat_detail_index.php?dbID=45&dbType=act&subcatID=109>

classification:
http://www.exploringnature.org/db/subcat_detail_index.php?dbID=45&dbType=act&subcatID=107
<http://www.exploringnature.org/db/subcat_detail_index.php?dbID=45&dbType=act&subcatID=107>

human body systems:
http://www.exploringnature.org/db/subcat_detail_index.php?dbID=45&dbType=act&subcatID=50
<http://www.exploringnature.org/db/subcat_detail_index.php?dbID=45&dbType=act&subcatID=50>

Evolution

The New York Times has a great set of articles about Charles Darwin in their regular Tuesday science section. Here they are:

Seeing the Risks of Humanity?s Hand in Species Evolution (February 10, 2009)
Human predation is causing target species to evolve to reproduce at younger ages and smaller sizes, to their short-term benefit but to the long-term harm of the species.
http://www.nytimes.com/2009/02/10/science/10humans.html
<http://www.nytimes.com/2009/02/10/science/10humans.html>

Darwinism Must Die So That Evolution May Live (February 10, 2009)
Equating evolution with Charles Darwin ignores 150 years of discoveries, including most of what scientists understand about evolution.
http://www.nytimes.com/2009/02/10/science/10essa.html
<http://www.nytimes.com/2009/02/10/science/10essa.html>

Crunching the Data for the Tree of Life (February 10, 2009)
Biologists know how species are related but lack the tools to show off their discoveries.
http://www.nytimes.com/2009/02/10/science/10tree.html
<http://www.nytimes.com/2009/02/10/science/10tree.html>

Darwin, Ahead of His Time, Is Still Influential (February 10, 2009)
It is a testament to Darwin?s extraordinary insight that it took almost a century for biologists to understand the essential correctness of his views.
http://www.nytimes.com/2009/02/10/science/10evolution.html
<http://www.nytimes.com/2009/02/10/science/10evolution.html>

Genes Offer New Clues in Old Debate on Species? Origins (February 10, 2009)
The study of how species originate, a process known as speciation, is not only one of evolution?s most active areas of study, but also one of its most contentious.
http://www.nytimes.com/2009/02/10/science/10species.html
<http://www.nytimes.com/2009/02/10/science/10species.html>

Findings: Darwin the Comedian. Now That?s Entertainment! (February 10, 2009)
Richard Milner, a science historian, finds the funny side of Charles Darwin, evolutionary giant.
http://www.nytimes.com/2009/02/10/science/10tier.html
<http://www.nytimes.com/2009/02/10/science/10tier.html>

Don't miss the ***National Geographic*** February issue - lots of emphasis on biogeographic evidence for evolution, something often ignored, but very compelling when you get into it, and this also brings in a convergence of ecology and paleontology.

And be sure to get a copy of the January issue of ***Scientific American*** focusing on the evolution of evolution. I have posted a review of the many articles, with teaching suggestions for some, at
http://www.indiana.edu/~ensiweb/Evo.09.SciAmer.html

If you go to the ***ENSI*** home page at http://www.indiana.edu/~ensiweb/ you will see links to reviews of several other excellent resources for teachers dealing with Darwin and evolution.

In this flood of articles on Darwin and Evolution, be sure to look at ***The American Biology Teacher*** journal for February, with many relevant articles. I especially liked "Putting Darwin in His Place: The Need to Watch Our Language" (page 84), dealing with how our use of "evolution theory" automatically pre-disposes students to misinterpret the topic, regardless of how much we press on the "scientific meaning of theory vs the vernacular use." The authors suggest using just "evolution" or "evolution science" and avoiding "theory" in this context, as a more realistic framing of the term. Likewise for using "Darwinism" as a synonym for modern evolution science. If you can't get the journal, and would like to see the article, just email me at flammer4@gmail.com

And another article in this issue of ***The ABT*** was Allchin's "Sacred Bovines: Celebrating Darwin's Errors" on page 116. I find that focusing on errors helps to fine tune the accuracy of my understanding of many topics. In this case, the humanness of Darwin is revealed, as well as the reality of scientists being imperfect individually, but stronger collectively, pointing out why the processes of science are so powerful in giving us reliable information in the long run.

At ***The ABT Online*** http://www.nabt.org/websites/institution/index.php?p=31 you can download many of the past articles. Most notable for the February 2009 issue is the article with an excellent classroom activity: "Explaining Biogeographic Data: Evidence for Evolution." Check it out.

I just finished reading David Quammen's little book "***The Reluctant Mr. Darwin***," and was very impressed. It focuses on the events in Darwin's life that influenced his ideas about evolution and natural selection, in a most intimate way. For those of you who aren't quite ready (or lack the time) to read "***The Origin of Species***", this little volume is a most helpful and readable (temporary) substitute (as long as you promise to read "***The Origin of Species***" this Summer, if you've never done that).

Then there is the March issue of "***Discover***" magazine, with its several articles on this topic (Darwin and Evolution). And the February/March issue of ***Free Inquiry*** magazine, likewise with some excellent articles. I found the article by R.G. Price (page 40) on "Darwin's Views on Race Matter" most interesting.

Nutrient cycles

Here are some resources/activities for carbon cycle and nitrogen cycle.

