

Aranda, Grace E - (garanda)

From: Aranda, Grace E - (garanda)
Sent: Wednesday, October 19, 2011 3:00 PM
Subject: Information, Resources and Events for Teachers

Feel free to pass along to other teachers who may be interested and have them sign up to get these new monthly updates!

- UA Center for Recruitment & Retention Teacher Workshop Schedule Fall Semester 2011
 - The Bio Blitz Is Coming - October 2011!
 - Free Resources for Teachers & Schools from Southwest Association for Education in Biomedical Research
 - National Science Teachers Associations Upcoming Competitions & Programs
 - SRP Remaining Fall 2011 Workshops
 - Free Science Curriculum about Bats & Hummingbirds from Audubon Arizona
 - Arizona Humanities Festival: Stories of Us! - October 22
 - Moon Project Now Recruiting Teachers
 - Winners Of 2011 Governor's Celebration Of Innovation And Teacher Of The Year Awards Announced
 - Resources And Opportunities - Geography Learning To The Science Side
 - Save the Date for the EarthFest Educators Night – October 26 at the Phoenix Zoo
 - Through the Eyes of the Eagle: Illustrating Healthy Living
 - Financing a Field Trip
 - AZ Science Olympiad Division B
 - NASA's iPad app Beams Science Straight to Users
 - GEF "Sustainability Education Concepts" Pilot Course Available For Teachers
 - Announcement & Free Resources From A NSTA Author, Dr. Thomas O'Brien
 - How Can Arizona Science Teachers Get Involved In The Standards Development?
 - New, Free Science Education Materials from the National Institutes of Health
 - Teachers Try Science – Stem Lessons And Resources For Educators
 - Earth Science Education Toolkit Expands Spanish, English Offerings
 - NG Live! Coming to Mesa Arts Center
 - Nat Geo Giant Map of Asia / Need a Cost share Partner for Nov 14-18
 - STEM Materials & Resources
 - Mars for Educators: Workshops, Classroom Resources, Education Programs, etc
- Use *Science News For Kids*, With Teacher's Questions, Wordfinds And Other Resources, In Your Curriculum This Year
- The APEX Project: Arizona Providers Engaging in Excellence (APEX)

* * *

UA Center of Recruitment & Retention Teacher Workshop Schedule Fall Semester 2011
Department of Mathematics, The University of Arizona, 617 N. Santa Rita, Tucson, AZ 85721

Our mission is to support educators in their quest to provide quality instruction to middle school and high school mathematics students. Some teachers have requested *refresher* high school level mathematics sessions to gain perspective regarding what their students will need to know for future courses. Other teachers have wanted to see alternative ways to present particular topics. Teachers have requested support in using graphing calculators to enhance their lessons. In response to these

requests, the Center for Recruitment and Retention is happy to announce a series of teacher workshops. Our intent is to provide hands-on, graphing-calculator enriched lessons so that teachers can deepen their mathematical understandings. **Space for each workshop is limited. You are encouraged to register as soon as possible.**

Announcing our new DOMAIN series of workshops: Doing Mathematics And Implementing New Standards - Become familiar with the new Common Core Mathematics Standards while engaging in rich, rigorous mathematics lessons.

Proportional Reasoning for Middle School Teachers- DOMAIN workshop

Presenter: Cody Patterson

Dates: Thursdays Oct 20, Oct 27, and Nov 3, 2011 - 4:30 – 6:30 pm

Location: Gould Simpson Building, room 849

Registration is free of charge for teachers in our partnership districts and schools (listed below). Others may register for \$90. Payment is due the day of the session. Checks may be written to *The University of Arizona Foundation*. This is not considered a tax-deductible donation since it is a payment for services rendered. [Click here to apply for the Proportional Reasoning for Middle School Teachers Workshop.](#)

AEPA Prep for Middle School Teachers - The purpose of this four-session workshop is to help prepare teachers and student teachers who are planning on taking the Middle School Level AEPA.

Presenter: Bruce MacMillan

Dates: Tuesdays Oct 25, Nov 1, Nov 8 and Nov 15, 2011 - 4:30 – 6:30 pm

Location: Gould Simpson Building, room 849

Earn: 8 hours of professional development credit for recertification.

Registration is free of charge for teachers in our partnership districts and schools (listed below). Others may register for \$120. Payment is due the day of the session. Checks may be written to *The University of Arizona Foundation*. This is not considered a tax-deductible donation since it is a payment for services rendered. [Click here to apply for the AEPA Workshop](#)

The following districts/schools maintain a partnership with the Center:

Districts - Amphitheater Public Schools, Catalina Foothills School District, Flowing Wells Unified School District, Marana Unified School District, Sahuarita Unified School District, Santa Cruz Valley Unified School District, Sunnyside Unified School District, Tanque Verde Unified School District, Tucson Unified School District, Vail School District

Schools - City High School, International School of Tucson, Pima Community College, St. Gregory College Preparatory School

We appreciate any suggestions you have for additional workshops. Do you have questions? Contact bmacmillan@math.arizona.edu

* * *

The Bio Blitz Is Coming - October 2011!

Grab your daypack and join the National Geographic Society and the National Park Service for the Saguaro BioBlitz **October 21-22, 2011**. During this two day event, scientists will work with members of the surrounding community to inventory the biological diversity of the Sonoran Desert's six life

zones found within Saguaro National Park. We are looking for anyone who wants to get up close and personal with some of the fascinating plants and animals that make this park their home!

Students, parents, and educators are welcome to join the Saguaro BioBlitz day or night, as we race against the clock to find as many species as possible in 24 hours. Beginning Friday morning, elementary, middle, and high school student groups will be teamed with scientists or naturalists to take a close look at Saguaro's species across the park. Groups will also meet a variety of scientists and participate in biodiversity activities at the event's "basecamps." National Geographic and Saguaro National Park will also provide activities for students to prepare for prior to the BioBlitz and to follow up on the experience.

Student opportunities and activities, based upon skills, abilities, age, and the date and time you participate, may include:

- Learning to collect and identify plants, insects, mammals, birds, microbes, and other organisms with professional scientists or naturalists
- Using microscopes, dichotomous keys, digital cameras, data collection devices, global positioning systems, and other scientific tools-of-the-trade
- Taking field notes, recording and organizing data, practicing observation and inference skills
- Exploring the Sonoran desert uplands, checking out life along a lush riparian corridor, diving into the microscopic wilderness of lichens and moss, or hiking to the top of the Rincons and inventorying the forest community.
-and much more!

Your students can benefit greatly from participating in the BioBlitz. Not only will they gain a better understanding of how scientists contribute to the preservation of our national parks and planet, they can learn and practice scientific methods, learn about the diversity of species and their adaptations, think critically about their relationship to their environment, and be inspired to explore nature in their own backyards and school grounds. For classes not able to attend the event, there will be opportunities to observe the BioBlitz and hear from scientists in the field remotely via the web through an Electronic Field Trip.

