



SCIENCE BYTES

NOVEMBER 5, 2008 VOLUME 12

This is an information exchange that is available to all teachers in the Anchorage School District. Please read and then DO it!

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For your Calendar:

NSTA Conferences 2008-2009

NSTA Regional Conferences – 2008

November – Portland, OR: November 20-22, 2008

December – Cincinnati, OH: December 4-6, 2008

2009 National NSTA Conference

New Orleans, LA – March 19-22, 2009

Science Fair 2008-09

Alaska Science and Engineering Fair

March 27-29, 2008 Looking for volunteers for the SF Board.

Science Olympiad 2008-09

April 4, 2009 @ Begich Middle School

2008-09 Life and Work on the Moon Art and Design Contest

NASA invites high school and college students from the arts, including industrial design, architecture, computer design and the fine arts, to submit their work on the theme "Life and Work on the Moon." Artists are encouraged to collaborate with science and engineering students. Such collaboration is not required but would help to ensure that the art is valid for the moon's harsh environment.

Entries will be accepted in three categories: two-dimensional, three-dimensional and digital, including video. Entries will be evaluated not only on their artistic qualities, but also on whether they depict a valid scenario.

Prizes include awards and exhibit opportunities.

International students are encouraged to participate, but they are not eligible for cash prizes or student internships.

Entries are due no later than March 15, 2009.

For more information about the contest and to register online, visit <http://artcontest.larc.nasa.gov>. Questions about the contest should be directed to Dr. Elizabeth Ward at Elizabeth.B.Ward@nasa.gov.

NASA and the Challenger Center Announce Habitat Naming Contest

NASA and the Challenger Center for Space Education have partnered to engage students in ongoing activities for one of NASA's concepts for astronaut housing on the moon through a contest to name a habitat in Antarctica. NASA currently is conducting a test of a lightweight, durable, inflatable habitat on the cold, harsh landscape of the National Science Foundation's McMurdo Station.

The Challenger Center is organizing and conducting the "Name That Habitat" competition for students in grades 6-10. The Challenger Center will recruit subject matter experts to serve as judges for the contest and will provide prizes and other items for the winner and participants. The winning name will be selected later this year and announced by scientists in Antarctica in January 2009. Student, teachers and the public will be able to follow the progress of the inflatable habitat activities throughout the project.

The habitat was funded through NASA's Innovative Partnership Program's Seed Fund initiative, with in-kind resource contributions by the National Science Foundation and ILC Dover of Frederica, Del., the manufacturer of the structure. An inflatable habitat is one of several concepts being considered for astronaut housing on the moon.

The structure looks somewhat like an inflatable backyard "bounce house" for children, but it is far more sophisticated. It is insulated, heated and pressurized, and has power. It offers 384 square feet of living space and has, at its highest point, an 8-foot ceiling. During the test period, sensors will allow engineers to monitor the habitat's performance.

The contest helps NASA fulfill its mission to promote an interest in NASA missions. The contest, for example, asks students to nominate a name that has not been used in previous NASA missions, spacecraft, ships, or robotics, which they can only do successfully by conducting some research.

The Challenger Center is an international, non-profit educational organization founded in 1986 by the families of the astronauts lost during the last flight of the space shuttle Challenger. The goal of the organization is to foster student interest in careers in science, technology, engineering and mathematics.

The deadline for entries for the contest is Nov. 20, 2008.

For more information about entering the Name That Habitat contest, visit http://www.nasa.gov/home/hqnews/2008/oct/HQ_08267_Habitat_Naming_Contest.html. Questions about this contest should be directed to Sonja Alexander at Sonja.R.Alexander@nasa.gov.

SACNAS Conference - Interesting Websites

Joanna Hubbard attended the SACNAS Conference (Society for Advancement of Chicano and Native Americans in Science) in Salt Lake City, October 9-12, 2008. The following are websites that are from sessions she attended or educational sites they provided / suggested.

<http://cieloytierra.org> - Spanish language podcasts and websites for skygazing by EarthSky

<http://www.iris.edu> - Seismology data with educational programs and materials

<http://www.holidaylectures.org> Streaming Howard Hughes 2008 lectures - "Molecules, Motion and Memory. Educators and order for free on dvd Spring 2009 on

<http://catalog.hhmi.org>

<http://www.pbs.org/wgbh/nova/sciencenow/> - Free resources for teachers - NOVA Science Now

<http://earthscope.org> - An Earth Science Program to Explore the Structure and Evolution of the North American Continent and Understand Processes Controlling Earthquakes and Volcanoes.

This piece will be continued next week.