The carbon cycle includes an online interactive.

http://www.windows.ucar.edu/tour/link=/earth/Life/biogeochem.html

http://www.windows.ucar.edu/tour/link=/teacher_resources/nitrogen_main.html

http://www.windows.ucar.edu/tour/link=/earth/Life/nitrogen_cycle.html

http://www.windows.ucar.edu/tour/link=/earth/climate/nitrogen_changes.html

http://www.windows.ucar.edu/earth/climate/carbon_cycle.html

http://www.windows.ucar.edu/tour/link=/teacher_resources/teach_carbongame.html

http://www.windows.ucar.edu/tour/link=/earth/Water/co2_cycle.html

Chemistry

Chemistry of Everyday Products

Take a look at http://pubs.acs.org/cen/whatstuff/stuff.html . You might consider building a course about the chemistry of some of those everyday products.

Books by Dr. Joe Schwarcz might be a good resource for this kind of course.
http://www.amazon.com/s/ref=nb_ss_gw?url=search-alias%3Daps&field-keywords=Dr.+Joe+Schwarcz
<http://www.amazon.com/s/ref=nb_ss_gw?url=search-alias%3Daps&field-keywords=Dr.+Joe+Schwarcz>

Related ideas:
http://epc.ucsc.edu/cosmos/cluster4.shtml
http://chemistry.about.com/od/everydaychemistry/Chemistry_in_Everyday_Life.htm

Bonding and Nomenclature worksheets
You might find some of the stuff on my website helpful. Chemical Bonding is Ch. 6 for me and Nomenclature is in Ch. 7.
http://www.greateratlantachristian.org/NetCommunity/Page.aspx?pid=221&frsid=25&uppid=228
I am required to post on pdf files but if you find something you want the original version of so you can edit it (like a word or ppt file), just email me.

My favorite files are:
6.5- Geometry Activity
http://www.greateratlantachristian.org/NetCommunity/Document.Doc?id=2155
Activity 7.1
http://www.greateratlantachristian.org/NetCommunity/Document.Doc?id=2368

They are both POGIL-like activities where the kids are supposed to be constructing their own meaning. They both worked well for my classes and I think really helped them understand and remember both those topics well.

Physics

Rube Goldberg video

Honda commercial
http://autorepair.about.com/od/glossary/a/honda_rube.htm

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http://www.chilloutzone.de/files/player.swf?b=10&l=197&u=ILLUMlISOOAvIF//P_LxP92A42lCHCeeWCejXnHAS/c

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Here it is on youtube

http://www.youtube.com/watch?v=EEF0cg1j35o

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Dance of the Galaxies

You tube video
http://www.youtube.com/watch?v=rz-STTDoucg

Articles
http://www.astronomynow.com/Thewilddanceofthegalaxies.html

More e blast information below

Calendar: Upcoming Events/Opportunities/Deadlines

January 1 – December 31, 2009: The Year of Science.
For more information, please visit:
http://www.yearofscience2009.org

Special Announcement: All members of BaP are invited to a Reception:
Friday, March 20 6:00–8:00 PM
Science Matters-Building a Presence Reception
Hilton New Orleans Riverside, Versailles Ballroom
New Orleans, Louisiana (at the NSTA 2009 National Conference)

The Science Matters campaign will begin at the ground level with tools and resources to connect with parents about the value of science and science education. It has the following components:
*News pieces for school and teacher newsletters that are written to capture the interest of parents
*Website with information for parents and community members
*Newsletter that provides science information and PD opportunities for teachers
*Banner-like materials for science teachers to post
*Materials to support the name "Science Matters"
*A recognition component for NSTA members
*An information network of science education enthusiasts

If you plan to attend the NSTA National Conference in New Orleans, please come to learn more about how Building a Presence will become "Science Matters".
Read more online at
http://www.nsta.org/involved/cse/sciencematters.aspx

1. From the ORC: More Science Misconceptions

Science misconceptions are quite prevalent among our students. Overcoming them is a tough task that requires identifying the misconception, providing students with opportunities to discover that their current view may not be scientifically accurate, adequate instruction to correct the misconception, and ongoing assessment to confirm that the misconception has not returned. That's a tall order, and a difficult one to fill.

These ORC mini-collections list some misconceptions and offer resources that may help students form scientifically accurate ideas. These mini-collections include elementary school resources. The December 10 eBlast (http://www.bapohio.org/Assets/Vol7_No9.pdf) included similar mini-collections for high school topics, and the February 11 eBlast (http://www.bapohio.org/Assets/Vol8_No3.pdf) included similar mini-collections for middle school topics.

Earth Science Misconceptions-Elementary School
http://www.ohiorc.org/bookmark/view_a_folder.aspx?uid=7827&folderID=18994

Life Science Misconceptions-Elementary School
http://www.ohiorc.org/bookmark/view_a_folder.aspx?uid=7827&folderID=18996

Physical Science Misconceptions-Elementary School
http://www.ohiorc.org/bookmark/view_a_folder.aspx?uid=7827&folderID=18997

To see more common misconceptions see the "Professional Resources about Science Misconceptions" mini-collection at
http://www.ohiorc.org/bookmark/view_a_folder.aspx?uid=9681&folderID=17876 .

Then search the ORC collection for lessons and content resources that could help students develop scientifically accurate conceptions.

2. K-12: Take the First-Ever NSTA State of Science Education Survey
www.surveymonkey.com/s.aspx?sm=v0lCnq3m9CbxwZNuuhh4YA_3d_3d

All BaP Ohio members (and hopefully 10,000 other science educators) are invited to participate in the first NSTA State of Science Education Survey.