To learn more about the Bioblitz, find out about subsidized bus transportation, be notified when registration begins, receive a free Bioblitz poster with lesson plans, and receive updates on the event including remote participation, add your name and other information on our mailing list at the following link:

<https://spreadsheets.google.com/a/ngs.org/spreadsheet/viewform?formkey=dEdwWjczTFBFWjk5TIA3QVJDbnNtQ2c6MQ>

If you have additional questions, or want to learn even more about participating in the Saguaro BioBlitz, please contact Chip Littlefield at 520.733.5157, or by email at mailto:chip_littlefield@nps.gov. Additional information is also available on Saguaro's website at <http://www.nps.gov/sagu/bioblitz-2011.htm> **Advance registration is required and will be available at www.nationalgeographic.com/bioblitz**

* * *

Free Resources for Teachers & Schools from Southwest Association for Education in Biomedical Research

Check out our Web Site: www.swaebr.org

The links include Information regarding:

- **Resource List:** Videos, DVDs, Posters, Pamphlets, Booklets, etc. - Free to Teachers! includes web site links for further information, such as the National Institutes of Health--a site for supplies **FREE** classroom resources: <http://www.theadstoredc.net/NIH/NIH.html>
 - **Research Focus:** What's happening in research now
 - **Speakers Bureau:** Need a speaker for your class?
 - **High School Essay Contest:** Links to past winning essays
- **Science Fair:** Assistance and links to the regional Science Fairs and contact information

Check out our Resource page for more free materials

For Information or Questions, Contact: Grace Aranda swaebr@ahsc.arizona.edu

* * *

National Science Teachers Associations Upcoming Competitions & Programs

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. Check out the following opportunities listed below.

[Disney's Planet Challenge](#)

Disney's Planet Challenge is a project-based environmental competition for elementary and middle school (grades 3-8) classrooms developed in collaboration with NSTA and the WestEd K-12 Alliance. Classrooms are empowered to make a difference in their homes, schools, or communities and compete for a trip to Disneyland, classroom grants, Disney DVDs, student eco-friendly prize packs and more. Disney's Planet Challenge also provides matching grants through Donors Choose for classrooms participating in this program. Disney's Planet Challenge is a great way to get students involved with their environment in a fun and creative way. Visit the competition [website](#) to register now. Registration closes **December 23**.

[The DuPont Challenge© ScienceEssay Competition](#)

The DuPont Challenge Science Essay Competition is a student competition that invites seventh through 12th grade students to write a 700 to 1,000-word essay about a scientific discovery, theory, event or technological application that has captured their interest. Developed in collaboration with The Walt Disney World Resort, NASA and NSTA, the competition offers young students the opportunity to explore science, develop new skills and gain confidence in communicating scientific ideas. 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. To learn more about the competition, check out the [website](#). **Entries will be accepted until January 31**.

[Mars Education Challenge](#)

The Mars Education Challenge is a nationwide competition that calls on high school science educators to develop new and innovative curricula that focuses on Mars science and exploration. \$17,500 in cash prizes are awarded annually, including a \$5,000 grand prize. **Registration closes December 16, 2011 and curricula support materials submissions are due January 16, 2012.**

More information, including entry details, curricula requirements, and detailed prizing information for the Mars Education Challenge, can be found on the competition [website](#).

[Siemens We Can Change the World Challenge](#)

K-12 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, and much more. Applications are now being accepted. **The deadline for entries is March 15, 2012** (finalists and winners will be announced in April 2012). For more information about the Challenge or to register for the competition, visit the [website](#).

[Toshiba/NSTA ExploraVision](#)

ExploraVision is a competition that encourages K-12 students of all interest, skill and ability levels to create and explore a vision of a future technology by combining their imaginations with the tools of science. Teams of two to four students research scientific principles and current technologies as the basis for designing innovative technologies that could exist in 20 years. Students compete for up to \$240,000 in savings bonds for college and cool gifts from Toshiba. First- and second-place teams also receive an expenses-paid trip with their families, mentor and coach to Washington, D.C. for a gala awards weekend in June 2012. **Applications are now being accepted; the deadline for applications is February 1.** In an ExploraVision first, the teachers who submit the largest number of qualified student projects this year will receive a Toshiba tablet PC. For more information about the program or to learn how to apply, visit the competition [website](#).

Vernier/NSTA Technology Awards

The [Vernier/NSTA Technology Awards](#) promote the innovative use of data-collection technology using a computer, graphing calculator, or other handheld in the science classroom. We encourage you to apply for one of seven \$3,000 awards. **Applications are due November 30, 2011.**

Clorox Company’s Power a Bright Future School Grant Program - A Chance To Win \$50,000 For Your School

The Clorox Company’s Power a Bright Future school grant program gives kids the power to grow and transform through playing, creating, and exploring inside and outside the classroom. Nominate your school by October 17 for the chance to win a \$50,000 grand-prize grant to help fund a new or ongoing program. Schools also have a chance to win \$25,000 grants in each of the Play, Create, or Explore categories. One school will also receive a special judges’ choice grant of \$25,000. For more information and to nominate your school, visit www.PowerABrightFuture.com/NSTA

* * *

SRP Remaining Fall 2011 Workshops

SRP offers numerous workshops for educators. Our goal is to equip educators with key insights and proven classroom resources related to the water and energy industries. Educators who participate in our programs will be expertly prepared to teach students about water, electricity and renewable

energy technologies. All of SRP's in-service programs and supporting materials are available free of charge. Workshops can be scheduled throughout the school year. Please call (602) 236-2798, or send an [e-mail](#), to arrange campus-based in-services.

To view the workshop schedule and to register for a workshop, visit <http://www.srpnet.com/education/in-service.aspx>

All About Energy! – PM Session – Powering Our Future: Renewable Energy

SRP is pleased to announce its exciting new "green power" education program, Powering Our Future. This workshop focuses on renewable energy technologies and energy conservation. We'll help you discover the boundless possibilities of the [Powering Our Future website](#), a comprehensive and interactive resource created especially for Arizona teachers and students.

Date: October 29: 12:30 p.m. - 3:30 p.m. (3.5 CEU hrs)

Location: SRP Project Administration Building, 1521 N. Project Drive, Tempe

[Register](#) via SRP

Sustainability in the Classroom!

Date: November 19: 8:00 a.m.- 3:30 p.m. (7 CEU hrs)

Location: SRP PERA Club, 1 E. Continental Dr., Tempe

[Register](#) via SRP

Grant Writing 101 – Applying for SRP's Grant Programs

Date: December 3: 8:00 a.m. - 12:00 p.m. (3.5 CEU hrs)

Location: SRP Project Administration Building, 1521 N. Project Drive, Tempe

[Register](#) via SRP

Note: Information is subject to change, and workshops require at least 10 attendees.

For any questions, e-mail educate@srpnet.com or call (602) 236-2484. E-mail confirmation will be sent with details closer to each workshop.

Instructional material resource catalog - SRP is pleased to offer an array of complimentary educational resources in support of Arizona educational standards. Complete the [order form](#) or call (602) 236-2484 to request these materials.

You may also [download our complete Resource Guide](#) (PDF), which includes [grant information](#) as well as [professional development opportunities](#) provided by SRP and our partners.

* * *

Free Science Curriculum about Bats & Hummingbirds from Audubon Arizona

Audubon Arizona is happy to offer you free science curriculum that teaches about bats! The curriculum is aligned with Arizona Science Standards for grades 4th-6th, but can easily be modified. If you are interested, we would love to drop off some of the curriculum packets to your school and/or they are available at the Audubon Center at 3131 South Central Avenue, Phoenix.

