



# SCIENCE BYTES

AUGUST 17, 2009 VOLUME 2

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

**2009 - Alaska Math & Science Conference**

**INQUIRY - The Bridge to Understanding**

October 14-17, 2009 Juneau, AK

**NSTA Conferences 2009-2010**

March 17-20, 2010 Philadelphia, PA

**Alaska State Science & Engineering Fair**

March 26-28, 2010 Begich Middle School

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## TARGET Offering Field Trip Grants

This Fall, Target is offering 5,000 teachers (nationwide) field trip grants for \$800!

Here's the link:

<http://sites.target.com/site/en/company/page.jsp?contentId=WCMP04-031880>

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## NASA Offers Educational Resources

As you get ready for the new school year, consider adding a little space to your class.

NASA offers educational resources for use with kindergarten through college, as well as resources for the informal education community. Many of NASA's educational products are quick and easy to find on the NASA Web site.

Visit the NASA Blast Back to School page to find educational resources and NASA events taking place in your area. From the site, you can find information relating to the following topics:

- Bring NASA Missions Into Your Classroom
- Bring NASA to Your School and Neighborhood
- Attend a NASA Educator Workshop
- Current Opportunities for Educators and Students
- NASA Resources for Your Classroom
- Especially for Students

For more information, visit the Blast Back to School page:

<http://www.nasa.gov/audience/foreducators/blast-back-to-school.html>

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## DigitalOcean: Sampling the Sea

DigitalOcean has asked GLOBE's help in spreading the word about an opportunity for middle and high school teachers and classrooms to participate in their pilot program DigitalOcean: Sampling the Sea, which aims to interactively educate the next generation of seafood consumers about declining global fish populations and implications for humans and oceans. Students will learn about sustainable seafood and as they communicate with classrooms from other countries, they'll find out about differences in seafood consumption based on culture. The backbone of the program is the issue of sustainable food consumption. The program will encourage proactive solutions to the problems facing the world's ocean fish populations.

Participating teachers will receive curriculum guides, exercises, online training and support to help them implement the program. Curriculum modules will be flexible, and teachers can individually determine how much time they spend on in-class activities, from as little as three days to intermittently over three months.

The pilot program seeks the participation of 200 middle and high school teachers and classrooms. Participation is limited to English-speaking classrooms in the pilot stage so as to avoid translation issues the first round.

For more information and a flyer you can post at your school or send to other teachers to enlist their help with this project please go to:

[http://www.globe.gov/fsl/pdf/DigitalOcean\\_flyer.pdf](http://www.globe.gov/fsl/pdf/DigitalOcean_flyer.pdf)

For additional information on the UC Santa Barbara Center for Film, Television and New Media Web site, visit:

<http://www.cftnm.ucsb.edu/Programs/EMI/Research/SS.html>

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### **AK Department of Agriculture Offering Grants**

Welcome to a new school year:

The state has announced a new grant program for Alaska teachers. The Division of Ag is offering \$500 grants to teachers to help add agriculture in their classrooms. Those of you who have participated in Alaska AITC (Agriculture in the Classroom) programs have the inside track. Up to 24 grants will be awarded statewide.

The deadline is 5 pm on Friday, August 28, so don't delay. Please consider applying to show your interest in this program so that it may continue.

Here's the URL for more information:

<http://www.dnr.state.ak.us/ag/index.htm>

Look for the scholarship under "What's New"

#### **There are some other opportunities as well:**

*Go to the Washington Dairy Council's website* to get your \$20 allotment of ed products for AK teachers, if you haven't this calendar year. They've got lots of great stuff and the shipping is free on the \$20 and not bad if you order more: [www.eatsmart.org](http://www.eatsmart.org). While you are there, check out the free School Wellness kit and make sure someone in your building has signed up.

If you'd like to go to the *National AITC Conference* in Maryland in June 2009, there's a scholarship available through the American Farm Bureau. Find out more at [www.agfoundation.org](http://www.agfoundation.org) under Scholarships. Deadline is Nov. 2.

*Alaska AITC has a new deck of more than 1,000 trivia questions* in agriculture, including a section on Alaska agriculture. If you have been trained in an AITC workshop, participated in Alaska Ag Day reading or other activities in which you've provided feedback to me, you are eligible for a free deck. Otherwise, the price is \$10. The decks will be sent to a central location in each participating school district for distribution, so if you are eligible for a free deck, respond with your email, grade and school by Aug. 25. If you are in a private school, I'll provide another pickup site.

