Secondary Science Bytes

A newsletter for secondary teachers of science

May 14, 2007

This will be the last Science Bytes for this school year...

With my retirement, changes are to be expected. The Science Bytes will have a new "editor" next year and perhaps yet another new look. I would like to wish you all a good close to this school year and a restful summer filled with enjoyable, nourishing activities. :-) Robby

Science Olympiad National Coaches Conference

Whether you are new to Science Olympiad or a longtime coach who needs help preparing students for their events, the National Coaches Conference is your answer to helping your teams prepare for the regional, state, and national competitions.

Teachers, parents and even students are welcome! There will be a special student session!

National Coaches Conference West: Oct. 5-6, 2007Lowell High School, San Francisco, CA

National Coaches Conference East: Oct. 19-20, 2007Howard Middle School, Orlando, FL

Cost: $125 per person for CC-East or CC-West. Includes registration materials, handouts for event preparation, dinner on Friday night, breakfast and lunch on Saturday. Open to teachers, parents, and even motivated students who help prepare their teams for a Science Olympiad competition. The conference is 2 days long with multiple breakout sessions of all 23 events in each division. Learn from judges from across the nation and take away helpful preparation tips for your students. Includes a special session for new coaches.

Register by September 15, 2007 @ http://fso.creol.ucf.edu/NCCRegistrationMain.htm

National Aeronautics and Space Administration

SPACE...WEATHER...ACTION!

At any given time, powerful explosions of energy can erupt from the sun, blast through space and sweep past Earth. Known as solar storms, these events are not as unpredictable as they may seem. The Space Weather Action Center is a computer-based activity that allows students in grades 5-12 to track, from their classroom, the development and progress of solar storms. Read more about the Space Weather Action Center at http://www.nasa.gov/audience/foreducators/5-8/features/F_Space_Weather_Action.htm

TEN FIELD TESTERS NEEDED

Opportunity for ten teachers to try this online resource with their class, and email a single paragraph about their experience – pro or con. Please send the paragraph to Cheryl Cooper at cheryl@wildak.net

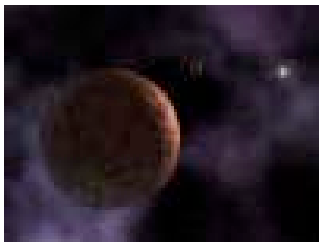
• Opportunity to use 2-minute movies to capture student interest in space science.

• Test drive this "PBS" model for classroom media.

• Short-form visual media can be incorporated in regular lesson plans.

• You will need a classroom computer with access to the Web, and/or the ability to show digital movies to the whole class on an overhead monitor or LCD projector.

Anchorage teachers (ASD's District Connection) https://home.asdk12.org/index.asp?redirect=SCIENCE



NATIONAL AIR & SPACE MUSEUM'S 2007 EXPLORING SPACE LECTURE SERIES (LIVE AND ONLINE)

This year's theme, *Journey Through the Outer Solar System*, features current NASA missions in the distant regions of the solar system. Each lecture will also be available online the day following the live event. The following upcoming lectures are scheduled for 8:00 p.m. EST at the National Air & Space Museum in the Lockheed Martin IMAX Theater. Tickets are free but are required. For more information and to reserve tickets, visit http://www.nasm.si.edu/events/lectures/esls/esls.cfm.

June 14 – "New Horizons: Exploring the Solar System's Frontier." Alan Stern, Principle Investigator, New Horizons

PARTICIPANTS NEEDED FOR VIDEOGAME LEARNING RESEARCH

The Mid-Atlantic Region Space Science Broker (MARSSB) is offering an opportunity from the Center for Educational Technologies (CET), NASA-sponsored Classroom of the Future at Wheeling Jesuit University to participate in research on Videogame Learning.

The CET in collaboration with Georgia Institute of Technology and University of Florida has created *Selene*, an online game about lunar geology due to be released in mid-May, 2007. This great educational opportunity for students ages 13–18 to learn about lunar geology while being part of this NASA Research Study is only available to students recruited by adults.

If you are interested or have questions, please contact the Research Department at CET by emailing selene@cet.edu and be sure to provide your contact information, including a phone number where you can be reached. You can also find out more about this project by visiting the *Selene* website at http://selene.cet.edu

EARTH SCIENCE BY DESIGN (ESBD) LEADERSHIP WORKSHOP

For school leaders, college faculty, and staff developers: June 25-27, Cambridge, Massachusetts

The deadline to register has been extended to June 15.

