



# SCIENCE BYTES

SEPTEMBER 29, 2008 VOLUME 7

**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**

October – Charlotte, NC: October 30-November 1, 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**

**TENTATIVE April 4, 2009 @ Begich Middle School**

## **Journey North**

Greetings from Journey North, an online math, science, technology, and geography project funded by Annenberg Media. Below you'll find an announcement of our free spring online studies for K-12 classrooms. Please share it with other educators, science consultants, and instructional coordinators in your area. Projects begin February 1, 2009. Eve Pranis, Journey North

[evep@gmavt.net](mailto:evep@gmavt.net)

[www.learner.org/jnorth](http://www.learner.org/jnorth) <<http://www.learner.org/jnorth>>

## **Track Springs Journey North:**

### **Migrations, Mystery Schools, Climate, More**

Teachers and students in K-12 classrooms are invited to participate this spring in Journey North, its 16th annual global study of wildlife migration and seasonal change. A free Internet-based „citizen science“ project, Journey North enables students in 11,000 schools to watch the wave of spring as it unfolds. Students monitor migration patterns of monarch butterflies, hummingbirds, whooping cranes, and other animals; the blooming of plants; and changing sunlight, temperatures, and other signs of spring. They share their local observations with classmates across North America and beyond, and look for patterns on real-time maps. As they put local observations into a global context - and connect with field scientists - participants are better prepared to explore how climate and other factors affect living things.

Each Journey North study features many entry points and resources that address learning standards: Journey North for Kids reading booklets and lessons, stunning photos and video clips, weekly migration updates, interactive maps, instructional units, and compelling migration „stories.“

Thanks to Annenberg Media, Journey North Web site access and participation is free. Take a glimpse at the spring projects here:

<http://www.learner.org/jnorth/season/spring2009>. (Home page: <http://www.learner.org/jnorth>.) Plan now; these begin on February 1st!

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## **Butterfly Garden Grants**

Special Project Learning Tree GreenWorks! Butterfly Garden Grants are available for teachers and students participating in MonarchLIVE: A Distance Learning Adventure!

Through MonarchLIVE, your classroom can join a series of free live, interactive field trips that follow the magical migration of monarchs. Learn more about MonarchLIVE below.

As a lead partner in MonarchLIVE, PLT is providing special GreenWorks! service-learning grants to participating teachers. Grants of up to \$1,000 are available for schools to create butterfly gardens in their schoolyard or community. For more information about the GreenWorks! Butterfly Garden Grants, please visit [www.greenworks.org](http://www.greenworks.org)  
<<http://m1e.net/c?72346302-bRgwZMAmXWXpw%403635486-mE4fKLxBWtFA%2e>> .

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### **FLINN - Safety Information**

Now, the great safety information found only in the Flinn Scientific Catalog Reference Manual is available online and can be accessed through the Flinn Web site! Yes, it's true! The chemical storage and technical data, safety and reference material, and all the information you depend on to maintain safer classrooms and laboratories is now online. Be sure to spread the news to all secondary level science teachers!

You'll also find technical data on all the chemicals listed in the Flinn Catalog Reference Manual plus a complete section on how to prepare chemical solutions. Flinn's problem-solving safety articles are there too, addressing critical safety issues such as Chemical Spill Control, Goggle Safety, Liability Reduction, and much more.

Most of this information can be found by clicking on the "Safety" link on the Flinn Web site homepage, then "Laboratory Chemical Safety"  
<http://www.flinnsci.com/Sections/Safety/labChemSafety.asp> or "General Laboratory Safety Issues"  
<http://www.flinnsci.com/Sections/Safety/generalLaboratorySafety.asp> ;

In addition, the Flinn Web store now contains a completely updated online version of the Flinn Catalog Reference Manual. Photographs and complete descriptions of all Flinn's quality products make shopping easy. You'll save loads of time with two search functions. In addition to a standard "keyword" search, the unique Flinn "index driven" search allows you to more precisely pinpoint and target the items on your shopping list. This time-saving tool makes it easy to navigate and order from the new Flinn online catalog.

