

BaP update, June, 2009

Calendar: Upcoming Events/Opportunities/Deadlines

January 1 – December 31, 2009: The Year of Science.
<http://www.yearofscience2009.org>

Celebrate the Ocean and Water

The Month of June celebrates the Ocean and Water ... because, among other reasons:

- * 71 percent of Earth's surface covered by ocean and 97% of the Earth's water is found in the ocean as salt water. Only about 2% of the earth's water is stored as fresh water in glaciers, ice caps, and snowy mountain ranges

- * 99% of Earth's living space is water and almost every known phyla is represented in the ocean and waterways

- * Only 1% of the earth's water available to us for our daily water supply needs and Americans drink more than one billion glasses of tap water per day

- * 60-70% of your body weight is water. Your brain is about 70% water, and lungs almost 90% water

Enter a contest to name a new species of jellyfish, read about how oceanography saved the world, and otherwise celebrate water this month in honor of the Year of Science 2009!

K-12: Unique Opportunities For "A+" Teachers
<http://www.sendmyteacher.com>

(NAPSI)-Students, parents and entire communities have the opportunity to nominate the best teachers to attend an all-expense paid professional development program designed to bolster teaching of math and science. Deadline to apply: October 31, 2009

The Mickelson ExxonMobil Teachers Academy is designed to equip teachers with new tools to inspire, engage and retain students' interest in these subjects at an early age. By doing so, the program strives to address the growing need to encourage more students to pursue careers in fields such as medicine, computing and energy. Experts say a solid foundation in math and science is critically important to

developing the next generation of science-savvy leaders and maintaining the nation's competitive standing.

Teachers can be nominated or apply for the program by visiting the URL above. Two-hundred teachers from all 50 states were selected to attend this year's Academy, and the Web site recently relaunched to accept applications for next year.

"We are thrilled with the positive response the Academy received from teachers looking to enhance their understanding in math and science education," said Phil Mickelson, PGA golfer and co-founder of the Mickelson ExxonMobil Teachers Academy. "Along with ExxonMobil, we designed an exciting learning experience for teachers and we are pleased to offer even more opportunities for teachers to attend."

In 2005, ExxonMobil partnered with Phil and Amy Mickelson, the National Science Teachers Association (NSTA) and Math Solutions to create the Mickelson ExxonMobil Teachers Academy. More than 1,400 teachers have attended the Academy, which has influenced more than 30,000 students across the country.

NSTA and the National Council of Teachers of Mathematics will assemble a panel of math and science educators to evaluate the entries. Selected teachers will spend five days learning hands-on experiments to deepen their understanding of math and science concepts.

K-12: NSTA Summer Professional Learning Communities in Science
<http://www.nsta.org>

Designs, Tools, and Resources for Improving Student Learning

- * Who? Teams of science educators - teachers and administrators, or individuals
- * When: August 3-5, 2009
- * Where: Lake Buena Vista, Florida (near Orlando)
- * Why: To learn about Professional Learning Communities & how to implement and support one
- * Cost: \$300
- * More detail: Contact Zipporah Miller at 703.312.9235 or by e-mail at zmiller@nsta.org

Join NSTA Aug. 3-5 in Orlando, Florida, for a three-day summer institute designed to help teams of educators learn how to develop, support, and implement a science-focused Professional Learning Community (PLC) that has continuous improvement in science

teaching and learning at its core. A team of national presenters led by Susan Mundry and Kathy Stiles will introduce the concept of PLCs, examine different structures for PLCs, and demonstrate different science-specific tools and strategies to use within a PLC.

K-12: New NSTA Position Statement on International Science Education

<http://www.nsta.org/about/positions.aspx>

NSTA provides national and international leadership in science education by identifying the qualities and standards for good science education; these are set forth in the form of position statements, which are used to support the improvement of science education at all levels.

NSTA position statements are developed by teams of science educators, scientists, and other national experts in science education, with the input of the NSTA membership. The International Science Education position statement was approved by the NSTA Board in May 2009, and is available, along with the other position statements, at the NSTA web site.

K-12: Purple Loosestrife Project K12 Educational Materials

<http://www.miseagrant.umich.edu/pp/activities.html>

Teachers can use the Purple Loosestrife Project materials in a variety of ways. Some will spend only a few hours per year on purple loosestrife, some will spend a few hours per season, and some will spend a few days per season; depending on their interests. Most of the activities stand alone. The activities for young adults can be used sequentially, but they don't have to be. They can complement broader studies of biology, geography, wetland ecology, biodiversity and exotic species, or they can be used as a primary unit.

All Purple Loosestrife Project educational activities are hands-on, because we know our students learn stewardship best this way. We have another motivation, too. There is a lot of loosestrife out there to deal with and we want to enlist student help in controlling its spread.

