



SCIENCE BYTES

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Science Fair Dates Set: The Alaska State Science and Engineering Fair is April 11-12, 2008.

Books, Books, Books: Global Science Education

http://science.nsta.org/enewsletter/2007-11/books_high.htm Tired of your textbook? Click on this link for a list of some of the high school-level books we've found related to this theme.

Books, Books, Books: Literacy Skills in Science

http://science.nsta.org/enewsletter/2007-11/books_elementary.htm

Tired of your textbook? Click on this link for a list of some of the elementary-level books we've found related to this theme.

Books, Books, Books: Health and the Human Body

http://science.nsta.org/enewsletter/2007-11/books_middle.htm

Tired of your textbook? There are lots of alternative resources available. Click here for a list of middle school-level books related to this theme.

Dawn Mission EDUCATIONAL RESOURCES

The planets of the solar system formed from a cloud of gas and dust, while asteroids are the rocky remnants that never grew into planets. By investigating the two most massive asteroids, Ceres and Vesta, NASA's Discovery mission Dawn seeks to determine the planetary building processes that made Ceres large and wet, and Vesta smaller and volcanic. Dawn will help humans understand the conditions that led to planetary formation.

The DAWN launch window opens July 7, 2007. Visit <http://dawn.jpl.nasa.gov/> to access the latest information and educational resources for the DAWN mission including classroom activities and multimedia resources. Following are two of the newest resources you'll find here.

Viewers can learn about DAWN in a new animated video (13 min) narrated by Leonard Nimoy. The movie features a look into the planning, instrumentation and technological challenges of this one-of-a kind mission into the heart of the asteroid belt. Go to: <http://dawn.jpl.nasa.gov/multimedia/index.asp> and scroll down to the video link.

The Dawn Mission Events calendar is a six-year wall calendar from the years 2007 to 2012. The calendar highlights major events that will take place during the mission. The calendar can be downloaded from the following link:

http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Dawn_Mission_Events_Calendar.html

NASA INTERNATIONAL POLAR YEAR (IPY) WEB SITE

Visit <http://ipy.nasa.gov> -- your one-stop shop for the latest NASA images and videos on polar exploration combined with a searchable storehouse of related information. This Web site is an essential resource for educators, news media and museums interested in the 2007-2009 IPY.

EARTH and SPACE SCIENCE POSTER

This poster highlights some of the people featured in the NASA Earth Explorers and NASA Space Science Explorers series of articles on the NASA.gov education pages. Some of the explorers highlighted on this poster are still in school, and some are adults who have chosen science as a career. The backside of the poster includes suggestions for using the series in the classroom.

Download the Earth and Space Science Explorers poster from the following location:

http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Earth_and_Space_Science_Explorers_Poster.html

NASA EDUCATOR FEATURE: What's the Scoop on Soils

There's more to soil than you might think. It isn't just dirt that gets on your shoes. Trees, plants and animals all depend on soil. Can you imagine a world without soil? Young students can read more about soil in a NASA portal article specially written for the K-4 reading level. View the article at

http://www.nasa.gov/audience/forstudents/k-4/home/F_Whats_the_Scoop_on_Soil.html

KEPLER MISSION LITHOGRAPH NOW AVAILABLE ONLINE

<http://kepler.nasa.gov/ed/pdf/factlitho.html>

The Kepler Mission, which is searching for planets the size of Earth in the habitable zone of the galaxy, created the Star Field lithograph to show where the mission will be looking for terrestrial sized planets. Previous searches were limited to Jupiter-sized objects. The back of the lithograph includes a description of mission, the location of the field in the night sky, why this field was chosen, and distances to the stars. An image illustrates the distance this star field lies from the galactic center and the size of the field of view.

FALL 2007 "STORIES FROM A CHANGING PLANET" TOUR

NASA and the National Science Foundation present Polar-palooza, an International Polar Year (IPY) education and outreach project. "Stories from a Changing Planet" is a multimedia exhibit that will bring polar researchers and Arctic residents to science centers and natural history museums across the country. This national tour will visit California, New Mexico, Florida, Georgia and Louisiana in the fall of 2007. The featured presenters know both poles intimately because they have lived and worked there, in some of the most extreme, fascinating and beautiful locations on Earth. For the complete schedule, visit

http://www.nasa.gov/mission_pages/IPY/snow/PolarPaloozaCalendar.html.

NASA Explorer Schools Applications Now Available

Applications due: Jan. 31, 2008 Applications are now available for educators interested in joining NASA Explorer Schools program during the 2008-2009 school year. Schools from the 50 states, the District of Columbia, Puerto Rico and the Virgin Islands may apply for the NES 2008-2009 school year. NES offers unique opportunities designed to engage and educate the future scientists who may someday advance U.S. scientific interests

through space exploration. Teams composed of full-time teachers and a school administrator develop and implement a three-year action plan to address local challenges in science, technology and mathematics education for grades 4-9. Schools that are selected are eligible to receive funding during the three-year partnership to purchase technology tools. The project also provides educators and students with content-specific activities that can be used within the curricula to excite students about science, technology, engineering, and math. For more information, visit <http://explorerschools.nasa.gov/portal/site/nes/menuitem.3a9dc5f6e0302a448258f708c41a5ea0/>

EXPLORING THE MOON EDUCATOR GUIDE

The Exploring the Moon Educator Guide is available as a complete guide or can be downloaded in easy-to-use individual lesson plans. The activities in this guide promote problem solving, communication skills and teamwork. Earth and space science subjects include lunar geology and regolith, distance to the moon, Apollo landing sites and life support systems.