As teachers, you rely on Flinn's safety data and quality products -- now you can access the information online from home or school. Use this information to prepare for your upcoming labs, experiments and science activities. Go to <http://www.flinnsci.com>

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### **10-part PBS Environmental Series - JOURNEY TO PLANET EARTH 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, over 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](mailto: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>

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### **NASA eCLIPS (K-12)**

NASA eClips consist of more than 55 short, 5-10 minute video segments, which are available on-demand via the Internet for the 2008 -2009 school year. The clips feature many of the agency's missions and are separated into grade-appropriate topics.

The program is designed as a resource for classroom teachers. Accompanying the collection of NASA eClips will be educator guides to provide teachers with examples of how to effectively use the products as instructional tools. The number of video clips available is expected to grow to more than 220 by next year. To see the clips, go to <http://www.nasa.gov/education/nasaecclips>

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### **Young Naturalist Award**

Deadline: March 2, 2009

Presented by the American Museum of Natural History and sponsored by Alcoa Foundation, the Young Naturalist Awards-an inquiry-based research competition--invites students in grades 7-12 to conduct

research in the natural world. Students investigate questions they have in the areas of ecology, biology, Earth science and astronomy and present their findings in an essay. Winners (2 from each grade) receive cash awards, from \$500 to \$2,500, and an all-expense paid trip to New York City to attend the awards ceremony at the Museum. There they take a behind-the-scenes tour and meet with Museum scientists. The winning essays are published on the Museum's website and excerpted in Natural History magazine. 36 finalists receive a \$50 award. All participants receive a certificate and a letter from the judges who read their essays. The letters highlight the strong points of the investigation and suggest ways they could be improved. The contest is open to students in the U.S. and Canada. For more information visit the website at <http://www.amnh.org/yna> or email the Young Naturalist Awards Administrator at [yna@amnh.org](mailto:yna@amnh.org).

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### **13th Annual Institute for Global Environmental Strategies Art Contest**

Entries are currently being accepted for the 13th Annual Institute for Global Environmental Strategies Art Contest for students in grades 2-4. This year's theme is "Trees: Making a World of Difference." Participants are encouraged to learn how trees help to create a healthy environment. The students then draw a picture showing what they learned.

The contest is open to all U.S. citizens in grades 2-4. The winning entry will be used as the IGES holiday e-card. The first-, second- and third-place artists will receive gift cards. All entrants will receive a certificate of participation.

Entries are due on Oct. 24, 2008. For more information, visit <http://www.strategies.org/education/index.aspx?sub=education&sub2=student&sub3=2008contest>.

If you have questions about this contest, please contact [info@strategies.org](mailto:info@strategies.org).

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### **NASA Launches New Hubble Web Site for Educators**

In conjunction with the upcoming space shuttle mission to the Hubble Space Telescope, NASA Education has launched a new Web site with resources for educators.

The site celebrates Hubble as a unique tool of exploration and as a catalyst of inspiration to wonder -- to ponder new questions and to seek expressive responses to the magnificent visual imagery it enables people to "see." This site will continue to follow the Hubble journey into 2010, Hubble's 20th anniversary year.

Join NASA as preparations progress toward a fall 2008 launch of the space shuttle Atlantis for the mission to service Hubble. When the mission concludes, Hubble will be like a new telescope. New gyroscopes and batteries will extend its operational lifetime. New, more powerful and sensitive scientific instruments will increase Hubble's capacity to "see" deeper into space than ever before.

The Hubble educational resource site offers activities and resources for three primary themes: Hubble Careers, From Galileo to the Great Observatories, and the Hubble Walk: Spacesuits and Spacewalks. Revisit this Web site often throughout the next year for updates and added activities, resources, links to complementary sites, and notices of special events.

<http://www.nasa.gov/education/hubble>

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### **Hubble L-1 Webcast**

Tune in the day before the launch to learn what it takes to fly a difficult servicing mission to the Hubble Space Telescope. Seven astronauts will work in space aboard space shuttle Atlantis for 11 days to capture the orbiting observatory and install two cutting-edge instruments plus a host of equipment. After the crew of Atlantis is finished, Hubble will be ready to complete at least five more years studying the cosmos.

Hosted by Damon Talley of NASA's Digital Learning Network and Rebecca Sprague of NASA Public Affairs at Kennedy Space Center in Florida, the L-1 webcast features interviews with the crew, a Hubble astronomer and up-close looks at all the work going into this exciting mission.