Learn how the *Earth Science by Design* professional development program brings "Understanding by Design" to Earth Science.

See how *ESBD* helps teachers enhance their content and pedagogical knowledge and how to facilitate this experience with teachers.

Analyze examples of *ESBD* science units which teachers have created and hear how the ESBD approach has affected teachers.

Work with staff developers who have conducted the *ESBD* program with teachers.

Receive all materials needed to offer the program, including a copy of the *ESBD Handbook for Professional Developers* and access to the ESBD Web Site.

For more information and to register, visit http://www.esbd.org/

REMOTE-SENSING APPLICATIONS FOR THE GEOSCIENCES WORKSHOP July 10-11, 2007

University of Wisconsin–Madison
This workshop will equip science teachers with the knowledge and skills to utilize data and teach remote-sensing applications in four geoscience topics: meteorology, oceanography, geology and climate change. Along with presentations by satellite experts, participants will engage in activities to identify cloud types, weather phenomena, ocean currents and geological features in hands-on, break-out sessions. The workshop will culminate with a climate change session that highlights the connections between remote-sensing applications and Earth system science. Lodging is provided to educators from outside of Dane County and college credit is available to all participants.

For more information please visit:
http://cimss.ssec.wisc.edu/satmet_workshop/
or contact Margaret Mooney
(mooney@ssec.wisc.edu) Phone: 608-265-2123

ASTRONOMICAL SOCIETY OF THE PACIFIC 2007 ANNUAL CONFERENCE Sept. 5-7, 2007, Chicago, Illinois

EPO and a Changing World:
Creating Linkages and Expanding Partnerships
A NATIONAL CONFERENCE

Abstract submission deadline: May 14, 2007
In support of the Astronomical Society of the Pacific's mission to increase the understanding and appreciation of astronomy, this national conference will focus on building and supporting a vibrant and connected community of individuals and groups engaged in educational and public outreach in the disciplines of astronomy, astrobiology, space, and earth science. Fore more information, visit
http://www.astrosociety.org/events/meeting.html.

ATLAS OF SCIENCE LITERACY VOLUME 2 NOW AVAILABLE

The American Association for the Advancement of Sciences has released its second volume of the Atlas of Science Literacy co-published by Project 2061 and National Science Teachers Association. The atlas maps out science learning and science standards in a way that also charts how learning advances over time and grade levels. Atlas 2 features all new maps for more than 40 essential topics, including: Weather and Climate, Science and Society, The Nature of Mathematics, Human Development, Global Interdependence, and Explaining Evolution. More information is available at:
http://www.project2061.org/publications/atlas/default.htm.

Still looking for graduate/PD credits this summer? Take an online course from the American Museum of Natural History.

AMERICAN MUSEUM & NATURAL HISTORY

Seminars on Science
http://learn.amnh.org/welcome.php?=BAP offers award-winning online graduate courses in the life, earth, and physical sciences. Designed for K-12 educators, each six-week course is led by an experienced classroom teacher and a scientist affiliated with the American Museum of Natural History. In-depth readings and assignments paired with rich web-based discussions assure that educators come away from each class with a deeper understanding of both the science and the tools of scientific inquiry. Graduate credit is available and each participant receives a CD of course resources suitable for classroom use.

All nine courses are available this summer including: *Evolution*; *Earth: Inside and Out; The Ocean System*; *Genetics, Genomics, Genethics;* and *Space, Time and Motion.* Free sample resources are available for each course on the Seminars website.

Summer sessions run June 11 – July 22 AND July 2 – August 12. Register early for a $50 discount. For more information, go to: http://learn.amnh.org/welcome.php?=BAP or call direct at 800-649-6715.

NASA SPACE SCIENCE EXPLORERS SERIES: TUNING IN THE SOUNDS OF SPACE

You might be surprised by what sounds from space are like. The sounds -- derived from radio signals emitted by Jupiter and the sun -- are music to the ears of Wanda Diaz, a graduate student who is blind. Read more about Diaz and radio astronomy in the latest Space Science Explorers Series article at http://science.hq.nasa.gov/education/space_explorers/.

Anyone can be a scientist, no matter the challenges that may stand in the way. That's the message NASA communicates through its Earth Explorers and Space Science Explorers series, both of which appear on the NASA Web site. In an effort to show that a science career is a worthy and attainable goal, both series profile real-life scientists, young and old, with a variety of backgrounds and interests. Most articles are presented in three different versions according to reading level -- one for grades 9–12 and up, one for grades 5–8, and one for grades K–4.