We also have a new IN-CLASS hummingbird program available. An Audubon naturalist will give a fun and interactive presentation to your class about the fast and feisty hummingbirds of Arizona, teaching about the natural history of these fascinating birds as well as encouraging your students to help the birds along their migration. Each class will receive a Hummingbird Box with a hummingbird feeder, food, hummingbird identification aids, and stickers and pencils for each student. If you would like to schedule a one hour hummingbird program, please feel free to call or email me.

Emily Morris, Teacher/Naturalist, 602-468-6470 ext. 125, cell: 203-213-5208
riosalado.audubon.org

* * *

Arizona Humanities Festival: Stories of Us - Saturday, October 22: 10:00 AM – 6:00 PM
Civic Space Park, downtown Phoenix
Free parking & light-rail access (Central Ave. & 1st Ave.)

The inaugural **Arizona Humanities Festival – Stories of Us** is a vibrant celebration of the cultures that surround us, the stories that define us, and the histories that connect us. It will on Saturday, October 22, 2011, 10 AM – 6 PM, at the Civic Space Park, Phoenix.

As a statewide nonprofit organization, the **Arizona Humanities Council** has funded programs in libraries, museums, colleges and community centers across Arizona for nearly 40 years, and for 10 years (1997-2007) we produced the successful Arizona Book Festival. The new Arizona Humanities Festival provides us with the opportunity to bring together our rich programming experience with our passion for all aspects of the humanities, allowing us to create a wide-ranging, celebratory humanities experience for the whole family.

This one-day event will take place during **National Arts and Humanities Month** at the new Downtown Civic Space Park and the adjacent Downtown ASU campus, and will include exhibitors and ongoing programming throughout the day. Civic Space Park is uniquely urban community space, created by the city of Phoenix in 2009, and is nestled in the heart of Phoenix's lively downtown arts and culture district. It has free, ample parking and is accessible by light rail. The festival is in partnership with **ASU's Project Humanities** and will be one of the culminating elements of their year-long focus on the humanities.

Our goal with the Arizona Humanities Festival is to create an event that engages the imagination, explores ideas, and excites people to learn more about the world we share. Learn more about how you can get involved with The Arizona Humanities Festival by visiting www.azhumanities.org.

FEATURED PRESENTERS & EXHIBITORS - In creating the content for the day, AHC has reached out to arts organizations, museums, libraries, publishers and schools, as well as individual artists, writers, musicians, students and scholars to enable us to curate a day-long celebration of the humanities that will engage, inform, and excite people of all ages – adults, teens, and children. The 2011 Arizona Humanities Festival will also feature a wide range of exhibitors from Arizona's arts and culture community, including libraries, museums, publishers and bookstores. Exhibitors will have a unique opportunity to connect with diverse audiences in a vibrant and urban setting. Programming at the festival will include panel discussions; media presentations; storytelling, hands-on activities; theatre, dance and musical performances; author presentations; and surprises we're calling —Pop Up Humanities. More than 2,500 people are expected to attend the festival and interact with authors,

presenters, and artists from representing the many stories and cultures from around Arizona—many of them nationally known figures! A few featured presentations include:

- Join Dr. Neal Lester, English professor and dean of humanities at ASU, as he presents ***Nappy Edges and Goldy Locks: African Americans and the Politics of Hair***, an engaging and eye-opening discussion about what —goodll hair really means.
- **PBS's *History Detectives*** special investigator, Dr. Eduardo Pagán, will investigate the biggest mysteries of the southwest and brings history to life!
- Hear **Tucson-area high school students perform their award-winning *corridos*** as part of **UofA's Poetry Center** annual celebration of the enduring *corrido* tradition.
- Experience Arizona's vibrant **Apache skateboard art culture** with renowned filmmaker **Duntinn Craig** through film screenings and skate board performances.
- Workshops and book signings with nationally-recognized authors.
- Thrilling *Lion Dance* performance and discussion by K-12 volunteers from the **Tucson Chinese Cultural Center**.
- **ASU School of Music's Lyric Opera** will perform compelling scenes from Mozart's *Marriage of Figaro*, followed by engaging audience Q & A.

ADDITIONAL 2011 FESTIVAL FEATURES - Children love stories and the Arizona Humanities Festival offers kids of all ages the opportunity to experience tales, fables, and books! Costumed characters from children's books and PBS television shows also greet kids and parents. Families will want to take a few minutes to stop and listen to one of the many storytellers. Teens will have the opportunity to engage with young adult authors, learn about writing their own stories, and celebrate Arizona's diverse culture through hands-on craft activities.

* * *

Moon Project Now Recruiting Teachers

Please help us recruit teachers to the MOON Project (<http://www.worldmoonproject.org/>), which engages students internationally in collaborative science inquiry.

If any teacher would like to start this fall, email melanie.smith@ttu.edu. If a teacher wants to start in the spring, email Melanie now to that effect, so they can be enrolled.

The MOON Project is free. Some teachers engage all their students. Some involve a science club or a gifted group or simply those who are interested.

Students learn about the Moon; but much more importantly they are (1) engaged in a long term inquiry (2) to increase their global awareness.

The MOON Project comes in several forms, so teachers may pick the version that fits their needs.

* The biggest MOON Project has students in grades 4-8 investigate the Moon's behavior in their hometown and then share data with other students around the world to look for global lunar patterns in the Moon's shape, orientation and location

* * *

Winners Of 2011 Governor's Celebration Of Innovation Future Innovators And Teacher Of The Year Awards Announced By Arizona Technology Council

Birgit Musheno of Desert Vista High School, Phoenix named as Teacher of the Year; Two Tucson and two Phoenix students receive \$1,000 Future Innovator award scholarships

The Arizona Technology Council in partnership with the Arizona Commerce Authority today announced the 2011 Governor's Celebration of Innovation (GCOI) "Future Innovators" and "Teacher of the Year" award winners and honorable mentions. These awards recognize the "Best of the Best" of the Arizona Science and Engineer Fairs and the Arizona Junior Science and Humanities Symposium (grades 9-12) for the 2010-11 school year. The winning teacher will receive a \$1,000 cash award and each of the winning students will receive a \$1,000 scholarship to further enhance their education, at the annual GCOI event on November 17, 2011 at the Phoenix Convention Center. Tickets for the prestigious awards gala can be purchased online at <http://bit.ly/jPmt2U>.

The "Future Innovators" and "Teacher of the Year" award winners were selected by a committee independent of the Council including members of the Arizona Council of Engineering and Scientific Associations (ACESA). ACESA supports, promotes and coordinates programs and activities of the engineering and science associations within the state of Arizona through facilitated communication and leadership.

The winners in their respective categories are:

Teacher of the Year Award Winner:

- **Birgit Musheno**, Desert Vista High School, Phoenix, AZ. Courses presently teaching: sophomore Honors Biology, junior/senior Biotechnology, senior Honors Biotechnology, and volunteers to teach Advanced Studies/Independent Research in Science.

Musheno was selected for this honor in recognition of her devotion to STEM initiatives. In addition to preparing her students for STEM competitions and assisting them with travel to and from the events, Musheno presents a classroom management workshop, runs a monthly support group for newly hired teachers and presents various workshops for all STEM teachers. In addition, Musheno developed a two-year biotechnology program for Desert Vista, giving the students the opportunity to experience successful work in a research lab.