For more information about this event, visit [http://www.nasa.gov/mission\\_pages/shuttle/shuttlemissions/sts125/launch/sts125\\_webcast.html](http://www.nasa.gov/mission_pages/shuttle/shuttlemissions/sts125/launch/sts125_webcast.html).

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### **NSTA Competition and Grant Programs**

#### **Siemens We Can Change the World Challenge**

Middle school students across the United States are being encouraged to "go green" and team up for the Siemens We Can Change the World Challenge, the first and only national K-12 sustainability education initiative aligned to education standards and uniquely tailored to match students' growing comprehension abilities throughout their school-aged years.

Student teams of two to three students from sixth through eighth grade, under the mentorship of a teacher or adult supervisor, can register for the Siemens We Can Change the World Challenge at [www.wecanchange.com](http://www.wecanchange.com) <<http://www.wecanchange.com>>. Participating teams

will identify an environmental issue in their community, research the issue using scientific investigation, and create a replicable green solution using web-based curriculum tools powered by Discovery Education. All student teams entering the Middle School Challenge will receive prizes for their participation and top-performing teams, as judged by a panel of environmental experts and science educators, will earn cash, teacher education materials, and unique Discovery Experience trips.

### **Toshiba/NSTA ExploraVision Award**

The Toshiba/NSTA ExploraVision Awards program, one of the world's largest K–12 science and technology competitions, is now accepting entries for its 2009 competition. ExploraVision, sponsored by Toshiba and administered by NSTA, challenges teams of two to four students in the United States and Canada to research scientific principles and current technologies as the basis for designing innovative technologies that could exist in 20 years. A popular learning and motivational tool, many teachers use it as part of their science and technology curriculum.

Up to \$240,000 in savings bonds will be awarded this year to student winners whose innovative ideas combine imagination with the tools of science. Toshiba laptop computers for schools and other prizes for students, teachers, and mentors will also be presented. Up to 32 winning students, their families, teachers and mentors will also receive a 5-day expenses paid trip to Washington, DC for a gala awards event. The deadline for the 2009 competition is January 28, 2009. For more information or an application for 2009, visit [www.cags.exploravision.org](http://www.cags.exploravision.org) <<http://www.cags.exploravision.org/>> or e-mail [exploravision@nsta.org](mailto:exploravision@nsta.org).

### **Toyota TAPESTRY Grants for Science Teachers**

The Toyota TAPESTRY Grants for Science Teachers program offers grants to K–12 science teachers for innovative projects that enhance science education in the school and/or school district. This year 50 large grants, and a minimum of 20 mini-grants, totaling \$550,000 in all, will be awarded. The categories are Physical Science Application, Environmental Science Education, and Integrating Literacy and Science.

The program is open to middle and high school science teachers residing within the 50 United States and U.S. territories and possessions and it is also open to elementary teachers who teach some science in the classroom or are teaching specialists.

To apply for funding, qualified teachers must write a Toyota TAPESTRY proposal according to the proposal requirements. The deadline for the completion of the online application is 11:59 p.m., Eastern Standard Time, Wednesday, January 21, 2009. Recipients of Toyota TAPESTRY grants will be notified by March 4, 2009. Non-recipients will be notified by May 31, 2009.

To apply, please visit <http://www.nsta.org/pd/tapestry>.

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### **AIAA K-12 Curriculum Website**

(American Institute of Aeronautics & Astronautics)

Check out this amazing resource for educators.

[http://www.aiaa.org/content.cfm?pageid=473&vupage=cl\\_curriculum](http://www.aiaa.org/content.cfm?pageid=473&vupage=cl_curriculum)

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The following presentation, sponsored by UAA Engineering Ethics Series, may be of interest:

### **“Building a Resilient Community: Preparing for the Next Earthquake”**

Wednesday, October 1, 7 p.m.

Wendy Williamson Auditorium

Presented by Chris Poland Chairman and Chief Executive Officer, Degenkolb Engineers 2008 Seismological Society of America William B. Joyner Lecturer Past Recipient of the Alfred E. Alquist Medal for Seismic Safety Former President and Honorary Member, Earthquake Engineering Research Institute

Earthquakes are a very real threat to our community. Is Anchorage prepared for the next big jolt? Join Chris Poland as he explains how engineers and professionals in all fields can plan for earthquake mitigation and promote community resiliency. Poland brings his experiences from San Francisco where he works with city officials, engineers and the general public to create a city that can better respond to the next big one. An internationally recognized speaker and authority on earthquake engineering, Poland is the chairman and CEO of Degenkolb Engineers, one of the nation's leading structural engineering firms.

