



# SCIENCE BYTES

SEPTEMBER 14, 2009 VOLUME 6

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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#### Youth Involvement Grant Available

**2009-2010 Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) Youth Involvement Grant**

***"Supporting PWSRCAC's mission by fostering public awareness, responsibility, and participation through information and education"***

The Prince William Sound Regional Citizens' Advisory (PWSRCAC) encourages youth and teachers (or sponsors) in the Exxon Valdez Oil Spill region to become involved and support its mission by participating in

related activities. Grant funds up to \$2,000 are now available for projects that support the council's mission: "Citizens promoting environmentally safe operation of the Alyeska terminal and associated tankers". The application form, guidelines and reporting requirements are attached.

The council works to reduce from crude oil transportation through Prince William Sound and the Gulf of Alaska by monitoring Alyeska's Valdez terminal and tanker operations, conducting independent research, and advising industry and government on ways to prevent oil spills and to respond effectively if spills do occur. PWSRCAC also increases public awareness of these areas and various other aspects of Alyeska's operations, including environmental protection capabilities and actual and potential environmental impacts of the terminal and tanker operations

Reporting requirements for receiving a grant may include submitting articles and photographs for the PWSRCAC Observer quarterly newsletter, presentation at the Council's December "Science Night", presentations at schools or to school boards, reports that may be posted on the council website, or any other project that has been approved by the Information and Education committee prior to award of grant.

Past projects supporting the PWSRCAC mission have included:

- studying/monitoring marine invasive species with a presentation to the Council's Science Night
- field trips that included studies of native and non-native species and the region's marine environment, the Exxon Valdez Oil Spill of 1989 and its aftermath
- other projects to develop student interest in becoming stewards of the oil spill region.

If you have any questions, please e-mail Linda Robinson at [robinson@pwsrcac.org](mailto:robinson@pwsrcac.org) or call 1-800-478-7221

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#### North Pacific Research Board 2010 Photo Contest

<http://www.nprb.org/events/index.html>

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#### Turn Your Students into BirdSleuths

Channel your students' energy with inquiry, observation, and fun using one of [BirdSleuth's ready-to-use curriculum kits!](#)

If you are pressed for time and looking for a new way to get your kids outside, motivated and engaged by science and inquiry, then take a look at BirdSleuth's curriculum kits from the Cornell Lab of Ornithology. <http://www.birds.cornell.edu/>

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#### NASA & DESIGN SQUAD Develop Online Workshop

NASA and DESIGN SQUAD® have developed an online workshop for educators and afterschool leaders to build their skills and confidence in guiding kids through

engineering activities like those found in the On the Moon Educator Guide.

Completing this self-guided online workshop will allow educators to gain insight and strategies for strengthening critical-thinking skills and exciting their students about using the design process to arrive at solutions.

- In this self-guided workshop, participants will
- **Experience the design process in action.** Learn and reflect on ways to use the design process to tap into students' problem-solving skills and creativity.
  - **Watch an engineering activity.** See how easy it is to integrate the design process into hands-on activities in the classroom.
  - **Get resources.** Discover a variety of engineering activities from NASA and DESIGN SQUAD® for students in grades K-12.

For more information about the online workshop, visit <http://pbskids.org/designsquad/parentseducators/workshop/welcome.html>.

To download the On the Moon Educator Guide, visit [http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/On\\_the\\_Moon\\_Guide.html](http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/On_the_Moon_Guide.html).

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### Adopt-a-Physicist Program

This free program pairs high school physics classes with physics degree holders in online discussion forums for a three-week period (October 12–30). Through these forums, students can connect to "real" physicists working in fields ranging from radiation therapy to computer programming. They can talk freely about careers, school, work, and family balance.

The Adopt-a-Physicist program is open to all high school physics classes, but registration is limited. Apply by **September 23** at [www.adoptaphysicist.org](http://www.adoptaphysicist.org).

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### Final Garden Tour of the Season at Tryck Gardens

Tryck Gardens has its last garden tour of the year on Friday September 25th. The theme is fall colors. I ask that nonperishable items for the food bank be brought. To reserve a spot call 345-2507 and I'll get back to confirm.

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### NSTA Grants & Competitions

It's that time of year again! NSTA and its sponsors are kicking off another exciting year of rewarding and recognizing high-performing science educators and students through our large-scale, nationally known competitions and grant programs.

Although we reach a large number of individuals involved in the science education community, there are still many science educators out there who don't know about these programs. Help spread the word and include the news about these amazing opportunities for teachers and students on your Web site and/or in your member

newsletters and communications. Check out the following opportunities listed below.