Examples of lessons that are included are:

- Calculating the distance between scale models of Earth and the moon.
- Designing a spacecraft for travel to and from the moon.
- Learning about the locations and geology of the six Apollo landing sites.
- Calculating the diameter of the moon using proportions.

For more information and to download the guide, visit:

<http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Exploring.the.Moon.html>

NEW UNIT LESSON PLAN FROM MY NASA DATA

Another Unit Lesson has been added to the Teacher Plans collection:

Lesson #49 "Using Atmospheric Data Sets in the Classroom: Investigating Ozone, Aerosols, and Clouds" by Diana Soehl, http://mynasadata.larc.nasa.gov/unit_lessons.html

Each Unit Plan on MY NASA DATA provides an implementation guide including at least three lessons, related activities, and resources. The Unit Plans provide students a more-in depth opportunity for learning to access and use authentic satellite data.

MY NASA DATA is an effort to develop microsets of Earth science data that are interesting and useful to the K-12 and citizen scientist communities. The datasets provide information on the atmosphere, ocean and land surface and are available online along with lesson plans, teacher-friendly documentation, computer tools and an Earth science glossary. Science project starter ideas are also available.

SPACE PLACE ELEMENTARY ACTIVITY: PLANET X-TREME WEATHER

Few places on Earth have perfect weather. We complain about the heat, the cold, the hurricanes and tornadoes, the rain and snow, or the drought. But compared to other places in our solar system, even Earth's worst weather is wimpy! Visit the Space Place at <http://spaceplace.nasa.gov> for a whirlwind tour of weather throughout the solar system. Find out about the hottest, coldest, windiest, and just plain weirdest planets and moons in our neighborhood. Click on "Amazing Facts" and "Planet X-treme Weather" to begin your tour.

EARTH OBSERVATORY: Global Warming-Questions and Answers

[http://earthobservatory.nasa.gov/Study/GlobalWarmingQandA/From why global warming is a problem to whether increased solar activity could be behind it](http://earthobservatory.nasa.gov/Study/GlobalWarmingQandA/From%20why%20global%20warming%20is%20a%20problem%20to%20whether%20increased%20solar%20activity%20could%20be%20behind%20it), this Q&A article includes responses to common questions about global warming.

NASA EDUCATOR FEATURE: POLAR-PALOOZA

The Arctic and Antarctica are not the lifeless, desolate places some people might think they are. Polar bears, penguins and people are just a few of the living things that populate Earth's polar areas. POLAR-PALOOZA is a new multimedia effort to explain the importance of the polar regions and clear up misconceptions some people may have about them. Read more at

http://www.nasa.gov/audience/foreducators/5-8/features/F_Polar_Palooza.html

IGES Announces 2008 Thacher Scholars Award \$3,500 in Prizes Available;

Entries Must Be Received by April 4, 2008 Arlington, Va.-In an effort to engage the next generation of Earth scientists, the Institute for Global Environmental Strategies (IGES) is now accepting entries for the 2008 Thacher Scholars Award, to be given to secondary school students demonstrating the best use of geospatial tools or data to study our home planet. Eligible tools and data include satellite remote sensing, aerial photography, geographic information systems (GIS), and the Global Positioning System (GPS).

Entries can be submitted by individuals or teams, either by hard copy or by emailed PDF. Entries must be received by April 4, 2008.

U.S. students in grades 9-12, including U.S. citizens attending schools in foreign countries, are eligible to receive cash awards in the amount of \$2,000 for first place, \$1,000 for second place and \$500 for third place. For each winning student or team, a teacher or designated adult "coach" will receive a \$200 gift card to Amazon.com.

Entries must not exceed 20 pages, and will be judged by IGES staff based on their scientific and technical accuracy; creativity and originality; quality of presentation; thoroughness of research, methods and procedures; and demonstration of knowledge gained.

Winners will be announced by May 9, 2008.

The Thacher Scholars Award was founded in honor of former IGES board member Peter S. Thacher, an internationally recognized leader in promoting the use of satellite remote sensing. During a distinguished career, he served as deputy director of the United Nations Environment Program, as an advisor to NASA and, at the time of his death in 1999, as president of the Earth Council Foundation-U.S.

Geospatial technologies have numerous uses in science research, ranging from climate prediction to archaeology. They can improve human understanding of the Earth system, including interactions among the atmosphere, biosphere, geosphere and hydrosphere. And they can improve quality of life by supporting weather prediction, natural hazards monitoring, transportation, land-use planning, agriculture, coastal management, public health and emergency response.

For more information on the Thacher Scholars Award, including contest rules, judging rubrics, questions to help guide student projects, and a list of related resources, please visit:

<http://www.strategies.org/ThacherScholars>

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