The survey will only take few minutes of your time and it will help NSTA to obtain very valuable information on a host of issues important to science education and educators.

After you complete the survey, feel free to forward this message (and the link) to other science teachers. And as a token of our gratitude for participating in this important survey, you can enter to win a pair of FREE airline tickets to travel anywhere in the continental U.S. (some travel restrictions apply)!

The survey will close on Monday, March 2, SO ACT NOW!

Thanks for your input and don't forget to pass this along to your colleagues! This comes from the NSTA Research Committee in response to many requests for a better connection between the science education research and practitioners, so let your voice be heard now. Watch this space for more information in the months ahead.

3. K-12: NSTA Has Professional Development Down to a Science
http://www.nsta.org/conferences/2009new/

Join us in New Orleans for the most comprehensive National Conference on Science Education, March 19–22. With more than 1,900 workshops, presentations, seminars, institutes, symposia and sessions to choose from, educators can count on options to build content knowledge, learn strategies for reaching students, gather techniques on assessment, inquiry, integration and more. Becoming "more highly qualified" is a goal we've heard mentioned from members and the science education community, repeatedly. Take advantage of this opportunity. Here are some sample sessions to consider:

* How Children Learn: Brain Research and Inquiry-based Science, Kenneth Wesson, expert on the neuroscience of learning
* Brainsense: Learning About the Brain Through Puzzles, Activities, and Optical Illusions, Michael A. DiSpezio (author and educator)

* What Neuroscience Can Teach Us About Teaching, Thomas J. Carew (President, Society for Neuroscience, and Donald Bren Professor and Chair, Dept. of Neurobiology and Behavior, University of California-Irvine)
* Adapting Labs for a Physics First Program (High School)
* Blown Away by Weather—Come build components of a weather station, track hurricanes, and become a meteorologist-in-training. Handouts provided.(Elementary)
* Climate Change: Classroom Tools to Explore the Past, Present, and Future (Middle–High)
* In vitro Culture of Freshwater Prawn Embryos for Laboratory Investigations (High–College)
* Simple Ways to Create Nature Journal Entries (Elem–Middle)

Check out field trips, short courses, professional development institutes, and the Exhibit Hall where 400 companies bring their new products and giveaways to town:

* Save up to $40 a night. Our staff has requested that the conference hotels reduce their rates for conference attendees. To date, the following hotels have graciously responded.
  + Intercontinental-rate reduced to $159 from $190.
  + Astor Crowne Plaza Hotel-rate reduced to $155 from $189.
  + Marriott Convention Center-rate reduced to $219 from $259.

* If you are considering bringing a group of educators larger than five that would register as a group, we would be happy to discuss additional savings. Please contact our office at 1-800-328-8998 or e-mail sales@nsta.org.

4. K-12: What's New on the SciLinks and the Early Years Blog? http://www.scilinks.org/ and http://blogs.nsta.org/EarlyYearsBlog/

If you haven't checked NSTA's SciLinks and Early Years blogs lately, you may be missing out on some valuable information.

Get the most from your NSTA journal with the SciLinks Blog. This blog serves as a companion to NSTA's professional grade-level journals: Science & Children, Science Scope, and The Science Teacher. Each week Mary Bigelow—NSTA's own "Ms. Mentor"—mentors you by discussing topics related to journal articles and themes. She then gives you the scoop on additional online resources and tells you how to use them most effectively. She also welcomes your comments.

5. K-12: Easy to Be Green
http://www.eeco-online.org

Announcing: 42nd Annual Conference of the Environmental Education Council of Ohio:
April 30 through May 3 at Deer Creek State Park

The intent of the conference is to bring formal and non-formal educators together to strengthen environmental education across the state. The conference strands are: Green Building & Green Energy, Green Consumer, and Green Environment.

6. K-12: Environmental Educator Workshops

Franklin and Delaware Soil and Water Conservation Districts and Highbanks Metro Park are partnering with other local environmental agencies to offer educator workshops. Formal classroom teachers and non-formal educators are welcome. A Certificate of Attendance for CEUs will be provided and one semester hour of college credit is available through Ashland University upon the completion of these sessions, for a fee of $166. Sessions will be held at Highbanks Metro Park. To register or obtain additional information contact Linda at linda-pettit@franklinswcd.org or (614) 486-9613.

Gr PK-8: Project Learning Tree (PLT)
Saturday, March 7, 2009 8:30 a.m.- 4 p.m.
PLT is an interdisciplinary approach to understanding trees, forests, and woodland habitats. This curriculum produced by the American Forestry Association helps students discover how trees live and grow, the many useful items that we get from trees, and the important role trees play in ecosystems. Materials are correlated to grades preK-8 Ohio Science Academic Content Standards. $25 fee.

Gr 6-9: Smart Consumers
Saturday, April 25, 2009 8:30 a.m.– 4 p.m.
Participants will learn how their consumer choices affect the environment and how they can become earth-friendly consumers through discoveries, activities and role playing. Materials are written for grades 6-9. Resource book provided. This workshop is a part of the World Wildlife Fund "Windows on the Wild" Education Series. $30 fee.

7. K-12: Polar Adventures at COSI:

COSI is hosting a Polar Adventure weekend Friday Feb 27 – Sunday, March 1.
A complete description and schedule of events can be found at:
http://www.cosi.org/visitors/calendar/?m=02&d=27&y=2009
(scroll down to Polar Adventure).

Beyond Penguins and Polar Bears is part of this weekend and we'll have materials available at COSI. The event is not just for elementary teachers – there will be activities and information for all ages!