Campbell Creek Science Center Programs

Astronomy Series

November 13: The Search for Extraterrestrial Intelligence

Are we alone in the universe? Where are we looking for life? And how will we know when we've found it? Dr. Travis Rector, a professor in the physics and astronomy department at the University of Alaska Anchorage, will give an overview of the ongoing search for intelligent life elsewhere in the universe. The program begins at 7:00 pm on Thursday November 13 at the BLM Campbell Creek Science Center (5600 Science Center Drive). Please call 267-1247 for more information.

Fireside Chats

November 19: Predators and Prey in Denali National Park

Predation is an important factor in the dynamics of most moose and caribou populations in Alaska. Denali National Park has been the site of over two decades of research to gain insight into predator-prey relationships in a natural setting. Please join Layne Adams, a wildlife researcher with the USGS-Alaska Science Center, as he describes of his ongoing research on the interactions of predators and prey in Denali National Park. The program begins at 7:00 pm on Wednesday November 19 at the BLM Campbell Creek Science Center (5600 Science Center Drive). Please call 267-1247 for more information.

Alaska Education Summit Survey Request

Eric Fry

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907-465-2851

Greetings. As you know, an Alaska education summit will be held November 13-14 in Anchorage. Par-

ticipation, which includes many educators, is by invitation only. However, we have prepared two short surveys whose results will be reported to summit participants.

We want as many people as possible from all walks of life, including students, to respond to these two surveys. One survey asks about education in general. The other asks what outcomes we want for Alaska's high school graduates. Respondents should answer both surveys.

If you consider it appropriate, we respectfully ask you to inform your district's staff, parents and students about the survey. The survey is online. I also have attached printable pdfs, in case it's easier for some respondents to fill out a paper survey. Paper surveys would need to be mailed to the department, at the address above, by November 3.

All submissions are anonymous. Apart from a series of questions, there is an opportunity for open-ended comments.

Here is the link to the department's web page: <http://www.eed.state.ak.us/>. The surveys are on the front page. Thank you for your consideration. Eric

Movers and Shakers: Knowles Science Teaching Foundation 2009 Teaching Fellowships

The Knowles Science Teaching Foundation (KSTF) is seeking applicants for Biology, Physical Science and Mathematics Teaching Fellowships. The fellowship supports exceptional individuals who are committed to becoming outstanding high school math and science teachers. KSTF seeks to promote excellence in science and mathematics teaching in United States high schools in order to help maintain our nation's economic competitiveness and reverse the current national trend of high attrition rates among beginning teachers. We strive to elevate the perception of teaching as a complex, highly-skilled profession and to nurture future leaders and change agents in the field of education.

Eligibility Requirements:

Applicants should have at least a bachelor's degree in science, engineering or mathematics, have received their most recent content degree within the past five years and be committed to teaching science or mathematics in U.S. high schools. Individuals who are currently enrolled in a secondary math or science teaching credential program are eligible if they are within five years of their most recent content degree and have not completed their credential before December, 2008. KSTF Teaching Fellowships are intended to support individuals early in their careers who have the potential to devote a lifetime to improving math and science education.

Award information:

Fellowships will be awarded to up to 15 individuals in each of three disciplinary strands: biology, physical science, and mathematics.

Benefits of the fellowship include:

- Financial and professional support for up to five years, including a maximum of \$10,000 tuition assistance per year for up to two years and a monthly stipend while fellows are enrolled in a recognized teacher credential program.
- Room, board, travel expenses and fees for summer professional development activities as well as a monthly stipend during the summer.
- Yearly opportunities to apply for instructional materials, academic year professional development, school-site mentor support, support for National Board Certification and financial support for leadership activities.
- Membership in a professional organization.
- Room, board and travel expenses for three meetings per year with other KSTF Fellows.

Application information:

Application instructions can be found online at www.kstf.org (<http://www.kstf.org/>). The deadline for applications is Wednesday, January 14, 2009, at 5:00 pm Eastern Standard Time. Only online applications will be considered.

For more information, contact:

Beth DiGesare
Teaching Fellowship Program Coordinator
(856) 608-0001
teachers@kstf.org

Presidential Award for Excellence in Mathematics and Science Teaching

Nominations for the Presidential award for math and science teachers is now open for secondary teachers.

The Presidential Award for Excellence in Mathematics and Science Teaching is the highest award a K-12 math or science teacher may receive for outstanding teaching in the United States.

The President officially names up to 108 teachers annually. Awards alternate between elementary and secondary teachers, with secondary teachers eligible in 2009. The deadline for nominations is May 1, 2009. See <http://www.paemst.org/>.

