



SCIENCE BYTES

NOVEMBER 10, 2009 VOLUME 13

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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NSTA Conferences 2009-2010

March 17-20, 2010 Philadelphia, PA

Science Olympiad

March 20, 2009 Teeland & Mat-Su Career and Tech HS

Alaska State Science & Engineering Fair

March 26-28, 2010 Begich Middle School

Painted Butterflies on Space Shuttle

On Nov. 16, 2009, Painted Lady butterflies will fly aboard space shuttle Atlantis to the International Space Station. The butterflies will spend several months in space as part of an exciting experiment to observe their life cycles and behaviors in microgravity. And your class is invited to participate.

The butterflies will live in a special habitat, which provides a safe environment, food and water. Photos and video will be transmitted back to Earth and made available on the BioEd Online and K8 Science Web sites.

Students can view the data and join in the investigation in real time.

Teachers are also encouraged to engage their students in concurrent activities with their own butterflies. Everything needed to get started is available on BioEd Online or K8 Science. A free teacher's guide is also available for downloading.

For additional information, visit

http://www.bioedonline.org/space/STS_Mission_129.cfm
and
http://www.k8science.org/space/STS_Mission_129.cfm.

2010 Toyota International Teacher Program to Costa Rica

We are pleased to announce that the application for the 2010 Toyota International Teacher Program to Costa Rica is now available online. Fully funded by Toyota Motor Sales, U.S.A., Inc., and administered by the Institute of International Education, this professional development opportunity for educators aims to advance environmental stewardship and global connectedness in U.S. schools and communities.

The program will take place June 18 - July 3, 2010 and the deadline to apply is [January 6, 2010](#). Please visit www.toyota4education.com <<http://www.toyota4education.com/>> for eligibility requirements, application instructions, and FAQs. Please feel free to forward this information along to your colleagues as we value diversity and encourage educators of all subjects and school types to apply for this unique opportunity.

Thank you for your continued interest in the Toyota International Teacher Program.

Toyota International Teacher Program Team

1-877-832-2457

toyotateach@iie.org

Real World Design Challenge

This is to CONFIRM - that Alaska is IN the RWDC. The governor's office will be issuing a Letter of Endorsement shortly but don't hesitate to go ahead and REGISTER NOW to enter a team into the Challenge before the November 16th deadline!

You can sign up a team or as many teams as you like by going to www.realworlddesignchallenge.org and clicking on the Coaches/Teachers button. That will take you to the Teachers Page. Instructions of signing up are there. Each team may have from 3-7 high school students. The State Winning Team gets an all expense trip to Washington, DC to attend the National Competition. Training is free on-line at www.ptcacademy.com. **Sign up the teams before you get trained.**

There is training for students as well now available on line for free.

If you know of any other ways to get the word out to schools quickly, I urge you to forward this e-mail to any interested groups and schools.

Angie Slingluff

Aviation and Space Education Coordinator

FAA Alaska Region AAL-30

907 271-5228

Hot Safety Topic from Flinn Scientific

Your November issue of Flinn Scientific Science Department Safety Training Notes deals with a "Hot" topic: "Bunsen Burner and Hot Plate Safety." Many science classes include activities that call for students to observe materials being heated or to produce an end product by heating. By following these recommended tips and guidelines you can help reduce burns and accidents when using various heat sources in the laboratory.

You can always depend on Flinn for helpful safety information, great teaching ideas, superior service, lightning-fast delivery and top-quality products at low prices. Order from Flinn and get real value for your dollar--every time!

You can print "Bunsen Burner and Hot Plate Safety" by connecting to:

<http://www.flinnsci.com/Sections/Safety/Snotes/snotes.asp>

The Spirit of Innovation Awards Program

The Spirit of Innovation Awards program challenges teams of high school students to create innovative products using science, technology, and entrepreneurship. Last year's Spirit of Innovation Awards exceeded our wildest dreams. Teams came from all over the United States and we even had a team from China. I want to extend to you a personal invitation to participate in the 2009/2010 Spirit of Innovation Awards challenges. Please see www.conradawards.org <<http://www.conradawards.org/>> for a full description of this year's challenge categories. Teacher's serving as a team's coach will also receive awards and recognition for themselves and their schools.