We're hoping for great attendance for the events! Email the BaP Ohio State Coordinator for a $2.00 off coupon for this event!
Lightbody.1@osu.edu

8. K-12: Have you ever taken a class at the Stone Lab? Here is what you need to know!
http://stonelab.osu.edu/courses/educator

Stone Laboratory, Ohio State University's Island Campus on Lake Erie, offers 30 college-credit science courses each summer for educators, advanced high school students, and undergraduate and graduate students.

Course credits at Stone Lab are transferable to most colleges and universities.

One Week, Three Credits
Spend a week focusing on science, networking with other education professionals, and earning your Highly Qualified Teacher certification all at the same time. Stone Lab has eight one-week, 3 credit courses for science educators, including:

* Global Change Education
* Principles of Oceanography for Educators
* Local Flora for Teachers
* Stream Ecology for Teachers
* Great Lakes Education Workshop
* Geologic Setting of Lake Erie
* Field Ecology
* Insect Biology for Teachers

Each class includes innovative ways to incorporate the natural environment into your classroom, covering both science content and teaching methodologies. Deadline: March 17, 2009.

Something to Consider
Does your school district offer fee waivers from Ohio State? If so, you can use them to pay for tuition at Stone Lab.

Set Your Eyes on a Scholarship
http://stonelab.osu.edu/costs/aid/

All students taking for-credit classes at Stone Lab are eligible to apply for scholarship funds. The amount granted depends on the classes you choose, but last summer's awards ranged from $250 to $2,500. Deadline: March 17, 2009.

In addition to Stone Lab funds, scholarships from the Centers for Ocean Sciences Education Excellence (COSEE) Great Lakes are also available for educators taking one of the following courses:

* Principles of Oceanography for Science Teachers
* Geologic Setting of Lake Erie
* Great Lakes Education Workshop
* Global Change Education

Applications and more information can be found at the COSEE Great Lakes website under Marine Immersion Scholarships.
http://coseegreatlakes.net/events/ Deadline: April 17, 2009.

9. K-12: Astronomy resources

To support your astronomy curriculum, check out the following Web sites for science project ideas, lesson plans, and more:

GLOBE at Night http://www.globe.gov/GaN/
Find easy-to-follow instructions for participating in this project at this site, where students can also record their observations of the night sky. Prior to the star-hunting event, students can log on to learn about Orion's role in Greek mythology, star magnitude, and other topics.

International Year of Astronomy 2009 http://www.globe.gov/GaN/
A list of global projects designed to promote awareness of astronomy and dark skies. Some activities are too advanced for elementary school students.

The GLOBE Program http://www.globe.gov/r
Abundant resources for integrating related lessons about such topics as atmosphere and climate, clouds, and hydrology.

400 Years of the Telescope http://www.400years.org/
Information about a new documentary that follows astronomical discoveries starting from Galileo's first peek through the telescope. The site offers a viewing schedule and "Profiles in Astronomy" that may serve as excellent bases for history lessons.

Hands-On Optics http://www.hands-on-optics.org/home/
Six modules for teaching about optics. Lessons range from studies of lasers to magnification and communicating with light.

The International Dark-Sky Association
http://www.darksky.org/mc/page.do
Lessons about the solar system and the effects of light pollution on wildlife, as well as science, writing, and art projects for students ages 7-12.

National Optical Astronomy Observatory http://www.noao.edu/
Contact Connie Walker at (520) 318-8000 to apply for a Light Pollution Education Tool Kit, which contains instructions, CDs, tips for demonstrations on light pollution, and a sky-quality meter.

10. K-12: New online podcast: Ocean Gazing
http://coseenow.net/2009/02/episode1/

The Centers for Ocean Sciences Education Excellence Networked Ocean World (COSEE-NOW) is pleased to announce the launch of a new biweekly podcast: Ocean Gazing.

The first episode of Ocean Gazing features University of Washington oceanography professor and visionary John Delaney. You can listen to the episode, view pictures, hear additional clips, and comment on the episode on the COSEE NOW site.
http://coseenow.net/2009/02/episode1/

Each episode features a "Sonic Stumper," where we invite you to call in or email us your guesses.

You can also subscribe to the podcast in iTunes using the following link: itpc://coseenow.net/feed

Please let us know what you think of the first episode, and please share it with your friends, students and colleagues.

Submitted by The COSEE NOW Team <> Liesl Hotaling, Chief

Education Officer
Beacon Institute for Rivers and Estuaries <> 199 Main Street, Beacon, NY 12508
V 845 838 1600 <> lhotaling@thebeaconinstitute.org

11. K-8: Molding Young Scientists During the School Day with NatureMapping

NatureMapping is a program that provides workshops and resources to help students collect and analyze scientific field data, inspiring young scientists through class projects and field trips.

The material includes:
* Lessons (http://www.edutopia.org/naturemapping-lesson-overviews)
* Videos and Tips (http://www.edutopia.org/toad-tracking)
* Articles (http://www.edutopia.org/naturemapping)
* Contacts (http://www.edutopia.org/naturemapping-contact-staff-karen-dvornich)
* Teachers' Corner (http://depts.washington.edu/natmap/education/)

There are seven lessons; each takes about three-to-five one-hour class sessions, and each follows the same pattern: The lesson starts with steps for teaching the material and concludes with a practical activity and assessment. Links to other lesson plans and downloadable materials are available throughout the lessons.