Science and Children's Early Years Blog

Science and Children's Early Years column-Resources and Conversations for PreK to 2 Science-has a

companion website where we want to read your questions and comments about primary level science.

Current topics include:

Mixing colors more than once

Sink? Float? Try it with pumpkins

Yes, a science teachers' conference IS the place for early childhood teachers

Visit <http://blogs.nsta.org/EarlyYearsBlog>, and join the conversation today!

JOURNEY TO PLANET EARTH

10-part PBS Environmental Series - Available for Educators

WASHINGTON, DC: Today's news headlines tell of a world facing increased hunger, water shortages, massive floods, and species extinction because of climate change and sea level rise.

In response, educational institutions are introducing courses dealing with the most pressing of these environmental issues. And to help educators explain to students the science behind these new environmental challenges, more than 1,500 universities, colleges, and schools in North America have added to their media libraries the environmental video series JOURNEY TO PLANET EARTH.

Funded by the National Science Foundation for PBS, JOURNEY TO PLANET EARTH is the only video series that helps educators explain to students the science behind the headlines. Find out why publications like The School Library Journal, Booklist, The Journal of Academic Librarianship and the California Instructional Technology Clearinghouse hail the JOURNEY TO PLANET EARTH series as the best and most comprehensive environmental series ever produced!

The series comes in a 56-minute version and a 25-minute version re-edited specifically for grades 6-12.

To receive a 30-day free preview of the entire 10-episode series or individual episodes simply reply to this e-mail -- screenscope@screenscope.com -- with your name, institutional mailing address and phone number. Or visit our website for more information about the series:

<http://www.pbs.org/journeytoplanetearth>

A Periodic Table of Visualization Methods

http://www.visual-literacy.org/periodic_table/periodic_table.html More graphic organizers than you can ever use, all graphically organized!

APPLY YOUR SCIENCE TO SERVE SOCIETY

Call for Applications: AAAS Science & Technology Policy Fellowships - Due 12/15/08

For 35 years, the AAAS Science & Technology Policy Fellowships have provided scientists and engineers with a unique opportunity to apply their knowledge and skills to national and international issues in the federal policy realm, while learning first-hand about establishing and implementing policy.

Fellows select assignments in Congressional offices or federal agencies. This is a year-long opportunity, beginning September 1 and ending August 31. Most federal agencies offer Fellows the opportunity to renew for a second year.

AAAS seeks candidates from a broad array of backgrounds and a diversity of geographic, disciplinary, gender, and ethnic perspectives as well as disability status. Fellows have ranged in age from late 20s to early 70s. They represent a spectrum of career stages, from recent PhD graduates to faculty on sabbatical to retired scientists and engineers. Fellows also come from a range of sectors, including academia, industry, non-profit organizations, and government labs.

AAAS partners with approximately 30 scientific and engineering societies that also sponsor fellowships. They conduct separate application and selection processes and may provide different stipend and benefits support. Individuals interested in the Science & Technology Policy Fellowships are encouraged to apply with all scientific and engineering societies for which they qualify. Please see our website for details.

Eligibility & Criteria:

To be considered for a fellowship via AAAS, successful applicants must:

- Hold a doctoral level degree (PhD, ScD, MD, DVM, etc.), in any of the following: Social/Behavioral sciences, Medical/Health disciplines, Biological, Physical or Geosciences, or Engineering disciplines (applicants with a MS in engineering and three or more years of post-degree professional experience also qualify) Note: All degree requirements must be completed by the application deadline
- Have solid scientific and technical credentials and the endorsement of three references
- Show a commitment to serve society
- Exhibit good communication skills, both verbally and in writing, and the ability to engage with non-scientific audiences
- Demonstrate integrity, problem-solving ability, good judgment, flexibility, and leadership qualities
- Hold U.S. citizenship

Note: Federal employees are not eligible

Stipend and Benefits:

Stipend: Approximately \$70,000 to \$92,000 (depending on years of experience and previous salary).

Relocation Allowance: Up to \$4,000 for first-year Fellows with stipends via AAAS if move is greater than 50 miles outside Washington, D.C.

Health Insurance: Monthly reimbursements for Fellows who receive stipends via AAAS. Insurance coverage via agency for those hired directly as temporary federal employees.

Travel/Training: Minimum of \$4,000 for Fellows receiving a stipend via AAAS, to be used for fellowship assignment-related travel, conferences, and/or training.

Varies by placement and must be approved by supervisor.

Professional Development: A year-long program including orientation, monthly seminars, skill building workshops, career sessions, and networking events.

APPLY: The deadline is December 15th, 2008. AAAS accepts online applications only.