New and exciting resources are also available to assist you and the students:

Ask an Expert Forums

– you will find a great group of scientists, engineers, entrepreneurs, and other educators waiting to answer your questions and help spark ideas on the Forums page. (click on the "forums" button below the main images on the home page).

Webinars

– we are hosting a great series of webinars to help spark creative ideas for the challenges. These webinars are live programs that you can discuss the topic with other viewers and the host real-time. They are also archived on our website. (click on the "Exchange" button below the main images to view webinars).

Community

– this year we have made a major step toward building a collaborative community between students, teachers, sciences, and entrepreneurs. On the community you can interact with individual Experts, groups of experts or post notices of your own about your teams and get guidance on their ideas. All competitors must first register individually for the community and then form or join a team. (Community is on the "community" tab of the main navigation).

Register as a "coach" in our Community to join the program. We hope to see you and your teams in our community soon.

Clementine L. Ntshaykolo

Conrad Foundation

The NEED Project Energy Education Workshop

With thanks to the sponsorship of BP we are looking to hold an Energy Education Workshop at the Challenger Learning Center in Kenai, AK. I am writing to inquire if the date of December 4, 2009 would work with your school district. We hope your school district will allow the local educators attend this Energy Workshop. With thanks to BP substitute reimbursement will be available for each teacher in attendance. Breakfast, lunch, and curriculum will be provided to the teachers that attend this workshop as well. The workshop will be a great opportunity for K-12 educators to learn how to incorporate energy into the classroom through hands on activities and curriculum.

The NEED Project's mission is to promote an energy conscious and educated society. NEED is the nation's leading provider of energy education programs and materials to schools. All NEED learning activities are correlated to state education standards. To find out more about The NEED Project visit our website at www.need.org <<http://www.need.org/>> .

Please inform me if December 4 is pleasing to your district. If you have additional questions, do not hesitate to contact us at 1.800.875.5029.

Samantha Forbes

The NEED Project

NASA LAUNCHES FREE VIDEO GAME: STATION SPACEWALK

Imagine the thrill of floating out of the International Space Station and into the emptiness of space and what it would be like to work on the orbiting science laboratory. NASA has developed a new video game, Station Spacewalk, to give young people an "out of this world" virtual opportunity to experience the thrill of working on a mission to the International Space Station from their computers. The new video game is based on actual work astronauts performed during the course of several NASA missions. The game is part of NASA's broader educational outreach effort to engage and inspire

students in science, technology, engineering, and mathematics. "It's all about getting the next generation excited about space exploration," said Chris Kemp, chief information officer at NASA's Ames Research Center at Moffett Field, Calif. "Players, or 'astronauts,' can virtually navigate their way through mission critical tasks. This game provides players a sense of the magnitude of complexity and thrill associated with NASA missions."

As an astronaut, players visualize a detailed virtual mock-up of the International Space Station that was created for NASA's space station program. Players participate in four critical spacewalks that provide power to the station to keep it operating at full capacity. Players must complete their tasks quickly and carefully, before the air supply runs out. Players begin by managing their way out of the airlock. The first task is to install the S6 truss segment, the long "backbone" of the station that supports the solar arrays. The player can open the S6 solar arrays, an essential task because they provide photovoltaic energy for the space station. These tasks are based on the shuttle mission to the space station that delivered the segment and deployed the solar arrays. Players then can use a robotic arm to repair a tear in a solar array, a task NASA astronauts performed during another shuttle mission. When the work is done, players must carefully collect tools that are floating in space. Explore the game [online](http://www.nasa.gov/multimedia/3d_resources/station_spacewalk_game.html) <http://www.nasa.gov/multimedia/3d_resources/station_spacewalk_game.html> .