### Disney's Planet Challenge®

Fourth through sixth grade students have the opportunity to make a difference in their surroundings while using science, math, composition and problem-solving skills. Disney's Planet Challenge has gone nationwide and now students across the country can participate! Registration is now open and students can win prizes, classroom grants, a trip to Disneyland® with their classmates, a chance to be on a TV show and much more! Teachers can use the Challenge with their lesson plans. Sample plans can be found on the website. Disney's Planet Challenge is a great way to get students involved with their environment in a fun and creative way. Go to <http://disney.go.com/planetchallenge/> <<http://disney.go.com/planetchallenge/>> to get started. Registration closes December 18, 2009.

### DuPont Challenge© Science Essay Competition

DuPont Challenge© Science Essay Competition gets students writing about science! Students in seventh through 12th grade research and write a 700 to 1,000-word essay about a scientific discovery, theory, event or technological application that has captured their interest. Created to honor the Challenger astronauts, students can win savings bonds up to \$5,000, and a trip to Walt Disney World and to the Kennedy Space Center. Teachers win too! Along with the trips with their students, teachers can also win \$500 grants. Students have the opportunity to be inspired, to be creative, and to tell a story in this essay about any scientific topic. Teachers can use this competition to motivate students to reach beyond themselves and push the limits! To learn more about the competition, check out the website at <http://thechallenge.dupont.com> <<http://thechallenge.dupont.com/>> . Entries will be accepted from December 1, 2009 until January 31, 2010.

### Siemens We Can Change the World Challenge

K-8 students have the opportunity to become "Agents of Change" as they team up with their classmates to create replicable solutions to environmental issues in their classroom, school and community. Student and teacher/mentor prizes, which vary according to grade level, include savings bonds, school grants, exciting trips, TV appearances and much more. Applications are now being accepted. The deadline for elementary level entries is January 31, 2010 (finalists and winners to be announced March 10, 2010); and the deadline for middle school entries is March 15, 2010 (state winners to be announced April 26, 2010, and national winners to be announced May 10, 2010). For more information about the Challenge or to register for the competition, visit [www.wecanchange.com](http://www.wecanchange.com) <<http://www.wecanchange.com/>> .

## Spirit of Innovation Awards

Sponsored by the Conrad Foundation, the Spirit of Innovation Awards is an annual competition that challenges teams of high school students to create innovative products for use in one of four categories: aerospace exploration, space nutrition, renewable energy and green schools. Teams and their coaches will compete for more than \$100,000 in cash prizes; the opportunity to be designated as Pete Conrad Scholars and have the opportunity to commercialize their products for general market use; and annual memberships to the Conrad Foundation, Sigma Xi, the American Institute of Aeronautics and Astronautics (AIAA), and the National Science Teachers Association—the Foundation’s official education advisor. For more information about the program, visit <http://www.conradawards.com> <<http://www.conradawards.com>> . Applications must be submitted no later than December 15, 2009 to be considered.

## Toshiba/NSTA ExploraVision Awards Program

ExploraVision is a competition that makes science fun and exciting for students and gives educators an innovative way to present science topics in the classroom. This competition encourages K-12 students of any interest and ability levels to imagine a future technology using present day predicaments. Students can win up to \$10,000 in savings bonds for college and cool gifts from Toshiba. Applications are now being accepted; the deadline is February 2, 2010. For more information about the program or to learn how to apply, visit [www.exploravision.org](http://www.exploravision.org) <<http://www.exploravision.org>> .

## Toyota TAPESTRY Grants for Science Teachers

The Toyota TAPESTRY Grants for Science Teachers program, one of the largest science teacher grant programs in the nation, and is now accepting entries for the 2009-2010 competition. Now in its 20th year, the program offers grants up to \$10,000 to K-12 science teachers for innovative projects that enhance science education in their school and/or school district over a one-year period. For more information about the Toyota TAPESTRY Grants for Science Teachers program or to learn how to apply, visit <http://www.nsta.org/pd/tapestry/> <<http://www.nsta.org/pd/tapestry/>> . Applications must be submitted no later than January 18, 2010 to be considered.

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## Explore New Free Science Resources: Alaska Native Perspectives on Earth & Climate

Dear Educator,

Boston public television station WGBH, in collaboration with the Alaska Staff Development Network, The Alaska Native Science Commission, and University of Alaska, Fairbanks, is pleased to offer a media collection designed specifically for Alaska teachers and students on

our free digital library, Teachers' Domain. The 40 videos and interactives in Alaska Native Perspectives on Earth and Climate

<<http://www.teachersdomain.org/special/ean/>> look at Alaska's unique geology and the impact of development and climate change on Alaska. These media resources provide both Alaska Native and Western scientific perspectives on these topics and feature Alaska Native scientists who are working toward solutions.

The collection also provides three lesson plans and a student activity that make use of the media resources.