Teacher of the Year Award Honorable Mentions:

- **Paul J. McElligott, PhD**, Fountain Hills High School, Fountain Hills, AZ
- **Sandra Trevino**, Buena High School, Sierra Vista, AZ

Future Innovators of the Year Award Winners:

- **Aakash Jain**, Brophy College Preparatory High School, Phoenix, AZ, Project: "In Vitro Study of Bacteriostatic Activity of Allium sativum and its Synergetic Effects on Levofloxacin Against Escherichia coli."
- **Francisco Orozco**, Tucson Magnet High School, Tucson, AZ, Project: "Plant symbiotic microfungi as novel sources of cellulase and ligninase enzymes for biofuel production: a two-year study."
- **Cory Owan**, Catalina Foothills High School, Tucson, AZ, Project: "Paravolic, Hazard-Limited, Collapsing Solar Stirling Insolation Collector."
- **Rajet Vatsa**, Brophy College Preparatory High School, Phoenix, AZ, Project: "The Effects of Carbon Dioxide Pressure and Nitrogen, Phosphorus, Potassium Mass Concentration on the Biofuel"

Synthesis of *Nannochloropsis oculata*, *Chlamydomonas reinhardtii*, *Dunaliella salina*, and *Haematococcus pluvialis*.”

Future Innovators of the Year Award Honorable Mentions:

- **Colby Howell**, Hamilton High School, Chandler, AZ, Project: “The Effect of Sublethal Doses of Oxalic Acid on the Lifespan of Honey Bees.”
- **Soumya C. Kambhampati**, McClintock High School, Tempe, AZ, Project: “Do SAT Problems Have Boiling Points?”

* * *

Resources and opportunities - Geography leaning to the science side

Earth Exploration Toolbook - <http://serc.carleton.edu/eet/more.html> - has received the Science Prize for Online Resource in Education (SPORE award) from AAAS.

Using scientific data in educational contexts can be difficult. Though incredible amounts of data are freely available, it is often quite challenging to find the exact information desired in a format that can be opened and analyzed using a manageable software tool. The Earth Exploration Toolbook is comprised of activities called "chapters" which give educators step-by-step instructions on how to access a scientific dataset and a data analysis tool, and conduct an analysis around an Earth science concept or issue. The goal is to give the educator enough experience with accessing the data and using the tool so that they can customize the data they retrieve and the analysis they conduct to their curriculum and the questions and issues relevant to them and their students.

Many of the chapters in the Earth Exploration Toolbook that address climate literacy have gone through the CLEAN review process and have been accepted into that collection. Please share the link to the Earth Exploration Toolbook with others who might be interested in exploring Earth science data.

Ask a Biologist - <http://askbiologist.asu.edu/> - No list serve. Site includes a preK-12 Teacher Toolbox, Image Gallery, Listen and Watch (short instructional videos) and they will answer questions for K-12 teachers and students.

Classroom Earth - <http://www.classroomearth.org/> - The National Environmental Education Foundation, in partnership with The Weather Channel, has launched Classroom Earth, a program designed to enhance and strengthen environmental education in high school classrooms nationwide. Resources, grants, professional development are all on this site.

Big Cats Initiative - <http://www.natgeoed.org/bigcats> - National Geographic Education recently launched teaching and learning resources for the Big Cats Initiative. The national standards-aligned learning activities and video resources are designed to educate students about the importance of big cats and conservation efforts to protect these large predators. "From lions in Kenya to snow leopards in the Himalaya, the big cats of the world need help. Lions, tigers, cheetahs, leopards, jaguars, and other top felines are quickly disappearing, all victims of habitat loss and degradation as well as conflicts with humans."

* * *

Save the Date for the EarthFest Educators Night – October 26 at the Phoenix Zoo

Valley Forward's seventh annual EarthFest Educators Night will bring more than 400 K-12 teachers throughout Arizona together on **Wednesday, October 26, 2011**, at **The Phoenix Zoo**. More than 60 exhibitors representing public and private sector environmental education programs, along with the non-profit and educational communities, will be featured at the event. Other attractions for educators include giveaways, complimentary refreshments and resources that help in the classroom. In addition, Valley Forward's EarthFest Education Grant provides up to \$5,000 in cash to teachers for environmental projects in their class, school or community. Continuing education credits and scholarships are also available through this important program that benefits not only teachers, but the next generation of environmental stewards.

To pre-register for EarthFest 2011, please send an email to EarthFestRSVP@valleyforward.org with your name, school, grade level, address, phone, fax and email.

- [Download](#) (pdf) the 2010 EarthFest Educators Night Invitation
- [View](#) (pdf) the complete list of 2010 EarthFest Educators Night Exhibitors
- [Review](#) the 2010-11 EarthFest Education Grant details and recipients

* * *

Through the Eyes of the Eagle: Illustrating Healthy Living
Arizona State Museum – The University of Arizona

We welcome your students to experience a new Guided Tour - Students will be inspired to live healthier during this interactive museum program

This exhibition, inspired by a children's book series of the same name, strives to raise awareness about type 2 diabetes prevention from a Native American perspective. Students explore history, culture, and health through objects, photographs, artwork, storytelling, and video. After a gallery experience, they take part in physical exercise activities, a nutrition game, and comic strip making.

- See **objects and photographs** that illustrate the diet of Sonoran Desert dwellers over 13,000 years. Learn how TOCA is reinvigorating use of traditional foods for the Tohono O'odham.
- **Imagine** running in woven sandals from 600 AD or using cool new skateboard shoes.
- **Enjoy** the original watercolors from the books, *Through the Eyes of the Eagle: Illustrating Healthy Living for Children*, in which a wise eagle teaches traditional ways of health that children can remember and retell. See the artwork at ASM and at the World of Words, UA College of Education.
- Check out an **exciting new comic book** created by Ryan Huna Smith (Chemehuevi/Navajo). *It's Up 2 You!* highlights the choices teenagers might make to affect their health and happiness. The comic book will be available as a free mobile app in the fall of 2011.
- **Try skateboarding on a Wii**, and other hands-on activities.
- Learn about the **facts and myths** concerning diabetes and diabetes prevention.

Classes will receive pre- and post-visit activities, a set of the four Eagle books, and a copy of the *It's Up 2 You* comic book!

Guided Tour Program is available weekdays - October 17 - December 16, 2011

•Session 1 9:45 - 11am

•Session 2 - 11am - 12:15

Group size: 34 students max; one adult per 8 students. See online registration page for larger group accommodations.

Cost: \$2/student Adults are free

Please register on-line: www.statemuseum.arizona.edu

Questions: 520-621-9434

This is a limited-time opportunity!

This exhibit and programs supported by John and Sophie Ottens Foundation, Pima County Health Department's Communities Putting Prevention To Work, Arizona Humanities Council, Kresge Arts in Tucson, Tohono O'odham Community Action, Tucson Indian Center, Centers for Disease Control and Prevention.

* * *

Financing a Field Trip

Many teachers would like to extend their students' learning by taking them on a field trip to a museum, zoo, farm, nature center, or other informal science education venue. But tight budgets may make this almost impossible. Fortunately, Target has established a Field Trip Grant program to help teachers continue to take their students on field trips.

Each Target store will award three [Field Trip Grants](#) to K–12 schools nationwide, enabling one in 25 schools throughout the United States to send a classroom on a field trip. Teachers can use a grant to fund a school field trip that connects their curriculum to out-of-school experiences. Each grant is valued up to \$700. The application period opens today; visit the website to learn more and apply.

Don't let tight budgets get you down! Visit the [NSTA Calendar](#) to find out about other grants for teachers.