EXPLORAVISION AWARDS PROGRAM NOW ACCEPTING ENTRIES

The Toshiba/National Science Teachers Association ExploraVision Awards Program, the world's largest K-12 science and technology competition, is now accepting entries for its 2010 program year. ExploraVision students are able to discover the wonders of science and the potential for technological advancement, while using their imaginations to contemplate a better future. The deadline for entries is February 2, 2010. The ExploraVision program, sponsored by Toshiba and administered by Triangle Coalition member, the National Science Teachers Association (NSTA), challenges teams of 2-4 students to research scientific principles and current technologies as the basis for designing innovative technologies that could exist in 20 years. Since the program's inception in 1992, nearly 260,000 students have submitted entries. In addition to providing students with the opportunity to win money they can use for college tuition, ExploraVision gives educators a valuable tool for helping motivate students to excel in science. As a testament to its value as an educational tool, the program has become so popular among teachers that many across the U.S. and Canada now include it as part of their regular science curriculum. Notably, the ExploraVision program was crafted to motivate and inspire students in STEM -- or science, technology, engineering, and math education -- a focus area rec-

ognized for its importance by many top educators and policy makers.

Students on the four first-place ExploraVision winning teams will each receive a \$10,000 U.S. Series EE Savings Bond valued at maturity. Students on second-place teams will each receive a \$5,000 bond valued at maturity. The eight teams will also receive an expenses-paid trip with their families, mentor, and coach to Washington, DC for a gala awards weekend in June 2010. Activities will include a visit to Capitol Hill to meet with members of Congress and a "science showcase" during which the students will display and demonstrate their winning ideas. The highlight of ExploraVision weekend will be a gala awards banquet and ceremony where students will be formally recognized for their creativity and accomplishments. For more information or an application for 2010, visit www.exploravision.org <<http://www.exploravision.org>> .

Grant Writing Workshop for Teachers

Toyota TAPESTRY Grants for Science Competition

WHEN: Tuesday, December 1, 4:00 – 5:00 p.m.
WHERE: Ebony Room, 1st Floor, ASD Ed Center

Please forward this workshop opportunity to teachers who might be interested. Teachers can sign up on MLP: <http://www.mylearningplan.com/>.

The National Science Teachers Association and Toyota have announced the Toyota TAPESTRY competition for grants that enhance science teaching. This is open to middle school science teachers, high school science teachers, and elementary teachers who teach science as part of the classroom day. The NSTA is looking for excellence and creativity. ASD teachers have won these grants several times over the years.

This year the TAPESTRY Program will award 50 large grants of up to \$10,000 each and 20-32 mini-grants of up to \$2,500. The deadline is January 18, 2010.

Reminder: Please provide the Grants Office at the ASD Education Center with a copy of grants submitted to this competition. This is a district requirement.

Here is the URL for the Toyota TAPESTRY Grant Program: <http://www.nsta.org/pd/tapestry/>.

Fireside Chats- Campbell Creek Science Center

November 12: The Big Bang and Cosmology

What is the Big Bang and how does it explain the Universe? Where did the Universe come from, and what existed before it? And if there's an edge to the Universe, what's on the other side? Dr. Travis Rector, a professor in the physics and astronomy department at the University of Alaska Anchorage, will answer these questions and more. From the origins of the universe to the structure we understand today, he'll explain what we know, how we know it, and what mysteries remain about it. The program

begins at 7:00 pm on Thursday November 12 at the BLM Campbell Creek Science Center (5600 Science Center Drive). Star gazing will follow if the skies are clear. Please call 267-1247 for more information.

November 18: The Bottom of the Food Chain at the Top of the World

Recent surveys of life in the Arctic Ocean have turned up a variety of new species, as well as recorded creatures in their natural habitats through the eyes of under-water robots. Efforts to compile comprehensive lists of life at both poles have surprised everyone by revealing that several hundred species are common to the Arctic and Antarctic. Come learn more about the recent exploratory expeditions of the Arctic Ocean Diversity project, what they have uncovered, and the new questions they've given scientists to try to unravel from a lead scientist for the Arctic Ocean survey, Dr. Russ Hopcroft of the University of Alaska Fairbanks. The program begins at 7:00pm on Wednesday November 18 at the BLM Campbell Creek Science Center (5600 Science Center Drive). Please call 267-1247 for more information.
