

G4 NSTA Reports

What's New

FROM U.S. GOVERNMENT SOURCES



National Science Foundation (NSF)

NBC Learn/NSF

Multimedia Series

Produced by NSF and NBC Learn, these multimedia learning series at <http://bit.ly/ugohtF> for middle and high school levels feature videos, documents, images, and lesson plans. *Chemistry Now!* examines the chemistry behind everyday items such as cheeseburgers, chocolate, soap, and plastics. *Changing Planet* follows the scientists studying the effects of rising temperatures in Earth's air, water, and land. *Science of NFL Football* explores the physics, engineering, materials sci-

ence, and math of the sport. *Science of the Olympic Winter Games* spotlights the scientific principles of skating, snowboarding, skiing, and other sports.

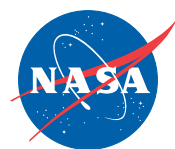


National Oceanic and Atmospheric Administration (NOAA)

Data in the Classroom

Middle level and high school teachers interested in using real scientific data in their teaching should visit www.dataintheclassroom.org, home of the NOAA Ocean Data Education Project. The website offers four learning modules covering El Niño (grades 6–8), Sea Level (grades 6–8), Water Quality (grades 6–8), and Ocean Acidification

(grades 10–12). Each module contains five lessons at increasing levels of sophistication. In El Niño, for example, students move from learning how to access and interpret sea surface temperature data, to identifying and measuring changes in temperature over time, to exploring how these changes relate to physical and biological systems.



National Aeronautics and Space Administration (NASA)

NetworkKing

This game for middle and high school students at <http://1.usa.gov/uzNpbL>

illustrates how astronauts, mission controllers, and scientists communicate during space missions. Players construct communication networks, establish command stations worldwide, and accept clients conducting space missions, such as satellites and space telescopes. Students earn resources as they learn to effectively manage their communication networks and accept increasingly challenging clients.

Satellite Insight App

In Satellite Insight, the first app for iPhone and other iOS devices from NOAA (in partnership with NASA), colored blocks represent different types of weather data collected from amazing science instruments. The data blocks fall into columns on a grid. Players must bundle like data types together and store them safely in the GOES-R weather satellite before the data grid overflows. Play it at <http://bit.ly/sZvYwD>.

ADAM[®]
PERFECT BALANCE
Speed, Performance, Value

It's All About The Perfect Balance.

We're talking about the balance of speed, performance and value, which is exactly what Adam Equipment balances offer. From basic lab work to complex experiments, Adam's variety of balances has everything you need to help promote science learning. Get your students weighing quickly and accurately with our balances, which provide the features, functionality and durability teachers are looking for at affordable prices.

For nearly 40 years, our tradition has been to support teachers and education with quality, dependable products. You can always trust Adam Equipment to provide you with the best value for your classroom.

Learn more.



For more information about Adam Equipment balances please visit our website at: www.adamequipment.com/education.

ADAM[®]

ISSLive!

Experience the International Space Station (ISS) in real time online at <http://spacestationlive.jsc.nasa.gov>. Appropriate for high school students and space enthusiasts of any age who want to learn what astronauts and scientists aboard the ISS do, ISSLive! allows visitors to access real ISS data, explore the mission control console center in 3-D, watch the construction of the ISS, and learn about the countries that created it. An Educators section provides advanced high school science and math lessons incorporating ISS data. The Resources section includes a glossary of terms and an Activity Dictionary describing ISS events.

Spaced Out Sports Resources

In Spaced Out Sports, a national design challenge, middle level students create or redesign a game for ISS astronauts to play in space. As students develop their game, they learn about Newton's Laws of Motion and the effect of gravity on an object. At the website <http://education.ssc.nasa.gov/spacedoutsports.asp>, educators can access challenge criteria, a curriculum guide, videos exploring the science behind sports, and facts about the ISS. Groups participating in this year's challenge must submit their games by **February 1**; however, the guide's activities can be used without participation.



National Institutes of Health (NIH) Health Science Lessons

The National Institute of Environmental Health Sciences (NIEHS) publishes environmental and health science lessons for high school and college levels. Each lesson incorporates content from *Environmental Health Perspectives (EHP)*, NIEHS's online journal, and includes a lesson summary, background information for teachers, and student worksheets. Two new lessons from the collection are

- **DNA Wrap—Packaging Matters** (<http://bit.ly/u9TITi>). This lesson introduces students to epigenetics, the study of changes in gene expression unaccompanied by alterations in DNA sequence. Students watch a video, *A Tale of Two Mice*, and review data from an *EHP* article, "Maternal Genistein Alters Coat Color and Protects A¹⁹ Mouse Offspring from Obesity by Modifying the Fetal Epigenome," to discover that our environment can alter the way genes are expressed, making even identical twins different.
- **The Dynamic Duo: Transcription and DNA Damage** (<http://bit.ly/t48hF3>). Students create models to predict how genotoxicants can cause DNA damage and learn about the different ways a cell repairs this damage. Students also summarize the *EHP* article "Transcription and DNA Damage: A Link to a Kink," and learn how DNA damage repair plays an important role in DNA transcription.

More NIH Curriculum Supplements

Two new curriculum supplements inform students about human health while building communication, critical-thinking, and teamwork skills. *Evolution and Medicine*, for grades 9–12 (<http://science.education.nih.gov/q7>), presents current examples to help students understand the role evolution plays in human health, biomedical problems, and disease treatment. An accompanying web seminar discusses some of the examples and how they might be used in the classroom. *Rare Diseases and Scientific Inquiry*, for grades 6–8 (<http://science.education.nih.gov/r7>), explores how scientists use inquiry to research rare diseases and treatments and to further understand the workings of the human body. The accompanying web seminar leads teachers through portions of the module, providing insight into what students will experience. ●

SPARKscience for your iPad®



SPARKvue HD offers the full suite of display and analytical tools, all within an integrated learning environment—including reflection prompts, journaling and more.

NEW! AVAILABLE SPRING 2012



SPARKvue® HD
Science Application for the iPad

Now bring the full-featured version of SPARKvue to your iPad.

- ▶ Get the full advantage of SPARKlabs.
- ▶ The full capabilities of SPARKvue.
- ▶ And, of course, wireless sensing with over 70 PASPORT Sensors.

Get Started with our FREE SPARKvue for iOS



Our current version of SPARKvue for iOS is available now on the App Store—and for free. This app provides anytime, anywhere science measurement using the range of PASPORT Sensors, plus the built-in sensors on the iPhone®, iPod touch® and iPad®. Just connect any PASPORT Sensor to your iOS device with our Bluetooth sensor link, the PASPORT AirLink 2.

www.pasco.com

PASCO®