* * *

AZ Science Olympiad Division B

Are you looking for ways for your students to compete in a phenomenal STEM competition? The Arizona Science Olympiad Division B (6th – 8th grade) is looking for teachers and students to join for the 2011-2012 Season. Your \$250 membership fees allows your team to compete in four invitational, two regionals, and one state level competition. Science Olympiad is a National Science, Technology, Engineering and Math program that allows students to apply what they know in a competitive setting. Arizona Science Olympiad Division B is for middle school students, grades 6 through 9. We can offer you information on integration of STEM education in your science and math classroom as well as numerous opportunities for your students to practice and compete in the various Science Olympiad events.

For more information please go to: <http://www.azsciolydivb.org/> or email us at sciolympiadb@gmail.com Hurry! **Our first invitational is October 29, 2011 at Casa Grande Middle School.**

* * *

NASA's iPad app Beams Science Straight to Users

NASA satellites beam data from space; now the Agency is beaming it straight to your iPad.

Software and media specialists at the NASA Goddard Space Flight Center in Greenbelt, Md., today released a new iPad app — the NASA Visualization Explorer — that allows users to easily interact with extraordinary images, video, and information about NASA's latest Earth science research.

Cutting-edge visualization has long been a staple of NASA Earth science and in particular the Scientific Visualization Studio (SVS) at Goddard Space Flight Center. The iPad presented NASA a new and easily accessible way to put stunning and beautiful Earth science visualizations directly in people's hands.

The app's science features will include high-resolution movies and stills and short written stories to put all the pieces in context. Most of the movies are simply real satellite data, visualized. Other features will include interviews with scientists or imagery from supercomputer modeling efforts. The app includes social networking interfaces, including links to Facebook and Twitter, for easy sharing of stories.

The application is free to the public and available from the App Store via iTunes. To download the app, go to: <http://svs.gsfc.nasa.gov/nasaviz/index.html>

For related images and more information on the app, visit:

<http://www.nasa.gov/centers/goddard/news/releases/2011/11-044.html>

For more information about NASA Goddard, visit: www.nasa.gov/goddard

* * *

GEF "Sustainability Education Concepts" Pilot Course Available For Teachers

Green Education Foundation (GEF) is pleased to extend a limited offer to you to participate, at no charge, in its pilot course, entitled *Sustainability Education Concepts and Teaching Methods*. The pilot launches on **November 1, 2011** and participation includes the opportunity to earn PDPs/CEUs and one hour of college credit. With sustainability programs gaining traction in schools across the country, this course will provide you with the broad knowledge, skills, and impetus to proceed with curriculum implementation and sustainability initiatives in your classroom and the broader community.

Course Description - The pilot course, valued at \$255, is a 15 hour, self-paced online professional development course providing K-12 teachers with an engaging introduction to sustainability topics. Major concepts include biodiversity, renewable energy sources, green technology, the Greenhouse Effect, and climate change in response to natural and man-made causes. Classroom sustainability curricula will be linked to course units by topic and grade. Teaching strategies, resources, and materials will be provided throughout the course. Participants will work to create their own sustainability lesson plans, units or school initiative. Read the course outline and learn more on our [website!](#)

Enrollment and Credit - Enrollment is easy! Simply register as a GEF Member and select the Sustainability Education Course under GEF Programs. Registration is free and includes access to GEF's extensive Sustainability Education Clearinghouse. One credit hour of pre and post graduate credit is available to interested teachers for an additional fee, payable to the accrediting university. [Register now!](#)

More About GEF - Green Education Foundation (GEF) is a non-profit organization committed to creating a sustainable future through education. GEF offers free school programs that provide curricula and hands-on activities to excite and inspire K-12 students and teachers to think holistically about global environmental solutions. Our mission is to empower a new generation of environmental stewards while preparing them for the new 21st century clean energy economy. Visit <http://www.greeneducationfoundation.org/> to learn more and join the community.

If you have any questions contact Molly Hislop at 508.668.2278 or mhislop@greeneducationfoundation.org.

* * *

Announcement & Free Resources From A NSTA Author, Dr. Thomas O'Brien

The National Science Teachers Association/NSTA Press allows anyone to download a free chapter of any/all of their titles.

Brain-Powered Science: Teaching and Learning with Discrepant Events (2010), *More BPS...* (2011) and *Even More BPS...* (2011): This series features a new dual-purpose instructional strategy for use in preservice science methods courses (as a supplement to or substitute for more traditional science methods books) and inservice science professional development programs (e.g., Summer PD Institutes, Professional Learning Communities, etc.) and by individual science teachers (grades 5-12).

Each activity in the three books (used singly or combined in any order) serves both as a:

- (1) model, inquiry-oriented, discrepant event activity that teachers can use to teach science to their own grades 5-12 students (in a way that meets the **S₂EE₂R** criteria of being Safe, Simple, Economical, Enjoyable, Effective & Relevant), and
- (2) visual participatory analogy to teach teachers principles of research-informed, Curriculum-Instruction-Assessment, best practices (e.g., the first book focuses on key principles of cognitive learning theory applied to science teaching).

Like all NSTA Press books, these books are modestly priced (in traditional paper form and as e-books) and allow anyone to download for free the Introduction + Table of Content + a Sample activity. Go to: <http://www.nsta.org/publications/press/brainpowered.aspx> (click on Read More for the individual books & then scroll down to Read Inside to download the free materials)

The three free activities for the respective books in the BPS series are:

- Activity 16. Air Mass Matters: Creating a Need-to-Know [activities that make air "sensible"]
- Activity 15. Measurements & Molecules Matters: Less is More & Curriculum "Survival of the Fittest" [compelling macroscopic evidence for the molecular view of matter]
- Activity 10. Osmosis and "Naked" Eggs: The Environment Matters [a 5E Teaching Cycle unit]

Additionally, the hundreds of URLs cited in the Internet Connections feature are available free-of-charge at the NSTA Press Extras page: <http://www.nsta.org/publications/press/extras/> This page also lists free resources from a select sample of other NSTA Press titles.

Another free resource that many science teachers have found useful is the large collection of science education websites and annotated bibliographies that I've assembled at: <http://csmte.binghamton.edu/links.html> (these websites are updated annually).

* * *

How Can Arizona Science Teachers Get Involved In The Standards Development?

In addition to the Arizona representation we have as writers/reviewers at the national level there will be two types of opportunities for Arizona science educators to provide feedback:

1) General public feedback: as drafts are released for general public feedback, I will send out notifications containing the links for the drafts to review and the deadlines for feedback. These notifications will be sent to the AzSELA and ASTA listservs, districts/schools, and posted on the ADE website. Educators, parents, the business community, and the general public are encouraged to provide feedback during this stage of development.

2) State feedback: I will be assembling state teams to review the draft documents as they are released to states for review. Any interested K-12 science teachers/science specialists/curriculum directors/higher ed faculty (content and/or pedagogy) should fill out the Standards and Assessment committee application if they would like to be considered for a position on this team. The application can be found online at <http://www.ade.az.gov/standards/aims/downloads/CommitteeApplicationForm.doc>. Educators already in the database (those who have applied or have served on a standards/AIMS committee in the last year) do not need to submit a new application unless their contact information has changed.

Because of organizational changes at the ADE, please send a copy of the application to Lacey Wieser at lacey.wieser@azed.gov in addition to sending the application to the email address of assess@azed.gov that's on the form.