Also remember the new *DVD loaner library offered by Alaska AITC*. More than 40 great titles. Get yours reserved now for fall harvest activities, which is a

great time to add ag to your classroom. See the list on the Alaska AITC website. Remember, there are lots of great free resources to bring ag to your classroom. Find them using the National Resources Directory at the national AITC website: [www.agclassroom.org](http://www.agclassroom.org)

It's not too soon to get *Alaska Agriculture Day* on the 2010 calendar. Put a star on Tuesday, May 4 -- not just on your calendar but on the principal's calendar so we can Save the (Ag) Day.

If you missed the Alaska AITC Educator Institutes this summer, you missed out on some great learning, fun and food. Watch for next year's dates.

Have a great year,

Victoria Naegele

Alaska Agriculture in the Classroom (AITC)

907-746-2172 cell 982-2219 fax 746-2173

[www.agclassroom.org/ak](http://www.agclassroom.org/ak)

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### **Afterschool Universe - Hands-On-Astronomy**

Afterschool Universe is a hands-on astronomy program targeting middle school settings outside regular school hours. It explores basic astronomy concepts through hands-on activities and focuses on a journey through the universe beyond the solar system.

A free, two-day training workshop is being held on Sept. 10-11, 2009 in Oakland, Calif. This training will prepare participants to lead the program or train others to do so. This training workshop is being held in the Bay area just prior to the annual meeting of the Astronomical Society of the Pacific (<http://www.astrosociety.org/events/meeting.html>). So if you are already traveling to California, come out early and join us to expand your astronomy programming toolkit!

All attendees who complete the training will receive a printed and bound copy of the program manual at the end of the workshop. Most of the materials to run the program are easily available at grocery stores and craft supplies stores. Those who commit to run the program for the target audience will receive access to a password-protected Web site that has additional resources to help with the implementation.

This workshop is open to all who are interested in offering an astronomy program for 6th-8th graders outside regular school hours. Registration for this training session is due Aug. 28, 2009. Register by visiting <http://universe.nasa.gov/au/register.html>.

For more information about the program, visit <http://universe.nasa.gov/afterschool/>

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## 2009 World Maritime Day Parallel Event

This year, the United States is hosting the 2009 World Maritime Day Parallel Event with a theme of Climate Change. The lead agency is the US Coast Guard, with participation by the IMO, NOAA, EPA, State and MARAD.

One of the most important aspects of this event is the Science Fair/Design Competition. The USCG has reached out to high schools, universities and academies but I am concerned that with the summer upon us, many of the schools will not get the memo.

Please note the event is outlined on the website: <http://www.uscg.mil/worldmaritimeday/sciencefair.asp> Check it out and see if your groups can participate!! Carleen Lyden-Kluss, Co-Founder and Executive Director NAMEPA (North American Marine Environment Protection Association)  
+203 255 4686 T +203 260 0480 M  
[www.namepa.net](http://www.namepa.net)

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## Top 10 Reasons for Attending an NSTA Conference

1. **Performance**— You and your students deserve to be excellent in science
2. **Leadership**— Because new skills, knowledge and activities help build educational leaders who influence others to do extraordinary things
3. **Discovery**— Because looking at the world with a new perspective brings innovation and creativity in the classroom
4. **Motivation**— Because expert speakers, educators, and scientists serve to inspire and stimulate
5. **Passion**— Because sharing it with your peers, your mentors, and the leaders in science education is contagious
6. **Expertise**— Because educators are the best when they are well versed in their field
7. **Inspiration**— Because you will hear stories from the likes of renowned author Richard Louv that will move you to act.
8. **Growth**— Because your conference experience will expand your world personally and professionally
9. **Freebies**— Because exhibiting companies from across the nation will offer you hundreds of classroom giveaways, new products and samples
10. **Connections**— Because you'll meet peers, mentors, leaders, and acquaintances for support and friendship.

## from Lunar and Planetary Institute Earth and Space Science Newsletter

### Supergiant Star Shedding Bubbles of Gas

The sharpest ever views of the supergiant star Betelgeuse show that the star has a vast plume of gas almost as large as our Solar System and a gigantic bubble boiling on its surface. These clues help explain how massive stars shed gas at such a tremendous rate.

Modified from

<http://www.sciencedaily.com/releases/2009/07/090729074525.htm>

### More Evidence of Ocean on Saturn's Moon

Scientists say ammonia detected in the jets from Enceladus' south pole provides the strongest evidence yet for the existence of liquid water beneath the surface.