Started in 1992, NatureMapping grew from the big idea of developing an international biodiversity database for use by scientists and the public. And who better to add to it than students? Across the world, students, teachers, and communities are working together to identify and record species in their areas to contribute to the database, which in turn gives scientists a tool for research and conservation efforts. NatureMapping teaches students about science while making a real contribution to the field.

These resources will help students develop skills in
* species identification, taxonomy, and biodiversity through field work.
* basic measurement, observation, note taking, mapping, and drawing.
* estimations, size-distance relationships, and data analysis.
* global-positioning-system tracking and data analysis.

See http://naturemappingfoundation.org/ for more.

12. Gr 5-8: Celebrate World Water Day on March 22 – and at a workshop on March 17
http://WorldWaterDay.org and http://SafeWaterScience.org

Join with Safe Water Science as we celebrate World Water Day 2009! Our lessons and activities are the fun way to raise student awareness of the water quality issues facing our planet.

What is Safe Water Science?
A set of 4 enhancement science lessons designed for 5th-8th grade students studying an environmental/physical science curriculum.

Plan to attend the Safe Water Science: Lessons for Life Early Spring Workshop, Tuesday, March 17th, 4:00-6:00pm at Cincinnati State.
*Receive a SafeWaterScience kit valued at $50, containing all the materials needed for classroom activities, including samples of the PUR powder
*Experience all of the hands-on activities used in the lessons
*Receive a certificate of Attendance for 2 contact hours
*experience camaraderie and exciting science in a stimulating environment with great instructors

Contact Martha Broz for more information and to register: martha.brosz@cincinnatistate.edu. Deadline to Register for the workshop: March 9.

Safe Water Science lessons are available for free at www.SafeWaterScience.org:

13. Gr 5-9: Fossil Finders summer Professional Development opportunity (NSF funded)
http://www.fossilfinders.org

August 9th-14th, 2009 at Cornell University, Ithaca, NY

Classrooms teachers at the 5th through 9th grade levels are invited to apply to a summer professional development program that will include the following content:
- Earth's history and geological time
- Ecology and environmental change
- Diversity and adaptation of organisms
- Populations and extinction

- Nature of science and scientific inquiry

Instruction, development and implementation of activities using scientific inquiry
Strategies for reaching under-represented student groups and English language learners
Collaboration and fieldwork with fellow educators, educational researchers and paleontologists

Program Requirements:
Participate in two 5-day workshops in Ithaca, NY (over 2 summers)
Implement the Fossil Finders curriculum unit
Interact with other participants and staff in an on-line support network
Revise lessons and provide feedback on curriculum unit
Participate in a research study related to the implementation of Fossil Finders curriculum materials

Compensation:
Stipend
- Summer workshop participation ($750)
- Online forum interaction and submittal of curriculum revisions ($300)

Room and Board provided
Assistance with travel expenses
Use of laptop computer during project
Possibility of earning continuing education units
Digital camera

Applications are due by March 2, 2009.
Email completed applications to: Dr. Barbara Crawford at bac45@cornell.edu

14. Gr 7-12: America's Greenest School
http://www.americasgreenestschool.com/

Win a hybrid school bus and $5,000

Did you know that each school bus takes approximately 36 cars off the road? Kids deserve a green environment – and riding the school bus is an easy way to help preserve it.

To reward all kids who show a passion for a greener world, we're giving away major prizes! Tell us how your school has made efforts to go green.

You could win a HYBRID SCHOOL BUS for your school – how cool does that make you?! Deadline to submit your entry is April 30, 2009.

15. Gr 9-12: Online Teacher Training for Chemistry Teachers - Only $9.95!
http://www.flinnsci.com

Flinn Scientific wants all Building a Presence for Science members to be aware of this new, innovative, low cost, online teacher training program for chemistry teachers.

Chemistry teachers can choose from over 120 video packages covering 29 major topic areas. All videos can be watched from home or school 24/7 as streaming video via high speed internet connection.

Twenty award-winning chemistry teachers shared their most effective lab activities and pedagogical content to create this program. Chemistry teachers of all levels of experience can benefit from the Flinn Teaching Chemistry™ Video Series.

Click here for additional information:
http://www.flinnsci.com/Sections/E-Learning/eLearning.pdf

Sample videos and the entire series can be accessed through the Flinn website.

Information provided by Kevin McNulty, Vice-President – Marketing and Sales
Flinn Scientific, Inc., P.O. Box 219, Batavia, IL 60510, 1-800-452-1261

16. Gr 9-12: AAAS Leadership in Science Education Prize
http://www.aaas.org/aboutaaas/awards/hs_scied_leadership/hs_scied_leadership.shtml

Help spread the word about an outstanding science teacher in your school or district. The American Association for the Advancement of Science (AAAS) is now accepting nominations for the 2009 AAAS Leadership in Science Education Prize for High School Teachers. The $1,000 prize honors a high school science teacher who has contributed to the AAAS goal of advancing science education by developing an innovative and effective strategy, activity, or program. In addition, the winner will be invited to attend and make a brief presentation at the

annual Shanghai International Forum on Science Literacy of Pre-college Students as a guest of the Shanghai Association for Science and Technology.

For full details about the prize and to download the nomination and application forms, visit the AAAS website. For more information, contact AAAS Project 2061's Lester Matlock at lmatlock@aaas.org. Deadline: April 24, 2009.