I don't have dates for when each feedback opportunity will occur but will keep people informed as that information becomes available to me.

* * *

New, Free Science Education Materials from the National Institutes of Health

- [Inside Life Science](#), a series of short articles about the science of health
- The September 2011 issue of [Findings magazine](#), which features two young and interesting scientists:
 - *George Hightower of the University of California, San Diego, who studies how HIV can infect th*
 - *Cara Altimus of Johns Hopkins University School of Medicine, who explores how light and dark*

relate to the body's daily rhythms, sleep disorders and certain brain diseases

- [Electronic versions](#) (PDF, HTML and EPUB) of our popular science education booklets

Browse and order free print copies of these and our many other materials at
<http://publications.nigms.nih.gov/eblast/ssg/index.html>

If your e-mail does not support the above address as a link, simply cut and paste it into your browser address window.

If you have any questions, please contact me at alisa.machalek@nih.gov or 301-496-7301.

NIH Curriculum Supplement Series -

<http://science.education.nih.gov/customers.nsf/WebPages/CSHome>

The NIH curriculum supplements are teacher's guides to two weeks of lessons on the science behind selected health topics. They combine cutting-edge biomedical discoveries with state-of-the-art instructional practices.

HTML and PDF versions of each supplement are online and accessible to all. Print versions are **FREE** upon request to educators in the U.S.

The NIH Curriculum Supplements

- Are [based on the latest research](#) on how people learn
- Are consistent with National Science Education Standards
- Promote critical thinking, teamwork, and problem-solving and communication skills
- Incorporate real scientific data to engage and challenge students
- Are aligned to state education standards

[View demos](#) of activities from selected NIH curriculum supplements. Check out [NIH/NSTA Web Seminars](#) on selected titles, too.

Available titles: Select a title to *request* print versions, *access* electronic versions, and *view* state education standards alignments.

High School

- [Evolution and Medicine \(coming fall 2011\)](#)
- [Exploring Bioethics](#)
- [Cell Biology and Cancer](#)
- [Emerging and Re-emerging Infectious Diseases](#)
- [Human Genetic Variation](#)
- [The Brain: Understanding Neurobiology Through the Study of Addiction](#)
- [Sleep, Sleep Disorders and Biological Rhythms](#)
- [Using Technology to Understand Cellular and Molecular Biology](#)

[Middle School](#)

- [Rare Diseases and Scientific Inquiry \(coming fall 2011\)](#)
- [The Science of Healthy Behavior](#)
- [Doing Science: The Process of Scientific Inquiry](#)
- [Looking Good, Feeling Good: From the Inside Out](#)
- [The Science of Mental Illness](#)
- [Chemicals, the Environment and You](#)
- [How Your Brain Understands What Your Ear Hears](#)
- [The Brain: Our Sense of Self](#)
- [The Science of Energy Balance](#)
- [Understanding Alcohol: Investigations into Biology and Behavior](#)

[Elementary School](#)

- [Open Wide and Trek Inside](#)

The Office of Science Education oversees the curriculum supplements project in collaboration with the Institutes and Centers at NIH. Have questions? Read the [FAQ](#) or [contact us](#).

* * *

Teachers Try Science – Stem Lessons And Resources For Educators

[Teachers TryScience](#) is a web site for teachers. This site provides free and engaging lessons, along with teaching strategies and resources, which are designed to spark students' interest in science, technology, engineering and math (STEM). What's more, the site features collaboration tools to enable teachers to discuss and share effective instructional practices

* * *

Earth Science Education Toolkit Expands Spanish, English Offerings

Nearly 30 educational activities and resources have been added to the newly updated SEED Earth Science Week Online Toolkit, a partnership of Schlumberger Excellence in Educational Development (SEED) and the American Geological Institute (AGI), which provides earth science education resources in both Spanish and English.

The [Web site](#) provides educational materials, activities, and other resources for both English- and Spanish-speaking students and teachers in the U.S. and for SEED schools around the world. The educational resources featured on the site have been developed by SEED, AGI, and other geoscience organizations and agencies.

Visitors now can view 76 lessons, posters, fact sheets and other materials, each offered in both Spanish and English. The materials provide introductory information on earth science, as well as in-depth coverage of topics on earth, water, air, and life sciences.

This SEED/AGI collaboration is the cornerstone of expanding the reach of [Earth Science Week](#) to a wider geoscience education community. Each October, AGI's Earth Science Week program promotes awareness of the importance of the geosciences and stewardship of the planet.

SEED is a volunteer-based, nonprofit education program focused on underserved communities where Schlumberger people live and work. SEED empowers employee-volunteers and educators -- including teachers, parents and other mentors -- to share their passion for learning and science with students aged 10-18. The SEED learning-while-doing (LWD) methodology draws on the technology and science expertise of our volunteers to engage students in global issues, such as water, energy and climate change. More information can be obtained on the SEED Web site, at <http://www.seed.slb.com/>.

The American Geological Institute is a nonprofit federation of 50 geoscientific and professional associations that represents more than 150,000 geologists, geophysicists and other earth scientists. Founded in 1948, AGI provides information services to geoscientists, serves as a voice of shared interests in the profession, plays a major role in strengthening geoscience education, and strives to increase public awareness of the vital role the geosciences play in society's use of resources, resiliency to natural hazards, and interaction with the environment.

* * *

NG Live!

Registration for free student matinees at www.nglive.org/arizona - NOTE: This year this event is expanded by having TWO STUDENT SESSIONS made available.

The program is still FREE - registration is required. **For a registration form, go to www.nglive.org/arizona.** Seats are limited so register early. Registrations will not be taken over the phone.

The program will take place at Mesa Arts Center, 1 East Main Street, Mesa as it has in past years. Matinees are about an hour long including a Q&A session. Please observe the grade-level appropriateness for each program before you register. Classroom materials: To learn more about the speakers and to find related lesson plans, go to www.nglive.org/arizona.

For information about and tickets to the evening speaker events go to <http://www.MesaArtsCenter.com>

Matias Klum, Photographer - Tuesday, Nov 8, 2011 -- 9:15 am and 11:15 am Grades 5 - 8

Klum takes his audiences on journeys to fragile and remote habitats, revealing the richness of the world's biodiversity. Travel with him on a multi-media exploration of the world's last truly wild places and learn how our everyday choices can make a difference to their future.

Brian Skerry, Photographer - Tuesday, November 29, 2011 -- 9:15 am and 11:15 am Grades 2 - 5

Underwater photographer Skerry is celebrated for his intimate and stunning portraits of our planet's ocean realms.

Roz Savage, Eco-Adventurer - Tuesday, February 7, 2012 -- 9:15 am and 11:15 am Grades 7 - 12

Students will be inspired by this former business woman who gave up a successful career to pursue a life of adventure. Rower Roz Savage has completed solo crossings of the Atlantic and Pacific Oceans and this year chases history with a row across the Indian Ocean, of which she'll offer a firsthand report.

**Michael Davie, Filmmaker/Journalist - Tuesday, March 20, 2012 -- 9:15 am and 11:15 am
Grades 9 -12**

Davie offers a personal look at his native Africa, a continent often overlooked or misrepresented in the media. Enriching his presentation with film clips, Davie gives voice to the Africa we rarely see.