Full details at www.fellowships.aaas.org

from ANROE Newsletter

Water Quality Curriculum

Changes in water quality conditions have a big impact on organisms living in estuaries. This curriculum guide for grades 6-8 contains five activities that incorporate data from NOAA's National Estuarine Research Reserve System. The activities are organized as a pathway with five levels of increasing sophistication. Students learn how to access and interpret water quality data, and how to look for patterns and changes over time. Students examine the impacts of physical water quality factors on species that live in a given environment, using the Atlantic sturgeon as an example. The goal is for students to experience different kinds of data and data accessing tools, so that, by the end of the module, they can continue to explore data sets driven by their own inquiry.

<http://apps.dataintheclassroom.org/water-quality/>

Sanctuary Atlas Maps, Images, and Videos

Download atlas maps, high resolution images, and watch compelling videos from the 14 marine protected areas managed by NOAA's National Marine Sanctuaries Program.

<http://sanctuaries.noaa.gov/pgallery/>

Journey South

Students get hands-on experiences with nature and wildlife by participating in the international Journey North program. The fall component, Journey South, tracks the

migrations of birds, whales, and butterflies, as well as the growth of tulips from bulbs. <http://www.jnorth.org/>

Online GigaPans Bring Earth Science to Life

Nothing makes Earth science real to students like viewing natural features, alternately, up close and from a distance. Recent developments in robotics technology, image processing, and web-delivery have made the creation, viewing, and annotation of Gigapixel panoramas, or GigaPans, far more accessible than ever before.

For Earth Science Week 2008, the GigaPan website launched a series of collections of GigaPan images of landforms and geologic processes. Each day, a new collection of geoscience-themed GigaPans was featured. Educators and students were invited use the site's interactive viewer to pan around, zoom in on, and annotate various panoramas from around the planet. For example, one could zoom in from a vantage point on the rim of the Grand Canyon to discover the detail of the Great Unconformity.

Check out collections on the GigaPan website (<http://www.gigapan.org/>) now. Set up a free account and you can log in, take "snapshots" within GigaPans, and annotate them to share your discoveries with explorers from around the world. To learn more, including how to create GigaPans of your own, see <http://www.gigapan.org/about.php>.

'Journey 3D' Guide Accompanies DVD Release

The Summer 2008 movie blockbuster "Journey to the Center of the Earth 3D" will be released on Tuesday, October 28, on DVD - the perfect format for the classroom. Watch along with your students as the film plunges characters and viewers alike into the exciting world beneath the Earth's surface. And use the accompanying "Journey 3D" Educator Guide to explore related science topics.

How accurate were Jules Verne's ideas about the Earth's interior? What is the theory of plate tectonics? Where are sedimentary, igneous, and metamorphic rocks found? How do Earth systems - the geosphere, hydrosphere, atmosphere, and biosphere - interact? The Educator Guide shows how students can find answers.

AGI, organizer of Earth Science Week, has collaborated with Walden Media, which produced this update of the Verne classic, to develop this booklet of relevant geoscience information and standards-based activities, using the movie as an opportunity to explore "science fiction and science fact." For a printable PDF of the Educator Guide, go to <http://www.earthsciweek.org>.

Alaska Miners Association Annual Convention

Just a friendly reminder, Alaska Miners Association Annual Convention is taking place next week at the Sheraton Hotel in downtown Anchorage. This year's convention is entitled, "Water Management for Mining", with clean water issues being discussed by state, federal and industry representatives. In addition to the presentations listed below, this is also the 100th Anniversary of Kennecott Mine and will be the focus of this year's history night, taking place on Thursday, November 6th from 7:00 p.m. to 9:30 p.m.

'Water Management for Mining' short course taking place all day Monday, 11/3/08 and Tuesday, 11/4/08

'Ballot Measure 4', Willis Lynford- 11/6/08 @ 8:50 a.m. in Ballroom B & C

'Recap of the Issues', Greg Beischer- 11/06/08 @ 9:45 a.m. in Ballroom B & C

'The Financial Meltdown- What it Means for Mining', Joe Beedle- 11/06/08 @ 10:30 a.m. in Ballroom B & C

'Pebble Limited Partnership 2008 Activity Update', Mike Heatwole- 11/06/08 @ 4:35 p.m. in Ballroom B & C

'Developing a World Class Mining Company, The History of Kennecott' 11/06/08 7:00-9:30 p.m. (this would fit well with a series on Alaskan History)

I have attached the press release as well as a summary of events and presentations for the convention. Please feel free to contact me with questions or if you need assistance arranging an interview.

My cell number is 907-854-3553.

Michelle Johnson

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