Calendar: Upcoming Events/Opportunities/Deadlines
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2009
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2009: The Year of Science
http://www.yearofscience2009.org

March 1: Write On! Wetlands Challenge
http://www.wetland.org/education_writeon.htm

March 2: Deadline to apply for Fossil Finders summer PD in Ithaca, NY
http://www.fossilfinders.org

March 13: Deadline for the Igniting Creative Energy competition
http://www.ignitingcreativeenergy.org

March 13: Deadline for the Earth Day T-shirt Contest
http://www.nesecenter.com

March 15: Deadline to submit "Green Solutions" in Siemens Sustainability Challenge (gr 6-8) http://www.wecanchange.com

March 20: Deadline for High School InvenTeams
http://web.mit.edu/inventeams/apply.html

March 20: Deadline to apply for ODE's "go global"
http://www.ode.state.oh.us/GD/DocumentManagement/DocumentDownload.aspx?DocumentID=62077

April 1: Deadline to apply for the Gr3-4 INSPIRE workshop
https://engineering.purdue.edu/INSPIRE/Programs

April 3: Deadline: Inquiry-based Instruction in Nanoscale Science and

Engineering
http://www.nclt.us/pd/index.shtml

April 6: Deadline to submit student entries for the 2009 Thacher Scholar Awards
http://www.strategies.org/ThacherScholars

April 10: Deadline to apply for the Explore Lake Erie workshop
http://coseegreatlakes.net/events/leew

April 24: Deadline to apply for the AAAS Leadership in Science Education Prize
http://www.aaas.org/aboutaaas/awards/hs_scied_leadership/hs_scied_leadership.shtml

April 30: Deadline to apply for the America's Greenest School
http://www.americasgreenestschool.com

April 30 – May 3: 2009 EECO Annual Conference, Deer Creek State Park
http://www.eeco-online.org/

May 15: Deadline to apply for the HS Nanotechnology workshop
http://www.nsec.ohio-state.edu/2009_teacher_workshop_application.html

June 15-19: Math Machines workshop for high school teachers in Gahanna
http://www.mathmachines.net

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2010
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February 25 - 27, 2010: SECO Conference returns to Columbus, Ohio
http://www.secoonline.org

U.S. Department of Education Teaching Ambassador Fellowship

K-12 teachers with successful strategies for increasing student achievement are encouraged to apply for Teaching Ambassador Fellowship positions with the U.S. Department of Education for the

2009-2010 school year. Teachers will be chosen based upon their record of leadership, impact on student achievement and potential for contribution to the Department and the field. The program offers two tracks: Classroom and Washington Fellows.

Classroom Fellows will serve their regular teaching contracts with their districts and will be paid to perform additional fellowship duties for the Department of Education. As practicing classroom teachers, these Fellows will share an important perspective for -- and will gain more knowledge about -- education policy and program development. They will share their experiences with other Fellows and with the Department of Education at designated times throughout the year.

Washington Fellows will serve as full-time federal employees in Washington, D.C., from the summer of 2009 through June 2010. They will be placed in appropriate positions within the Department of Education to work on education program development and implementation. They will focus on using their previous classroom experience to contribute knowledge and insight to various Department of Education projects. They will spend the majority of their time working in program offices, increasing their knowledge of and contributing to federal education policies and programs, and collaborating with other Fellows.

Applications for both tracks are due March 16, 2009. For more information about this fellowship opportunity and activities of the current group of Teaching Ambassador Fellows, visit http://www.ed.gov/programs/teacherfellowship/index.html

If you have questions about the fellowship, please e-mail your inquiries to TeacherFellowship@ed.gov or call 1-800-USA-Learn.

State of Science Education Survey

You are cordially invited to participate in the first State of Science Education Survey. This survey, developed by Julie Luft, National Science Teacher Association (NSTA) Director for Research in Science Education, will help NSTA to obtain some very valuable information from you and your colleagues on a host of issues important to science education and educators. As a token of their gratitude for participating in this important survey, you can enter to win a FREE airline ticket to travel anywhere in the continental U.S. (some travel restrictions apply)! After you complete the survey, feel free to forward this message (and the link) to members in your state, to science

teachers at your school, or to science teachers in your address book. The survey will close on Monday, March 2 SO ACT NOW! You can access the survey by going to: http://www.surveymonkey.com/s.aspx?sm=v0lCnq3m9CbxwZNuuhh4YA_3d_3d

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New Online Podcast: Ocean Gazing

The Centers for Ocean Sciences Education Excellence Networked Ocean World (COSEE-NOW) is pleased to announce the launch of a new biweekly podcast: Ocean Gazing. Over the next few months they will investigate some of the ocean's secrets. Find out how to detect underwater earthquakes, take photos of some of the smallest ocean creatures, measure the ocean's temperature, and much more.

The first episode of Ocean Gazing features University of Washington oceanography professor and visionary John Delaney. You can listen to the episode, view pictures, hear additional clips, and comment on the episode on the COSEE NOW site: http://coseenow.net/category/ocean/

Each episode features a "Sonic Stumper," where they invite you to call in or email in your guesses. You can also subscribe to the podcast in iTunes by visiting the iTunes store and searching for "Ocean Gazing."