* * *

Nat Geo Giant Map of Asia / Need a Cost share Partner for Nov 14-18

Calling all AzGA Members . . . Would you like to host the National Geographic Giant Traveling Map of Asia at your school during the week of Nov 14-18? Not only does this coincide with Geography Awareness Week 2011, but I can offer you the bargain cost share price of \$180. (Regular price is \$240/week).

I would arrange for the map to be delivered directly to your school site on Nov 14th. You would need to be responsible for transporting the map to my school, Rhodes Jr High (in Mesa) either late afternoon on Nov 18th OR if necessary, arrangements could be made for a weekend delivery to my school on Sun Nov 20th. The map comes in a large PVC tube which can be transported inside a van or pick up truck.

The Giant Map of Asia measures 26' x 33' and comes with a trunk with activities, games, props and educational resources. Due to its size, the map requires a huge INDOOR space (such as a school multipurpose room or gym) about the size of a full basketball court. I hosted the map last year both for use at my junior high and for the AZ Asian Festival and can offer you suggestions regarding logistics, class management and games that worked. For more details on the Asia map, go to:

<http://events.nationalgeographic.com/events/special-events/asia-map/>

Also, to see a short videoclip of the Asia Map's visit at my school last April, go to:

<http://www.edtv99.org/video/8464/>

If you are interested, time is of the essence!! Please contact Jeannine Kuropatkin at jkuropat@mpsaz.org or call her cell at: (480) 213-4424 ASAP to make arrangements.

* * *

**STEM Materials & Resources - The University of Arizona College of Science offers a variety of
STEM Materials and Resources for the K-12 Educator**

You are probably already familiar with some of our outstanding public facilities such as Flandrau, Biosphere 2, Mt. Lemmon Sky Center, Tumamoc Desert Laboratory, the UA Mirror Lab, and the Laboratory of Tree Ring Research, all of which are now under the direction of the College of Science. There is a long history of successful UA Science outreach programs over the years. However, we can now offer formal and informal educators a centralized, cohesive and expanded menu of learning opportunities in the classroom, on campus and in the community. We invite you to delve into and make use of the many resources and opportunities available today, and new resources to come, as

we continue to grow and expand. Together we can enrich learning for today's students and tomorrow's scientists.

[The Biology Project](#) - The Biology Project is an interactive online resource for learning biology developed at The University of Arizona. The Biology Project is fun, richly illustrated, and tested on 1000s of students. It has been designed for biology students at the college level, but is useful for high school students, medical students, physicians, science writers, and all types of interested people. Teachers can assign problems sets for reviews before exams, or may want to assign an activity before students cover that topic in their laboratory. Computers are an excellent means of encouraging cooperative learning, so teachers might even have their students work in small groups. Students will find that the information covered in The Biology Project is probably just what they've been studying in their introductory biology course, and advanced students will find these materials to be a useful review. All students will benefit from the real-life applications of biology and the inclusion of up-to-date research findings.

Audience: High school and above
Science Field: Biology

[Four Corners 3-D Map](#) - This wall map was produced in conjunction with National Center for Earth-system Dynamics (NCED) to illustrate landforms and watershed / topographic features in the four states of Colorado, New Mexico, Arizona and Utah. State lines are marked but no other features are labeled - it's up to you to use your geographic landmarks to find your favorite places. Each map comes with 2 pairs of cardboard 3-D glasses.

Science Field: Earth Sciences, Hydrology
What You Get: Each 24" X 30" map comes with 2 pairs of cardboard 3-D glasses.

[Watershed Visualization](#) - Expand your watershed literacy with four short (~10 min/ea), beautifully animated modules covering a computer flythrough of the Verde Watershed - What makes up a watershed, Desert water cycles, and Recharge & Runoff. Development was funded by NSF. Additional classroom support materials are located on-line.

Science Field: Hydrology

Water Kits - Water in Arizona - Teaching Resources developed four classroom resource sets whose goal is to facilitate classroom implementation of hands-on, minds-on water education programs aligned with state standards. We have integrated related components from several well-established water education programs, including Project WET, GLOBE, and Aquatic WILD to provide in-depth learning experiences for students. The four kits are: Water Quality, Aquatic Life, Watersheds and Urban Hydrology. You must check these kits out in person from Tucson, Phoenix or Flagstaff.

Audience: Teachers
Science Field: Hydrology

Tree of Life - The Tree of Life Web Project (ToL) is a collaborative effort of biologists and nature enthusiasts from around the world. On more than 10,000 World Wide Web pages, the project provides information about biodiversity, the characteristics of different groups of organisms, and their evolutionary history (phylogeny). ToL includes an excellent media collection

Audience: All grade levels
Science Field: Biology, Earth Sciences
Science Topics: Biodiversity, phylogeny

AnimalWatch: Connecting Math and Science - AnimalWatch is a web-based tutoring system for algebra readiness. AnimalWatch provides motivation and engagement by having students solve colorful word problems about species at risk and their environments. Students also build proficiency with basic math facts and math vocabulary with Skill Builder modules.

Audience: All grade levels
Science Field: Earth Sciences, Ecology, Mathematics, Oceanography
Science Topics: White Shark, California Condor, Green Turtle, Takhi Wild Horse, Snow Leopard and many others

GEMS Kits - Flandrau maintains a collection of GEMS (Great Explorations in Math and Science) teacher guides and hands-on science kits that may be checked out by K-12 teachers in southeast Arizona. GEMS is a nationally recognized curriculum developed by the Lawrence Hall of Science at UC Berkeley. GEMS guides are clearly organized, easy to use, and do not require expertise in math or science. Popular kits include: Mystery Festival, Chemical Reactions, The Reason for Seasons, and Schoolyard Ecology. GEMS guides and kits may be checked out for a two-week period.

Audience: K-12 (depends on kit)
Science Field: Biology, Chemistry, Earth Sciences, Ecology, General Science
What You Get: Kit in one or more containers, teacher guide, consumables
Science Topics: Most physical and life sciences

Field Trip Fund - K-12 science teachers who no longer can find the resources needed for their students to take advantage of UA Science field trips can request assistance through this program. The FTF matches teachers who need field trip support with donors who can benefit from State of Arizona income tax credits for supporting extracurricular activities. Teachers apply for support by visiting the website and filling out an online questionnaire.

Audience: K-12 teachers planning field trips
Science Field: Astronomy, Biology, Ecology, Mineralogy, Physics,
What You Get: Teachers may receive support for: transportation, admissions for low-income students, other justifiable expenses.
Science Topics: Covers all fields represented by field trip venues - astronomy, biology, dendrochronology, ecology, marine sciences, mineralogy, optics, physics, etc.

* * *

Mars for Educators: Workshops, Classroom Resources, Education Programs, etc

Mars Educator Workshops

Arizona State University's Mars K-12 Education Program is partnered with JPL to sponsor educator training nationwide. ASU has been conducting outreach since 1992 and is the longest running Mars K-12 education project. Visit their [website](#) for current opportunities.

Mars Classroom Resources

[Mars Activity Book](#)

[Earth/Mars Comparison Poster](#) Front

[Earth/Mars Comparison Poster](#) Back (contains classroom activities)

Mars Education Programs

You can participate in four major programs:

[Imagine Mars](#) is a national arts, science and technology initiative that challenges young people to imagine and design a livable Mars community of the future.

The [Mars Student Imaging Project](#) allows students to use a camera on the Odyssey orbiter to take their own image of the red planet and analyze it using the scientific method.

