



ELEMENTARY SAMPLER Find more at www.smdeponews.org

EARTH

Aquarius Hands-On Lab Activities



http://bit.ly/NSTA12_aquarius

These hands-on laboratory activities and demos are from NASA's Aquarius mission, which is improving understanding of salinity-driven ocean circulation and its influence on climate and the water cycle. Elementary resources include: **Liquid Rainbow** • http://bit.ly/ES12_liqrainbow • through which students investigate the properties of water by devising schemes to stack solutions of different densities; and **Evaporation Investigation** • http://bit.ly/ES12_evaporation • through which students observe and understand the process of evaporation.



Climate Kids

http://1.usa.gov/ES12_climatekids

This multimedia-rich site uses age-appropriate language, games and humorous illustrations and animations to help explain the important issue of climate change.

Elementary GLOBE

http://bit.ly/ES12_ElemGLOBE



This instructional unit is composed of five modules designed to introduce students to the study of Earth System Science (ESS). Through

science-based storybooks and classroom activities, the modules address ESS and interrelated subjects such as weather, hydrology, phenology and soils.



S'COOL—Students' Cloud Observations On-Line

http://bit.ly/NSTA12_scool

S'COOL observations provide one more piece of the puzzle in the study of clouds and their role in our weather and climate. The S'COOL project involves students (ages 5–20+) in real science, making and reporting ground truth observations of clouds to assist in the validation of NASA's CERES satellite instruments. The website includes cloud ID charts, tutorials and classroom activities.

SUN



Dancing Lights: Exploring the Aurora through Art and Writing

http://bit.ly/ES12_dancinglights

These classroom materials allow students to creatively explore the beauty, science and mythology of

the aurora. This standards-based, flexible “plug and play” program is based on the latest research to bring science into the literacy and art classroom. It can be used as a complete sequence of lessons or as a guideline for teachers to develop their own activities.

Eye on the Sky

http://bit.ly/ES12_eyesky

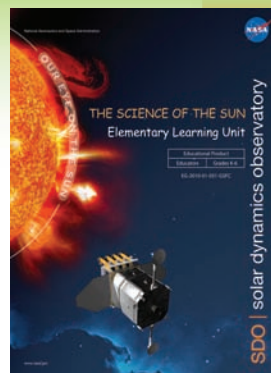
This set of integrated lessons allows students to maximize their understanding of the sun-Earth system while honing their nonfiction reading and writing skills. Lessons are aligned with National Science Education Standards for the primary grades.



The Science of the Sun

http://1.usa.gov/ES12_sciencesun

In this unit, students focus on the sun as the center of our solar system and as the source for all energy on



Earth. By beginning with what the sun is and how the Earth relates to it in size and distance, students gain a perspective of how powerful the sun is compared to things we have here on Earth, and the small fraction of its energy we receive.

elementary



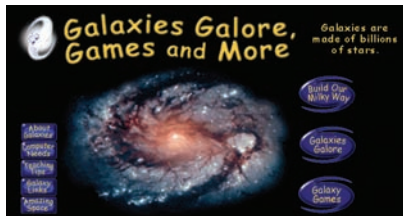
Traditions of the Sun

http://bit.ly/ES12_traditionsun

Developed in collaboration with NASA's Sun-Earth Connection Education Forum and the National Park Service at Chaco Canyon, New Mexico, this resource contains nearly 300 photographs and historic images.

Dozens of QuickTime VR, time-lapse and composite images also help tell the story.

PLANETS & SPACE



Amazing Space

http://bit.ly/ES12_amazingspace

This site contains activities that use the Hubble space telescope's discoveries to inspire and educate about the wonders of our universe. Topics include black holes, light and color, galaxies, gravity and more.

Cool Cosmos

http://bit.ly/NSTA12_coolcosmos

This portal involves students in science with multi-disciplinary educational materials on the topics of infrared light and infrared astronomy.

Exploring Ice in the Solar System

http://bit.ly/ES12_expice

Through hands-on experiences, this education unit examines the importance of water in the form of ice—ice in everyday life, on Earth and throughout the solar system.



Concepts and demonstrations are adapted for pre-K to 2 and grades 3–5.

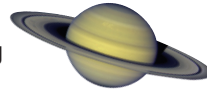
Each lesson includes a kinesthetic activity where students mime and act out ice science concepts. All

lessons include extensive background information, a list of national standards addressed, suggested curriculum extensions, a list of resources and photo gallery.

Inverse Square Law of Light

http://1.usa.gov/NSTA12_lawoflight

This activity enables students to measure the relationship between distance and brightness, helping them understand how astronomers use this knowledge to determine the distances to stars and faraway galaxies.



Reading, Writing & Rings

http://1.usa.gov/ES12_readwriting

This science and language arts curriculum teaches students about Saturn and its rings and moons.

Space Place

http://1.usa.gov/ES12_spaceplace



This site targets elementary students, providing a range of interactive games, hands-on projects and fun facts that relate to space and Earth science.



Space Thrills Poster

http://1.usa.gov/ES12_spacethrills

This poster includes reading and writing activities where students learn about the solar system as they imagine themselves on a roller coaster in space.



StarChild: A Learning Center for Young Astronomers

http://1.usa.gov/ES12_starchild

This site contains information and a wide range of astronomy activities and information for students.

MULTIMEDIA

NASA Apps

http://1.usa.gov/NSTA12_apps

Download apps for smart phones and tablets, including the **NASA App**, which includes information



on NASA's Earth and space science satellite missions, Astronomy

Picture of the Day, video clips on current events, NASA Twitter feeds and Third Rock Radio.

NASA eClips

http://1.usa.gov/NSTA12_clips

These short, relevant educational video segments inspire and engage students, helping them see real-world connections to NASA science.



NASA ScienceCasts

http://1.usa.gov/NSTA12_scicasts

These short videos cover fun, interesting and unusual science topics related to NASA's science missions. Subscribe to the free ScienceCasts on YouTube, iTunes, and Vimeo, and follow on Twitter.

Want more?

This is just a snapshot of the hundreds of NASA Earth and space science resources available online.

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