For more information, contact UAA's School of Engineering at

(907) 786-1900 or [www.engr.uaa.alaska.edu](http://www.engr.uaa.alaska.edu)

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### **EARTH SCIENCE WEEK UPDATE**

#### **American Geological Institute**

#### **Attention, Teachers!**

#### **Earth Science Week Wants You**

During Earth Science Week 2008 (Oct. 12-18), students will explore mines and caves, sample groundwater,

monitor the weather, visit museums and science centers, prepare science projects, and conduct investigations. Leading them will be teachers like you.

You're encouraged to lead your own celebration. Conduct an Earth science lab activity, using one of the many activities on the Earth Science Week website at <http://www.earthsciweek.org>. In the process, you can heighten awareness of the importance of Earth science education to students' informed decision making, responsible citizenship, and career success.

Remember, you need not work alone. Talk with your school's guidance counselor about how a schoolwide celebration can promote science literacy. Work with your science supervisor, coordinator, and fellow teachers to develop activities. Communicate to your principal, superintendent, school board members, and PTA representative the importance of Earth science. And collaborate with a nearby museum, science center, geoscience company, or civic group to organize local events.

For more ideas, go to <http://www.earthsciweek.org>. Or order your Earth Science Week Toolkit, which includes a geoscience activity calendar, posters, brochures, bookmarks, CDs and more. To order, visit <http://www.earthsciweek.org/materials/index.html>

### **Field Notebook for Students - Featured in 2008 Toolkit**

Just one of dozens of educational materials in the Earth Science Week 2008 Toolkit - from posters and calendars to activity books and CDs - is the "No Child Left Inside" Field Notebook. But the Field Notebook, made possible by contributions from USGS and Rite in the Rain, is a special part of this year's celebration.

Rite in the Rain, which manufactures full-size notebooks for fieldwork by professional geoscientists, has created this miniature Field Notebook - with "all-weather writing paper" and charts on types of clouds, soils, and geological map symbols - for Earth Science Week 2008 (October 12-18). By recording their observations and conclusions here, students get a taste of the work performed by professional geoscientists. "No Child Left Inside," the theme of Earth Science Week 2008, has become a rallying cry for a growing movement. Efforts by government agencies and nonprofit groups - from USGS to the National Park Service - are helping young people experience the joys of outdoor activity. Inspired by Richard Louv's bestseller "Last Child in the Woods," these activities aim to curb what the author calls "nature-deficit disorder" among America's youth. Most recently, the U.S. House of Representatives passed the "No Child Left In-

side" Act (HR 3036) on September 18, funding efforts to strengthen environmental education.

For Earth Science Week 2008 Toolkit ordering, special shipping, bulk orders, and more information, visit <http://www.earthsciweek.org/materials/index.html>.

### **Kick Off the Fun on International EarthCache Day**

Earth Science Week begins again this year with International EarthCache Day on Sunday, Oct. 12, 2008. Whether you're a teacher, a student, or just someone who enjoys Earth science firsthand, EarthCaching provides a great way to kick off the celebration.

EarthCaching is a variation of a recreational activity known as geocaching. Typically, a geocache organizer posts latitude and longitude coordinates on the Internet to advertise a "cache," or scavenger-hunt destination, which geocachers locate by using GPS devices. Today, more than 270,000 caches are active in over 200 countries, according to Geocaching.com. The activity has attracted over one million participants worldwide.

EarthCachers have added an educational dimension to the activity. When you visit an EarthCache, you learn something special about Earth science, the geology of the location, or how the Earth's resources and environment are managed there. EarthCaching has been developed by the Geological Society of America - a major Earth Science Week partner - in association with Groundspeak, Inc., and the geocaching community.

You are invited visit or establish an EarthCache in your area on the second annual International EarthCache Day, Oct. 14. To learn more, visit <http://www.earthcache.org/>.

### **Three Weeks Left to Enter Earth Science Week Contests**

With entries due near the end of Earth Science Week - Friday, October 17 - science students and enthusiasts across the country are busy completing submissions for the Earth Science Week 2008 essay, visual arts, and photography contests. Send yours today!