Mars Robotics Education is a program in development that aligns with technology-education standards. Check back at [NASA's Be A Martian](#) for more information.

[Mars Educator Workshops](#) offer professional development opportunities for teachers.

Curriculum Supplements

Robotics activities are available. Download the [activity summaries](#) (PDF, 1.33 MB) or the [full activity set](#) (PDF, 1.08 MB).

The Mars Curriculum Modules are designed to help bring the topic of Mars into your 4th through 12th grade classrooms.

- [Exploring Mars](#) (Grades 4-10)

Students learn how sediment, landforms and drainage patterns provide clues about a planet's geologic history.

- [The Grand Canyon of Mars and How it Formed](#) (Grades 6-12)

Students investigate the formation of Mars' 3000-mile-long valley.

- [Is There Water On Mars?](#) (Grades 9-12)

Can water exist on Mars Today?

NASA Resources and Educational Programs

- [Robotics Alliance Project](#) - Robots are a great way to inspire students to learn about math, science, and technology. Enjoy robots in the classroom or find out how students can participate in robotics competitions and other events.

- [Destination Mars](#)

Learn to study Mars like a scientist.

- [Space Science Educational Resource Directory](#)

This Directory is a convenient way to find NASA space science products for use in classrooms, science museums, planetariums and other settings.

- NASA SpaceLink Mars Educational Materials

This is the Mars section of NASA's primary site for educators and their students. Bookmark <http://www.nasa.gov/audience/foreducators/index.html> as your source of NASA educational materials.

- NASA CORE (Central Operation of Resources for Educators)

This site offers Mars-related audio-visual materials. See <http://education.nasa.gov/edprograms/core/home/index.html> for other resources.

* * *

Use *Science News For Kids*, With Corresponding Teacher's Questions, Wordfinds And Other Resources, In Your Curriculum This Year

Science News for Kids (SNK) is an award-winning online publication dedicated to children 9-14, their parents, and their teachers. It was launched in 2003 by the nonprofit organization [Society for Science & the Public](#) (SSP) as a youth edition and companion to SSP's [Science News](#) magazine.

SNK offers timely, interesting news stories and features, accompanied by suggestions for hands-on activities, wordfinds, and questions to use in your classrooms. It attracts nearly four million visitors annually. Younger and older visitors enjoy its pages.

SNK news stories are selected from articles from SSP's award-winning flagship magazine, *Science News*. *Science News* is written by a [staff](#) of professional science journalists and editors, and covers all areas of science. SNK content is tailored to make *Science News* accessible and interesting for the middle-school audience. Longer news features are also commissioned from professional science writers as original articles for the site.

* * *

The APEX Project: Arizona Providers Engaging in Excellence (APEX)

Rio Salado College, in collaboration with KAET/ASSET (Arizona State University), offers a coaching model for early childhood professional development. [Arizona's Providers Engaging in Excellence: The APEX Project](#) has as its primary goal to advance the quality of care and education for Arizona's children by developing and sponsoring educational opportunities for childcare personnel to improve their knowledge and skills when working in any settings (e.g., family day care homes, centers, schools). APEX serves childcare personnel in the **Northwest Maricopa and Central Maricopa Regions**.

All Great Seminars will be available in 2 locations:

- CENTRAL Maricopa: Rio Conference Center, 2323 W. 14th Street, Tempe, AZ
- NORTHWEST Maricopa: Communiversity @ Surprise, 15950 N. Civic Center Plaza, Surprise, AZ, 85374

Observe! Compare! Contrast! Describe! Super-Duper-Ooper-Schmooper Big Ideas To Take Back To Your Children With the Help of Sid the Science Kid!

Participants will learn strategies to use music and humor to celebrate children's natural curiosity about science in everyday life. The energetic and inquisitive Sid asks questions ("Where does rain come from?" "Why do bananas get mushy?") and embarks on a fun-filled day of finding answers with the help of family and friends. Find out how to put simple tools to use so you can help young scientists you care for begin to keep journals through pre-emergent literacy skills and explore water and develop great scientific vocabulary.

**ECERS-R math, science and language are addressed in this workshop content*

- CENTRAL Maricopa: January 7, 2012
- NORTHWEST Maricopa: January 21, 2012

The Cat in the Hat Knows A Lot About That! & Other PBS STEM Early Childhood Adventures for Early Childhood Settings

Participants will learn strategies to develop a child's natural interest in science, technology, engineering, and math (STEM) through play, song, questioning, storytelling and literacy activities that are aligned to Arizona Early Learning Standards. Learn all about encouraging inquiry, questions and problem-solving with these free resources from Eight -Arizona PBS. Complementary online and offline activities encourage families to read and explore their environments together.

**ECERS-R math, science and language are addressed in this workshop content*

- CENTRAL Maricopa: February 18, 2012
- NORTHWEST Maricopa: February 18, 2012

PBS KIDS Super WHY! Learning Adventure Tool Kit

Wonder Red with the power of words... Alpha Pig with the power of the Alphabet... curious and want to learn more? Participants will each receive the SUPER WHY! Learning Adventures Toolkit and explore how to make use to this critically acclaimed curriculum within their own center or home based care setting. Review each of the critical reading skills identified by the National Reading Panel, including alphabet knowledge, phonological awareness, phonemic awareness, and reading comprehension. Through the games and classic storytelling, participants will enjoy adventures and skill building first hand they can then try with their children!

*ECERS-R dramatic play, language, books, tv/video, and interaction are addressed in this workshop content

- CENTRAL Maricopa: April 28, 2012
- NORTHWEST Maricopa: April 21, 2012

If you received this from a friend rather than a direct email, please be sure to contact us to be added to our teachers list so that you won't miss out on future updates and resources.

Let me know if I can be of further assistance.

Grace Aranda
SwAEBR - University of Arizona
P.O. Box 210101
Tucson, AZ 85721-0101
Phone: (520)621-3931
Fax: (520)621-8833
E-mail: garanda@u.arizona.edu
Website: www.swaebr.org

~~~~~  
The mission of the **Southwest Association for Education in Biomedical Research** is to develop and implement a strong proactive campaign to educate school children, as well as the general public, in the vital role biomedical research plays in their everyday lives. The Association disseminates information necessary to improve the public's understanding of how responsible and humane biomedical research has led to significantly improved health for humankind and its animal companions. - [www.swaebr.org](http://www.swaebr.org)

[Become a Friend of SwAEBR](#) and help us in our mission.

**What if SwAEBR earned a penny every time you searched the Internet? Well, now we can!** GoodSearch.com is a new search engine that donates half its revenue, about a penny per search, to the charities its users designate. You use it just as you would any search engine, and it's powered by Yahoo!, so you get great results. Just go to [www.goodsearch.com](http://www.goodsearch.com) and be sure to enter SwAEBR as the charity you want to support. Be sure to spread the word!

[www.statesforbiomed.org](http://www.statesforbiomed.org), [www.living-proof.us/](http://www.living-proof.us/)

Joining forces to promote health through science and education  
AL AZ CA CT GA ID IL KS MA MI MO MT NC NJ OH OR PA TX WA WI

*The information transmitted is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. Any review, re-transmission, dissemination or other use of, or taking of any action in reliance upon this information by persons or entities other than the intended recipient is prohibited. If you received this in error, please contact the sender and delete the material from your computer. Thank you.*