4g. Become America's Greenest School

Win a hybrid school bus and $5,000! Did you know that each school bus takes approximately 36 cars off the road? Kids deserve a green environment – and riding the school bus is an easy way to help preserve it. To reward all kids who show a passion for a greener world, ID Bus is giving away major prizes! Tell them how your school has made efforts to go green. You could win a HYBRID SCHOOL BUS for your school – how cool does that make you? Deadline to submit your entry is April 30, 2009. For more information, please visit: http://www.americasgreenestschool.com/

Forests Now

You can save the rainforest by shaping the new climate change agreement. The last, best chance to save the world's rapidly dwindling

tropical forests is upon us. The nations of the world are negotiating a new climate change agreement this year that could include compensating developing countries for protecting their forests---which sequester up to 400 tons of carbon per hectare. If this happens, developing countries could receive between $600-$8000 from the international carbon trading market for every hectare of standing forest they preserve. Such an incentive would trigger strict protection of forests throughout the tropics. To find out how teachers and students can help shape the outcome of the climate change negotiations visit the Forests Now website at: http://www.forestsnow.org

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High School Science

Driving Environmental Progress: What Can Students Do?

Do you have high school students who care about the environment, like to write, and would appreciate a $400 prize? The international Air & Waste Management Association (A&WMA) is sponsoring a high school essay contest titled "Driving Environmental Progress: What Can Students Do?" This contest gives students in grades 9-12 the chance to share their thoughts on environmental issues and should describe the role that students can play in driving environmental progress. Essays must be submitted on or before April 22, 2009.

The author(s) of the best paper(s) will receive $400 and a first place certificate. Awards will be announced during the Student Awards Ceremony on Thursday, June 18, at A&WMA's 102nd Annual Conference and Exhibition in Detroit, MI. An excerpt from the winning essay will be published in A&WMA's monthly magazine, EM. Additional information and contest rules can be found at: http://www.awma.org/go/essaycontest09

Middle School and High School Science

Students, Astronauts, Questions, and Channel One

In a unique event, NASA and Channel One News will offer students the opportunity to ask questions of the next space shuttle crew. The crew includes two former science teachers, Joseph Acaba and Richard Arnold, who are now fully-trained NASA astronauts. They will make

their first journey into orbit on shuttle Discovery's upcoming mission to the International Space Station, currently targeted to launch from NASA's Kennedy Space Center in Florida no earlier than Feb. 27. On the mission's fourth day, Channel One News Anchor Steven Fabian will interview Acaba, Arnold, shuttle Commander Lee Archambault and International Space Station Commander Mike Fincke. The questions will be selected from written and videotaped submissions made on the Web at:
http://www.channelone.com/news/space-station-q-a

NASA Television and the agency's Web site will broadcast the interview live. For NASA TV streaming video, downlink and scheduling information, visit:
http://www.nasa.gov/ntv

MOLECULES, the Musical

Give yourself and your students a 90-minute science-stimulus by going to see MOLECULES, an original science musical being launched in Ann Arbor to inspire, motivate, and entertain students and their teachers through song, dance, comedy, and very cool multimedia. MOLECULES, is a "Cirque Du Science," an exciting science show that's guaranteed to be one of your most memorable field trips.

Find out how you can also get an award-winning film production crew to film you and your students, right in your school, for two of the MOLECULES multimedia segments. And, find out how your students can win a science scholarship that will be awarded, on stage, at the MOLECULES performance. For all of the details, please visit:
http://www.moleculesthemusical.com

Middle School School Science

Young Scientist Challenge

Discovery Education 3M Young Scientist Challenge is the premier national science competition for students in grades 5 through 8. The Young Scientist Challenge is designed to encourage the exploration of science and innovation among America's youth and to promote the importance of science communication. In 1999, Discovery Communications launched the competition to nurture the next generation of American scientists at a critical age when interest in

science begins to decline. In 2008 3M joined forces with Discovery Education in a quest to nurture the next generation of American scientists with an innovative and interactive science program open to every middle school student in America. Over the last ten years, more than 600,000 middle school students have been nominated to participate in the competition, and winners have gone on to speak in front of members of Congress, work with the nation's top scientists, and pursue academic careers in the sciences.

So do you have what it takes to be America's Top Young Scientist? Discovery Education and 3M are looking for a few great students to inspire them with their enthusiasm for science, so show them what you've got! Create a short (1-2 min.) video about one of this year's scientific topics and YOU could win a trip to New York City to compete in the Discovery Education 3M Young Scientist Challenge finals. In order to enter, students must be in grades 5 through 8, and must submit a video entry online at between January 15, 2009 and May 20, 2009. For full details, please visit:
http://www.youngscientistchallenge.com/

Elementary and Middle School Science

Great Science Fair Resource Just Released

Introducing Scotch&trade Brand Science Fair Central--Discovery Education's definitive new resource for teachers, parents and young scientists……..Scotch Science Fair Central. With an emphasis on hands-on investigations, field work, and doing science like a "real scientist," ScotchScienceFair.com is the most relevant, creative (and fun!) science fair tool on the web.

At ScotchScienceFair.com:
Teachers: Follow a clear pathway to help students develop and present successful projects.
Science Fair Coordinators: Save time with a customizable timeline, letter to parents, judging criteria and a detailed checklist to organize experts and novices alike.
Parents and students: Get tips & tricks for creating a winning display, printable shopping lists complete with where-to-buy information and coupons for Scotch® Brand display products.

At the end of the day, the student's science fair display matters most. It tells the story behind the hard work and is something for students to

be proud of. Using innovative products like Scotch® Clear Removable Mounting Squares lessens frustration and makes a big difference in the finished display. To learn more about creating a winning display, visit ScotchScienceFair.com and get started!