The photography contest, open to all ages, focuses on "Earth Science Beyond Your Front Door." Whether you are a young person yourself or an adult who works with youngsters, you can lead an educational outdoor adventure. Show your geoscience excursion.

The visual arts contest is titled "Studying Our Earth." Students in grades K-5 are encouraged to draw, paint, or create a poster. Artwork entries should be two-dimensional and no larger than 24-by-36 inches. Show

yourself as an Earth scientist using the inquiry approach to answer a question in nature.

Students in grades 6-9 may enter the essay contest: "Earth Connections." Each one-page essay must be no longer than 300 words. Discuss how various natural processes on the Earth are interconnected and how they affect each other where you live.

The contests offer opportunities for students and the public to participate in the celebration, learn about the Earth sciences, and compete for prizes. Each first-place winner receives \$300 and a copy of AGI's "Faces of Earth" DVD set. To learn more, visit <http://www.earthsciweek.org/contests>.

### **How to Put Your Event On 'My Events Map' Online**

If you're hosting an event during Earth Science Week (October 12-18) for the public, you want to let people know about it. The best way is to post your event details on the new "My Events Map" (<http://www.earthsciweek.org/eventsnearyou/index.html>).

"My Events Map" provides clickable links to Earth Science Week events taking place at parks, museums, science and technology centers, university geology departments, local geological societies, and other nearby locations. Anyone can find the map online, click on a nearby location, read a brief description of the event - and even get driving directions!

To post your event on the map, please contact AGI at [info@earthsciweek.org](mailto:info@earthsciweek.org). Be sure to provide a brief description of the event, the time and date, and the street address. We'll be happy to direct Earth Science Week participants to your event!

### **Shine a Media Spotlight On Your Great Activities**

Energy! The environment! Natural hazards! Earth science is breaking news. Educators can take advantage of journalists' interest in geoscience to promote awareness of local Earth Science Week activities. Here are five effective strategies:

- \* Plan a special event to draw attention to your Earth Science Week activities. Conduct an investigation or experiment, invite a prominent geoscientist to talk with students, host a ceremony or a banquet, stage an event with a nearby museum or science center, give awards to volunteers, or recognize geoscience enthusiasts who have made a difference.

- \* Prepare a press release to alert the media about your Earth Science Week activities. Answer important questions, such as who, what, where, when, and why. Include data and quotes from key players. Provide contact

information for followup. Print the release on your letterhead and fax it to editors and reporters at least three days before the event.

- \* Be persistent in pitching your story to local news organizations. Besides noting the "hook" of Earth Science Week, show how your activities address issues that are urgent, timely, and relevant to the community. Write a brief, compelling query letter to the appropriate editor at each media outlet. Follow up with a phone call or an e-mail.

- \* Write letters to the editor for print in local newspapers and magazines. You might respond to a recent geoscience-related article with a letter to the editor. If possible, schedule a meeting with the editorial board. Or instead of a letter, perhaps write an opinion editorial, or "op-ed," to cite concerns and recommend solutions.

- \* Use available Earth Science Week materials in promoting awareness. In the Earth Science Week Toolkit and on the event website are print and electronic materials - poster, calendar, logo, and more - that you can use to "brand" your activity. Link your local activity to the larger national celebration to emphasize its significance.

### **AGI Thanks Its Generous Earth Science Week Sponsors**

Thanks to the generosity of sponsors, who support our education outreach efforts, Earth Science Week is able to promote awareness and appreciation of the geosciences among millions of people every year. AGI would like to express its appreciation to the many government agencies, nonprofit groups, and corporations that make the program possible.

Earth Science Week couldn't do its important work without the support of organizations such as the U.S. Geological Survey and the AAPG Foundation. In addition, year after year, Earth Science Week Toolkits are purchased in bulk quantities for distribution to teachers by numerous organizations such as NASA, the National Park Service, the Geological Survey of Alabama, the Society of Exploration Geophysicists, the Jackson School of Geosciences, BMC Aggregates LC, Cimarex Energy Co., and ExxonMobil.

To learn how your organization can become an Earth Science Week Sponsor, visit <http://www.earthsciweek.org/sponsor/index.html> online. To order Earth Science Week Toolkits for science teachers in your area, go to <http://www.earthsciweek.org/materials/index.html>.

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