K-12: Exploratorium Teacher Institute Science Teaching Tips Podcasts

<http://www.exploratorium.edu/ti/podcasts/index.php>

Can't go to San Francisco for one of their Teacher Institutes? Then the online Teacher Institute Teaching Tips podcast is for you – a podcast

for science teachers, by science teachers. In each five-minute episode, you will learn about hands-on activities, science facts, science history, pedagogy tips for new teachers, or other ideas for your science classroom.

K-12: More from the Exploratorium: Virtual visits outdoors
<http://www.exploratorium.edu/outdoor>

The Outdoor Exploratorium at Fort Mason was created by the Exploratorium in partnership with the Golden Gate National Recreation Area and Fort Mason Center. These interactive exhibits were designed to help visitors notice and investigate the subtle phenomena of the everyday world and explore the complex systems at play in outdoor environments. Fort Mason offers a unique location for observing the movement of wind and waves, the interplay of light, shadow, and temperature, and the interaction between natural and built environments.

Can't get here to visit? That's okay. You can go to the Web site and immerse yourself in the interactive panoramas by dragging your cursor over an image, click on the hot spots to find out about the exhibits, and hear the sounds of the Bay.

K-12: Wind Turbines Fuel Learning
<http://www.edutopia.org/wind-turbines-alternative-energy-schools>

As alternative energy takes center stage, a national program teaches the science and power of the wind. The program, called Wind for Schools, aims to provide students, teachers, and communities with an up-close look at how wind energy works through a combination of turbines and a free K-12 curriculum developed by the National Energy Education Development (NEED) Project. Sponsored by the National Renewable Energy Laboratory's Wind Powering America program, Wind for Schools launched in six windy states -- Colorado, Idaho, Kansas, Montana, Nebraska, and South Dakota -- but teachers can use the curriculum anywhere, with or without a turbine. Schools in the target states can apply to participate as a site for a 1.8-kilowatt turbine. The turbines generate about 3,800 kilowatt hours a year -- not enough to save schools much money on utilities; the main point is the learning opportunities. Wind for Schools includes software that connects the turbine to the classroom, which allows students to see how much power output they're actually getting from the machine.

For a basic introduction to wind energy, see "How Wind Turbines

Work," from the U.S. Department of Energy.
http://www1.eere.energy.gov/windandhydro/wind_how.html)

The NEED curriculum is broken into two main components: The first part, available online at the organization's Web site, addresses a range of topics, from an introduction to wind as energy for K-12 classrooms to advanced upper-level high school studies on how we harness, measure, and consume kinetic energy. At <http://www.need.org/curriculum.php> scroll down to < Wind Energy Curriculum > for primary (K-1), elementary (2-3), intermediate (4-6) and secondary (7-12) curriculum on wind energy. (See also [http://www.kidwind.org/.](http://www.kidwind.org/))

The second half of the curriculum, still in development, will consist of activities that rely on data aggregated from the Wind for Schools turbines, which will be available for download from NEED's Web site. "This way, students in San Diego or Miami can have the benefit of analyzing real data from real turbines," says Rebecca Lamb, the organization's program director.

K-12: Ecological Impacts of Climate Change
<http://dels.nas.edu/climatechange/ecological-impacts.shtml>

Life on Earth is profoundly affected by the planet's climate. Explore some of the ecological impacts of climate change that have already been observed—right in your own backyard.

From the National Academy Press. Free booklet, with powerpoints on current effects of climate changes from the National Academy Press. Each example is of a specific species. The powerpoints are tailored for different parts of the country. This 28-page booklet is based on Ecological Impacts of Climate Change (2009), a report by an independent panel of experts convened by the National Research Council. It explains general themes about the ecological consequences of climate change and identifies examples of ecological changes across the United States.

You can choose the region you live in or all of them. You can get the booklet in hard copy or as a PDF file.

K-12: National Center for Earth and Space Science Education
Launches New Blog on the Universe <http://blogontheuniverse.org>

Get emotional about science. The newly launched Blog on the

Universe is dedicated to helping teachers and parents make science an adventure. Every week you can use Dr. Jeff's new conceptual nuggets and challenges to foster deep and inspiring discussions in the classroom and at home. The idea is to help make the nature of the world understandable to students, and teachable by teachers, so we can take a ride to the frontiers of human exploration---together.

Besides the compelling posts, the blog includes Resource Pages on the nature of our existence in a greater universe, the art of teaching, the power of models in learning environments, powerful quotes on human exploration, a look at climate change, and resource lists for teachers, parents, and community leaders.