Modified from

<http://www.universetoday.com/2009/07/22/mystery-solve-d-new-clues-point-to-a-liquid-ocean-on-enceladus/>

### Something Ran Into Jupiter

An amateur astronomer spotted a new spot on Jupiter, and researchers have confirmed that something impacted Jupiter on July 19, leaving a dark smudge, upwelling particles, and a lot of heat.

Modified from

<http://www.universetoday.com/2009/07/20/jupiter-impact-confirmed/>

### Photos of Apollo Lunar Modules on Moon

NASA's Lunar Reconnaissance Orbiter, has returned its first imagery of the Apollo moon landing sites, showing the Apollo landers and their shadows on the Moon's surface.

Modified from

[http://www.nasa.gov/mission\\_pages/LRO/multimedia/lromages/apollosites.html](http://www.nasa.gov/mission_pages/LRO/multimedia/lromages/apollosites.html)

### New Technique Finds Furthest Supernova

Astronomers have found two of the farthest supernovae ever detected. The two cosmic blasts occurred 11 billion years ago. This new method may help astronomers study some of the very first supernovae, advancing our understanding of how galaxies form and change over time.

Modified from

<http://www.universetoday.com/2009/07/08/new-technique-finds-furthest-supernovae/>

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## NOAA Marine Debris Program (MDP)

A principal objective of the NOAA Marine Debris Program (MDP) is to provide federal financial and technical assistance to grass-roots, community-based ac-

tivities that improve living marine resource habitats through the removal of marine debris and promote stewardship and a conservation ethic for NOAA trust resources. NOAA trust resources include living marine resources and their habitats, including commercial and recreational fishery resources (marine fish and shellfish); coastal habitats, diadromous fish species; endangered and threatened marine species; marine mammals and marine turtles; marshes, mangroves, seagrass beds, coral reefs, other coastal habitats, areas identified by NOAA Fisheries as essential fish habitat (EFH) and areas within EFH identified as Habitat Areas of Particular Concern (HAPC). NOAA trust resources can also include marine habitats and resources associated with

National Marine Sanctuaries, National Estuarine Research Reserves, and areas under state coastal management programs. Successful applications will be those that:

- \* Demonstrate collaboration among entities such as public and nonprofit organizations, citizen and watershed groups, anglers, boaters, industry, corporations and businesses, youth conservation corps, students, landowners, academics, and local government, state, and federal agencies to cooperatively implement marine debris removal projects, and

- \* Are able to report the total amount of debris removed, total area cleaned or restored, types of debris encountered, and document volunteer hours involved or a maximization of project partnerships The NOAA MDP anticipates that typical awards will range from \$15,000 to \$150,000.

[http://www.nmfs.noaa.gov/habitat/restoration/projects\\_programs/crp/partners\\_funding/callforprojects2.html](http://www.nmfs.noaa.gov/habitat/restoration/projects_programs/crp/partners_funding/callforprojects2.html)

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### **Secretary Duncan Fields Questions from Alaskans**

U.S. Secretary of Education Arne Duncan fielded questions from a variety of Alaska educators and others at a forum in Anchorage on August 11 hosted by the Cook Inlet Tribal Council. He was accompanied by U.S. Sens. Lisa Murkowski and Mark Begich.

Duncan said he has seen more commonalities than differences among the 24 states he has visited recently. He said America's schools need to continue to become dramatically better. The United States has to educate itself to a better economy, he added.

Duncan said the Obama administration is taking a pragmatic approach to reauthorizing the No Child Left Behind Act, and said he expects that the law will come up for reauthorization once every five to seven years, not every year.

An audience member told Duncan that if Alaska Native languages are not used in the schools they will be wiped out. Duncan said that children's sense of identity and culture is important to reducing dropout rates.

Duncan praised NCLB for breaking down performance data on students by subgroups, such as ethnicity, low-income students and students with disabilities. But even under NCLB, there are 50 different sets of state performance standards and some states set a low bar, he said.

State Sen. Bettye Davis of Anchorage said the states and school districts do not receive enough federal funds to carry out NCLB's mandates. Duncan spoke about the \$100 billion in funds in the American Recovery and Reinvestment Act – the stimulus funds.

Another audience member said NCLB's accountability system, in which progress must be demonstrated annually, does not allow time for schools to try innovations. And she pointed out that students in bilingual programs do not tend to score well on state assessments in their early years. Duncan said graduation rates are the desired outcome. He spoke of a \$10 billion federal fund that will be invested in innovative practices in the states.

Sen. Murkowski said NCLB lacks flexibility. Duncan said the Obama administration is looking at accountability systems that measure student growth.

Duncan agreed with an audience member who said the schools have let down students who aren't going to college. Duncan said it is a national challenge to make schools more engaging, including offering physical education and recess. Schools should let students discover what they're good at and let them chase their dreams, he said.