Explore the collection now at:

<http://www.teachersdomain.org/special/ean/>

Teachers' Domain <<http://www.teachersdomain.org/>> is an online library of free digital resources and fee-based professional development courses developed by Boston public television station WGBH and partners throughout the U.S.

Sincerely, The Teachers' Domain team at WGBH Boston

## Traditional Ways of Knowing:

### *Spirit*

<http://www.teachersdomain.org/special/ean/ean.trad.spirit/>

### *Air*

<http://www.teachersdomain.org/special/ean/ean.trad.air/>

### *Fire*

<http://www.teachersdomain.org/special/ean/ean.trad.fire/>

### *Water*

<http://www.teachersdomain.org/special/ean/ean.trad.water/>

### *Earth*

<http://www.teachersdomain.org/special/ean/ean.trad.earth/>

## Earth as a System:

### *Atmosphere*

<http://www.teachersdomain.org/special/ean/ean.eas.atmo/>

### *Biosphere*

<http://www.teachersdomain.org/special/ean/ean.eas.bio/>

### *Cryosphere*

<http://www.teachersdomain.org/special/ean/ean.eas.cryo/>

### *Hydrosphere*

<http://www.teachersdomain.org/special/ean/ean.eas.hydro/>

### *Lithosphere*

<http://www.teachersdomain.org/special/ean/ean.eas.litho/>

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## Target Field Trip Grants

The Target Field Trip Grants Program offers funds to allow teachers to offer valuable experiential learning gained from field trips to enhance students' classroom studies.

Funds may be used to cover cost of transportation, entry fees, supplies and equipment, and resource materials.

The deadline for application is November 3, 2009.

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

2009 Alaska Math & Science Conference

# Inquiry

*Bridge To Understanding*

October 14-17, 2009  
Juneau, AK

**Math and Science  
Professional Development Opportunities**

Dates: October 14 – 17, 2009  
Location: Juneau Douglas High School  
Juneau, Alaska

Conference Hotel: Westmark Baranof 907 586-2660  
Cost: \$100 early registration

Keynote Speakers  
Active Workshops and Field Trips  
Vendor Exhibits  
Networking Opportunities  
ASTA and ACTM Membership Benefits  
Credit Options

*Mark your calendars and check the websites for more information*  
<http://www.akctm.org/events.html>  
<http://www.aksta.org>

of Using Science Notebooks in Elementary Classrooms, and other works; Dr. Constance Kamii, constructivist math educator; Dr. James Choike who will lead a discussion forum on bridging the gap between high school and college math; Brian Hawkins NASA Aerospace Education Specialist; Chariot Group, Anchorage will also offer two, three-hour sessions on the use of Smart Boards. Along with these invited presenters will be a wealth of talent from across our state.

Saturday morning offerings will include 3-hour sessions with offerings from AMERF, GLOBE, Anchorage School District's Science Notebook Workshop, and Stu Schultz presenting Materials World Modules. There will also be field trips offerings notably – Climate Change with Cathy Connor at Mendenhall Glacier, the science of the Alaska Brewery, and a host of others. Sign up for field trips will be on site.

This conference will provide offerings for Pre-K through college. Administrators will also find sessions informative to their work as they help raise the bar for STEM and articulate math and science curriculum in their schools.

The University of Alaska Southeast will make available a conference one-credit course to all participants. They will also offer a 2 or 3 credit follow up, distance delivered course focusing on either math or science education topics. Course fees will be \$90 and participants may register for courses on Thursday morning at the UAS table at the conference.

We hope that you'll join us for a great professional development opportunity.

### Alaska Math Science Conference - First time in Southeast Alaska!

Alaska State Math and Science Conference will be in Juneau, October 14 - 17, 2009 at Juneau-Douglas High School. Shuttle buses will operate between downtown Juneau and the conference site. In celebration of NSF's Year of Astronomy the event will start Wednesday evening with a community presentation by Dr. Stephen Maran, author of Astronomy for Dummies. A desert reception will follow at the conference hotel.

Thursday, Friday and Saturday morning will be filled with breakout sessions appropriate for K – 12 teachers across the STEM areas. The Alaska State Museum will serve as an additional venue and showcase the NOAA Science on a Sphere, and the Yupik Science Exhibit and Survival Exhibit – The Way We Genuinely Live. The shuttle is scheduled throughout the day between both venues.

Thursday, the day will begin with an address from Education Commissioner Larry LeDoux, followed by a keynote address by Dr. Kenneth Wesson, a distinguished neuroscientist, on teaching with the brain in mind. On Friday morning Dr. David Gallo, oceanographer from Woods Hole Institute will start the day.

Notable presenters will be; Pat Shane, President of NSTA; Dr. Michael Klentschy, researcher and author