Gr K-5: Research articles on Elementary Science Teacher Education
<http://www3.interscience.wiley.com/journal/32122/home>

The July issue of Science Education includes a Focused Collection on Elementary Science Teacher Education. The first two articles are available to anyone, including the introduction (that discusses how the teacher educators engage pre-service teachers to address key problems of practice: engaging in science, organizing instruction, and understanding students) and the first of three subsequent papers on approaches, frameworks, and research findings that address important issues in teacher education – from helping pre-service teachers understand and enact reform-based science teaching, to using instructional frameworks and curriculum materials for effective practice, to understanding and addressing learners in instruction.

Gr 6-12: The daVinci Project, a Residential Summer Workshops at U Conn
<http://www.engr.uconn.edu/davinci/>

When: July 13-17, 2009

The University of Connecticut's School of Engineering is holding its 10th annual daVinci Project. It is a week long (Mon-Fri) residential series of hands-on workshops for middle and high school science and math teachers. Teachers live on campus and participate in one of 5 workshops (Fuel Cell-Construction and Operation, Bio-Fuels/Sustainable Energy, Nanotechnology, Bio-materials: Bones/Joints/Tissues and Water-Processes and Principles).

Registration deadline: June 26, 2009. If you have questions or need further information please contact Sharon Mcdermott at

sharon@engr.uconn.edu or 860-486-5536.

Submitted by Kevin McLaughlin, Director, Engineering Diversity Program
Director, daVinci Program, University of Connecticut 860-486-9306

Gr 7-12: Diagnoser
<http://www.diagnoser.com/diagnoser/>

Diagnoser is a web-based program that lets teachers assign questions for students to answer on the web. As students answer questions, they receive feedback. Teachers can see reports on students' thinking related to the assigned content. Current topics include force and motion; sound, light and waves; human body systems, and properties of matter.

Gr 7-12: Summer Reading online for forward thinking science students (& teachers)
<http://www.edge.org/documents/archive/edge287.html#smith>

What's Next? What are "the big, new ideas that are keeping young scientists up at night?" Beginning with Laurence Smith's "Will We Decamp for the Northern Rim", and in the coming weeks, EDGE will publish a selection of the essays in Max Brockman's book What's Next? Dispatches on the future of science, published by Vintage Books.

Young scientists at work will share their stories, and the essays may ignite the imagination of your students.

"A fascinating chronicle of the big, new ideas that are keeping young scientists up at night."

— Daniel Gilbert

"A preview of the ideas you're going to be reading about in ten years."

— Steven Pinker

Calendar: Upcoming Events/Opportunities/Deadlines

--

2009

--

2009: The Year of Science

<http://www.yearofscience2009.org>

June 15: Deadline to apply for the BSCS Grade 8 field testing opportunity

<http://www.bsos.org/inquiry8>

June 15: Deadline to provide feedback on the Strategic Planning for increased Lake Erie literacy

<http://ohiodnr.com/LakeErieLiteracy>

June 26: Deadline to apply for The daVinci Project, a Residential Summer Workshops at U Conn

<http://www.engr.uconn.edu/davinci/>

June 27: Great American Backyard Campout

<http://www.nwf.org/BackyardCampout/about.cfm>

June 29 - July 1: ORC hosts Enhancing Science Instruction with Inquiry Challenges (Youngstown)

<http://www.ohiorc.org/for/science/inquiry>

June 30: Deadline for 1st, 2nd and 3rd year science teachers to apply for the NSTA New Science Teacher Academy:

<http://www.nsta.org/academy>

June 30: Deadline for High School Students to apply for the NASA Inspire Project.

http://www.nasa.gov/offices/education/programs/descriptions/INSPIRE_Project.html

July 9-10: COSI workshop: Inquiry Into Astronomy

<http://www.cosi.org/educators/professional-development/workshops-k-12>

July 12-18: OSU Great Lakes Education course at Stonelab

<http://coseegreatlakes.net>

July 13-17: The daVinci Project, a Residential Summer Workshops at U Conn

<http://www.engr.uconn.edu/davinci/>

July 14-15: Wet and Wild on the Rocks

Contact Gene Easter: Gleaster@sbcglobal.net

August 2-6: ChemEd Conference in Radford, Virginia

<http://www.radford.edu/chemed2009/>

August 3-5: NSTA Summer Professional Learning Communities in Science

<http://www.nsta.org>

August 16-22: World Water Week

<http://www.worldwaterweek.org/>

September 1: Deadline to submit proposals for the 2010 SECO Conference

<http://www.secoonline.org/conference.html>

October 11-17: Earth Science Week 2009

<http://www.earthsciweek.org/contests>

October 15: Deadline to register for the Future City Competition

<http://www.futurecity.org>

October 31: Deadline to apply for the Mickelson ExxonMobil Teachers Academy

<http://sendmyteacher.org>