Duncan agreed with an audience member that good principals are essential to good schools and he favors national certification for master principals. Duncan agreed with an audience member about the need for private investment in the schools. He urged those investors to stay the course over a period of years.

Anchorage School District Superintendent Carol Comeau asked how schools can enhance parental engagement, particularly with parents coming from so many different ethnic groups. Duncan said that adult dysfunction has been a huge part of the schools' challenge. We need collective responsibility for the children, he said. Many schools don't welcome parents. He said some

schools are community centers in which parents receive adult education.

On the topic of special education, Duncan said many children are placed in special education only because they don't read well, suggesting that better methods of teaching reading would reduce the number of students in special education. He said every teacher should be trained to teach special education students.

Duncan agreed there should be more partnerships between K-12 schools and higher education. He said the federal government's reform efforts in higher education are focused on increasing the graduation rate.

Alaska Education Commissioner Larry LeDoux asked for flexibility from the federal government. He said harsh regulations do not allow for innovation. He said the U.S. Department of Education perceives states' requests for flexibility as a way of escaping accountability.

LeDoux said that if the federal government gave states clear outcomes and flexibility, the states could achieve the outcomes.

Duncan said he has heard this request in other states. NCLB now provides loose goals but tight rules on how to achieve them. He said he would like to flip that around: firm goals but flexible ways to achieve them.

Bob Williams of Palmer, Alaska Teacher of the Year, said he defines teacher quality by how hard he works his students and parents and his use of assessments, not by his college education. (NCLB's rules for demonstrating that a teacher is highly qualified are partly based on college degrees.) Williams asked Duncan how to measure what really matters in a teacher. Duncan replied: Are the students learning? Are the students graduating?

from **INFORMATION EXCHANGE**

*Newsletter of the Alaska Department of Education & Early Development August 14, 2009*

*This newsletter is available weekly and in archived form at [www.eed.state.ak.us](http://www.eed.state.ak.us) <<http://www.eed.state.ak.us/>> .*

### Discovery Education - Free Resources- Website

Check out this cool website - Lots of great FREE STEM activities.

<http://www.fuelourfuturenow.com/>

### Coexisting with Beavers

The Alaska Department of Fish and Game and Anchorage Waterways Council are hosting a public lecture by visiting beaver experts Owen and Sharon Brown. The Browns belong to a nonprofit, Beavers: Wetlands and Wildlife that has focused on peaceful solutions for beaver/human conflicts for over 20 years. The lecture and video presentation will be followed by a field trip to

Westchester Lagoon to view beaver habitat and look for beavers.

When: 6:30-8 p.m. Monday, Aug. 31

Where: Inlet View Elementary Multipurpose Room (1219 N Street)

### NASA Microgravity Student Competitions for Grades 9-12 and Grades 6-9

*Dropping In a Microgravity Environment or DIME* is back for high school-aged teams. *What If No Gravity? or WING* is new this school year for students in grades 6-9 !!!

These are the competitions for students to design, build, and drop an experiment in a microgravity drop tower at the NASA Glenn Research Center in Cleveland, Ohio.

The home page for DIME & WING information is: <http://spaceflightsystems.grc.nasa.gov/DIME.html>

There is also a YouTube channel with video information about past DIME activities and how the drop tower operates.

<http://www.youtube.com/user/dime10nasa>

The new e-mail address for inquiries is: [dime@lists.nasa.gov](mailto:dime@lists.nasa.gov) <<mailto:dime@lists.nasa.gov>>

The DIME team at NASA Glenn appreciate it if you would include DIME on your web site. We thank you if DIME is already listed.

Richard DeLombard NCSER at NASA Glenn

**ED580: Mollusks of the Cook Inlet Watershed**

What are mollusks? Help collect biological information on Alaska's snails, clams and mussels! Why are they important?

Where do they live? How do you collect and identify them?

A 1-credit hour, UAA Standards-based science education course  
Intended audience: middle school science teachers and non-formal educators

Meeting times: Friday, August 28, 4:00 to 8:00pm, Saturday August 29, 9:00 to 5:00pm, Thursday, September 17, 4:00 to 7:00pm

To sign up or for any questions (course contents, future offerings, etc.) please contact:

The Alaska Natural Heritage Program  
Tamara Fields  
Zoologist (course instructor)  
Alaska Natural Heritage Program, UAA

Tel. 907 257 2796  
Email: [tfields@uaa.alaska.edu](mailto:tfields@uaa.alaska.edu)