Nature Mapping

In a nutshell, NatureMapping is recording and reporting the plants and animals you see - in your backyard, schoolyard, on your way to work, or enjoying a walk. In short, anytime you can pinpoint your location and take good field notes.

NatureMapping is a program that provides workshops and resources to help students collect and analyze scientific field data, inspiring young scientists through class projects and field trips.

The material includes:
* Lessons: http://www.edutopia.org/naturemapping-lesson-overviews
* Videos and Tips: http://www.edutopia.org/toad-tracking
* Articles: http://www.edutopia.org/naturemapping
* Contacts: http://www.edutopia.org/naturemapping-contact-staff-karen-dvornich
* Teachers' Corner: http://depts.washington.edu/natmap/education/

There are seven lessons; each takes about three-to-five one-hour class sessions, and each follows the same pattern: The lesson starts with steps for teaching the material and concludes with a practical activity and assessment. Links to other lesson plans and downloadable materials are available throughout the lessons.

Started in 1992, NatureMapping grew from the big idea of developing an international biodiversity database for use by scientists and the public. And who better to add to it than students? Across the world, students, teachers, and communities are working together to identify and record species in their areas to contribute to the database, which in turn gives scientists a tool for research and conservation efforts. NatureMapping teaches students about science while making a real contribution to the field.

Upcoming Events, Opportunities, and Deadlines

January 1 – December 31, 2009: The Year of Science. For more information, please visit:
http://www.yearofscience2009.org

February 27, 2009: Deadline to apply to be a INSPIRE Program Summer Counselor/Chaperone. For more information, please visit:
https://opportunities.nasa.okstate.edu/index.cfm?liftoff=applications.PositionDetails&JobPostingID=21

March 2, 2009: Deadline for 7th – 12th grade students to apply for the Young Naturalist Award. For more information, please visit:
http://www.amnh.org/nationalcenter/youngnaturalistawards/index.html

March 2, 2009: Last day to take the State of Science Education Survey. To take the survey, please visit:
http://www.surveymonkey.com/s.aspx?sm=v0lCnq3m9CbxwZNuuhh4YA_3d_3d

March 6, 2009: Deadline to apply for Cohort 2 of the Endeavor Science Teacher Certificate Project. For more information, please visit:
http://www.nasa.gov/audience/forstudents/postsecondary/programs/Endeavor_Science_Teaching_Certificate_Project.html

March 13, 2009: Deadline to apply for the Research Experiences for K-12 Teachers (RET). For more information, please visit:
http://www.magnet.fsu.edu/education/ret/

March 13, 2009: Deadline for students to enter the Igniting Creative Energy Competition. For more information, please visit:
http://www.ignitingcreativeenergy.org

March 13, 2009: Deadline for students to enter the Earth Day T-Shirt Contest. For more information, please visit:
http://nesecenter.com

March 15, 2009: Deadline for middle school students to apply for the Siemens We Can Change the World Challenge. For more information, please visit:
http://wecanchange.com

March 16, 2009: Deadline for K-12 Teachers to apply for the U.S. Department of Education Teaching Ambassador Fellowship. For more

information, please visit:
http://www.ed.gov/programs/teacherfellowship/index.html

March 16, 2009: Deadline for students to enter the 4th Annual DNA Day Essay Contest. For more information, please visit:
http://www.ashg.org/education/dnaday2009.shtml

March 19-22, 2009: National Science Teachers Association Annual Conference in New Orleans. For more information please visit:
http://www.nsta.org/conferences/2009new/

March 20, 2009: Last day to choose a name for the next space station module. For more information, please visit:
http://www.nasa.gov/namenode3

March 20, 2009: Deadline to apply for the 2009 High School InvenTeam Competition. For more information, please visit:
http://web.mit.edu/inventeams/apply.html

March 22, 2009: World Water Day. More information will follow.

March 24, 2009: Picture Perfect: Persuasion, Politics, and Prejudice Surrounding the Scientific Image, 1800-2009 by Professor Eric J. Heller of Harvard University, free lecture at the Lear Auditorium on the campus of Lawrence Technological University.

April 6, 2009: Deadline to apply for the 2009 Thacher Scholars Awards for students in grades 9-12. For more information, please visit:
http://www.strategies.org/ThacherScholars

April 12-18, 2009: National Environmental Education Week 2009: Be Water Wise! For more information, please visit:
http://www.eeweek.org

April 22, 2009: Earth Day. For resources, please visit:
http://www.earthday.net/

April 22, 2009: Deadline for High School Students to enter the Air and Waste Management Association's Essay Contest on Driving Environmental Progress. For more information, please visit:
http://www.awma.org/go/essaycontest09

May 1, 2009: Deadline to apply for the Presidential Award for

Excellence in Mathematics and Science Teaching, Grades 7-12. For more information, please visit:
http://www.paemst.org/controllers/home.cfc?method=view

May 20, 2009: Last day for 5th – 8th grade students to enter the Young Scientist Challenge. For more information, please visit:
http://www.youngscientistchallenge.com/

June 16-17, 2009: Workshop for Middle School Teachers on GEMS Space Science Sequence for Grades 6-8 to be held at Central Michigan University. For more information, please send an email to gems@cmich.edu or visit:
http://gems.cmich.edu

August 2-6, 2009: ChemEd Conference in Radford, Virginia. For more information, please visit:
http://www.radford.edu/chemed2009/

August 16-22, 2009: World Water Week. For more information, please visit:
http://www.worldwaterweek.org/