Earth Explorers

http://science.hq.nasa.gov/education/earth_explorers
Space Science Explorers
http://science.hq.nasa.gov/education/space_explorers

NASA/NSTA WEB SEMINAR FOR MIDDLE-HIGH SCHOOL TEACHERS

ROBOTICS ENGINEERING: BIG TOYS, BIG FUN
May 24, 2007, 2:30 - 4:30 AK Time

Join Kobie Boykins for a look "behind the scenes" of what it was like to build the twin rovers that are still exploring the surface of Mars. Register online at: http://institute.nsta.org/JPL/webseminar4.asp

GLOBE WATERSHED PROJECT EDUCATOR WORKSHOP

Aug. 7-9, 2007, Boulder, Colo.

GLOBE and The Geographic Data in Education (GEODE) Initiative at Northwestern University are looking for middle-high school science teachers to participate in an Earth system science education project that connects students with real scientific data sets. *Travel support may be available for a limited number of non-local participants.*

The GLOBE Watershed Dynamics Project offers students the opportunity to conduct investigations on watershed behavior on local, regional, and national scales, using near real-time and archival data from a hydrologic database covering the entire continental U.S. Participants use M*y World GIS*™ a geographic information system (GIS) specifically designed for educational use to investigate the inter-relationships between precipitation, evaporation and surface runoff on a regional and national scale. Emphasis will be placed on water availability in different regions of the country and how these variables change throughout the year.

For more information, please visit:
http://www.globe.gov/fsl/html/templ.cgi?watersheds&lang=en&nav=1

Climate Discovery

The National Center for Atmospheric Research (NCAR) is offering a series of online courses designed for middle and high school science educators called Climate Discovery. and high school science educators called Climate Discovery.
http://ecourses.ncar.ucar.edu

The 2nd course of the NCAR Online Climate Discovery course sequence, "Earth System Science: A Climate Change Perspective" will start June 1, and enrollment for the course is now open. Information about the course, and how to enroll, is available at http://ecourses.ncar.ucar.edu/climate_change_102.html A brief description of the course is following:

Earth System Science: A Climate Change Perspective

Global climate is influenced by many different components of our planet, from small things, like aerosol particles in the atmosphere and fertilizer, to big things, like erupting volcanoes and ocean circulation. Because so many different things affect climate, it is an excellent example of how Earth is an interconnected system. This online course explores Earth as a system from the perspective of climate and global change, describing the interactions between the various parts of the Earth system, including human activities, and how they all affect our climate. This is the second course in the Climate Discovery series. While you are welcome to apply to take this course without having the prerequisite course (Introduction to Climate Change), preference will be given to applications from those who have taken the introductory course. The course begins June 1, so enroll soon!

Encyclopedia of Life

Check this out! http://www.eol.org/

SCIENCE: STUDY THE FASTEST CREATURE ON EARTH

http://raptorsinthecity.org/

This teacher-created project allows students to observe one peregrine falcon family during nesting season (late February into June). Students can catch up on this year's storyline by perusing the text and awesome photos at the "Raptors in the City" website, and also see live webcam shots sponsored by the Cleveland Museum of Natural History. The RIC site offers resource materials about peregrines (removed from the List of Endangered Species in 1999) and a free e-newsletter published during the nesting season.

Another Cool Bird Web Cam:

Barn Owl Cam

http://www.birds.cornell.edu/birdhouse/nestboxcam/barn_owl_ca/index_html

Green is in!

The Eco League

Awareness of climate change is on the rise, and so is students' interest in environmentalism.

Do your "green" students know about The Eco League? It's an environmental learning consortium of six colleges with semester exchange programs that allow students of one school to study at another, giving them access to ecosystems throughout the nation.

- Alaska Pacific University (Alaska)
- Antioch College (Ohio)
- College of the Atlantic (Maine)
- Green Mountain College (Vermont)
- Northland College (Wisconsin)
- Prescott College (Arizona)

These small liberal arts institutions all share similar missions and value systems based on environmental responsibility, social change, and educating students to build a sustainable future. All of the Eco League colleges have strong environmental learning programs that stress experiential education, so students are prepared to take on real-world challenges when they graduate.

- Explore the Eco League web site http://www.ecoleague.org/
- Request a complimentary poster for display at your school

Help spread the word about these opportunities The Eco League provides for students who wish to pursue environmental studies. Become a part of the greening of education!