



January '09 Science News and Info



Cold Enough For You?

"January is here, with eyes that keenly glow, a frost-mailed warrior striding a shadowy steed of snow," wrote poet Edgar Fawcett about this often frigid month. Make good use of your time indoors by learning more about how the weather works. Find out what forces operate our global weather system in Annenberg Media's resources below:

- *Shedding Light on Science*. Workshop 7, "Sun and Seasons." It can be accessed at <http://www.learner.org/workshops/sheddinglight/workshop7.html>. The program explains how uneven heating of the earth is responsible for our seasons.
- Workshop 8, "Wind and Weather" at <http://www.learner.org/workshops/sheddinglight/workshop8.html> explores mechanisms that set the air in motion and cause weather. The oceans play a huge role in the heating and cooling of the earth and provide the greatest CO₂ offset for the environment.
- *The Habitable Planet*, Program 3, "Oceans" at <http://www.learner.org/courses/envsci/unit/text.php?unit=3&secNum=0> explains the El Niño phenomenon and reveals the heroic efforts of phytoplankton in the oceans.
- Understand the difference between weather and climate by watching *Planet Earth*, Program 3, "The Climate Puzzle" found at <http://www.learner.org/resources/series49.html>.

2009 is the Year of Science

To help in planning instruction, explore Annenberg Media's instructional video series provided on the following topics:

- Chemistry at <http://www.learner.org/resources/series61.html>,
- Earth Science at <http://www.learner.org/resources/series78.html> and <http://www.learner.org/resources/series49.html>,
- Physics at <http://www.learner.org/resources/series42.html>,
- Biology at <http://www.learner.org/courses/biology>,
- Environmental Science at <http://www.learner.org/courses/envsci>,
- Microbiology at <http://www.learner.org/resources/series121.html>,
- Neuroscience at <http://www.learner.org/resources/series142.html>, and
- a series specifically designed for teacher professional development at http://www.learner.org/channel/chnnl_workshops.html.

Also see their science interactives at <http://www.learner.org/interactives> for unique learning experiences.

NSTA Comes to New Orleans!

Don't forget that the National NSTA Institute is in New Orleans this year on March 19-22, 2009. The informative, current, sensational professional development opportunities provided for teachers and administrators are not to be missed. Conference registration and exhibits will be at the Ernest N. Morial Convention Center. Most sessions and events have been scheduled at the Convention Center and the conference headquarters hotels: Hilton New Orleans Riverside, New Orleans Marriott, and Sheraton New Orleans Hotel. To obtain additional information and register, go <http://www.nsta.org/conferences/2009new/>.

Be aware that due to having the National NSTA Institute in New Orleans this spring, there will be no Louisiana Environmental Education Symposium this year in February.



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2009, International Year of Astronomy

Annenberg Media's physics series, *The Mechanical Universe...and Beyond*, can be accessed at <http://www.learner.org/resources/series42.html>. It is designed for high school students and explains the movements of the heavenly bodies in mathematical terms. Watch programs 20 through 25 for content covering equinoxes, orbits, gravity, space travel, and related theories.

Less technical accounts for conveying information to younger students can be found in *Essential Science for Teachers: Earth and Space Science* at <http://www.learner.org/courses/essential/earthspace>. Programs 7 and 8 of this series, considers children's own theories about the moon and solar system.

The 4th and 6th programs of *Planet Earth* found at <http://www.learner.org/resources/series49.html> allows students to travel through our solar system and examine the intimate connection between Earth and Sun.

Unfortunately many students have failed to understand even the most basic astronomical concepts. *A Private Universe* located at <http://www.learner.org/resources/series28.html> considers why this is so, beginning with Harvard graduates' mistaken ideas about the relationships between the motions of heavenly bodies and the seasons here on Earth.

To test your own knowledge, visit the *Teacher's Lab* at <http://www.learner.org/teacherslab/pup> and take a quiz. Then have your students tune in to astronomy directly with the set of moon activities and resources located at <http://www.learner.org/workshops/lala/moonj.html>.

The LSU College of Engineering and The Cain Center Announce Research Experiences for High School Teachers

Application Deadline Postmark: February 26, 2009

This six-week program for high school science and mathematics teacher team focuses on developing an understanding of engineering principles and creating ways to bring engineering into the science and math classroom. One week, June 8-12, will include a presentation to learn how to infuse problem-solving and critical thinking skills in the classroom through creative, hands-on engineering design activities for students that are correlated to the GLEs. The remaining five weeks will engage the participants in an engineering lab working alongside engineers to learn how research is conducted and develop engineering and design activities appropriate for the classroom.

Applications should be submitted by a pair of science and math teachers from the same high school. Science and math teams from different schools will be considered if space is available. All science and math disciplines are eligible! The participants' principal must agree to support implementation of the activities in the classrooms and permit attendance at a state conference. Contact Brenda Nixon, bnixon@lsu.edu, (225) 205-2680 for additional information.

Earn \$1,000 per week for 6 weeks + \$1,000 during the academic year for developing activities to be implemented in the classroom! Dates: June 1-July 31 (Exact lab dates and times are flexible!) For registration forms and information, go to www.cain.lsu.edu and click on the link in the center of the page.



Seven Skills Students Desperately Need

Harvard's Tony Wagner presented a list of seven "survival skills" that students need to succeed in today's information-age world, taken from his book *The Global Achievement Gap: Why Even Our Best Schools Don't Teach the New Survival Skills Our Children Need--And What We Can do About It*. It's a school's job to make sure students have the following skills before graduating:

1. Problem-solving and critical thinking;
2. Collaboration across networks and leading by influence;
3. Agility and adaptability;
4. Initiative;
5. Effective written and oral communication;
6. Accessing and analyzing information; and
7. Curiosity and imagination.

Science is an excellent venue for developing most of these skills.

Source: *eSchool News: Technology News for Today's K-20 Educator*. Access at <http://www.eschoolnews.com/news/top-news/?i=56127>

NASA Explore! Ice Worlds is just for you!

Explore! Ice Worlds is a suite of hands-on inquiry activities designed to be used with children **ages 8 to 13**. Developed by the Lunar and Planetary Institute and funded by NASA, the activities are designed for the informal learning environment, including libraries, after-school programs, and museums, plus they work well in elementary to middle school classrooms, too! All activities use inexpensive materials that are easy to find. Children will learn while having fun! Check out the activities at: <http://www.lpi.usra.edu/education/explore/ice/activities>.

NASA Teacher Workshops at Stennis Space Center

The NASA Educator Resource Center (ERC) at Stennis Space Center has announced professional development workshops for teachers for Spring 2009. K-12 teachers can receive CEUs for these free workshops. Home school educators are welcome, too! Topics include physical science, life science, biology, mathematics, technology and much more. Workshops are available for all grade levels and are held on-site at Stennis Space Center in Mississippi.

For more information, visit the Stennis Education Web site at

<http://education.ssc.nasa.gov/workshops.asp> or contact the NASA ERC by phone at 1-800-237-1821 (option 2), 228-688-3338, or by email to ssc-nasaerc@mail.nasa.gov.

Careers in Genetics and Biotechnology

Biology teachers can motivate students to pursue careers in the rapidly growing field of genetics by talking about such careers or assigning student research on this topic. To acquire information on careers related to the exploding field of genetics and biotechnology, utilize the following websites:

- http://www.ornl.gov/sci/techresources/Human_genome/education/careers.shtml
- <http://science.education.nih.gov/LifeWorks>

Teachers may wish to order copies of *The New Genetics*, a free publication from the National Institute of General Medical Sciences. You can obtain one to 30 free copies of this publication, go to <http://publications.nigms.nih.gov>.