atı nal Aer nautics and Space Administrati n

the Space Place

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NOTES FOR FORMAL AND INFORMAL EDUCATORS

The Space Place is a NASA website for elementary school-aged kids, their teachers, and their parents.

It's colorful!
It's dynamic!
It's fun!

It's rich with science, technology, engineering, and math content!

It's informal.
It's meaty.
It's easy to read and understand.
It's also in Spanish.
And it's free!

It has over 450 separate modules for kids, including hands-on projects, interactive games, animated cartoons, and amazing facts about space and Earth science and technology.

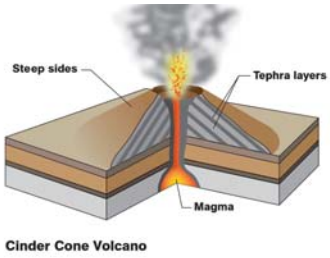
Life is full of moments of wonder if only we stop to notice—moments when we learn something new or see something beautiful. Space exploration provides a wealth of such moments, and the Space Place is here to make these moments, these discoveries, these captured images of the beauty of the universe available and accessible to children and educators. In this issue, we bring your attention to some of the newest features on the website that, once again, shine a spotlight on awesomeness.

What's New?

This new article on the Space Place explains what interstellar space means. In 2012, scientists declared that the NASA spacecraft, Voyager 1, had finally left the heliosphere and reached interstellar space. What does that mean? And how did they know? How did Voyager's instruments give clues that it had arrived in that region? And why did it take so long? After all, Voyager 1 was launched in 1977 and has been traveling through space at around 38,000 miles per hour continuously—no rest stops. Check it out at http://spaceplace.nasa.gov/interstellar.

Los volcanes de la Tierra en español

Volcanoes are perhaps the most violent events one can see on Earth—from a distance, preferably! What causes them? Do other planets or moons in the solar system have volcanoes too? This simple article has lots of graphics and video clips showing just how dramatic these Earthly temper tantrums can be. And, as with our entire Space Place en español site, you can toggle back and forth between the English and Spanish versions, so it makes a good reading exercise for both Spanish and English learners. Visit http://spaceplace.nasa.gov/volcanoes2/sp to learn about volcanoes and http://spaceplace.nasa.gov/volcanoes/sp/ to learn about volcanoes elsewhere in the solar system.



Cinder Cone Volcano

Spotlight on GPS

Global Positioning System technology is used every day by millions of people—people who take it for granted, but haven't got the foggiest idea how it works. Wouldn't it be nice to understand it? After all, it isn't magic, although it seems so. To reinforce this simple explanation is an animated "Space Place in a Snap" video and printable poster explaining how your smart phone can use GPS satellites to help you find the nearest place to get a pizza. Go to http://spaceplace.nasa.gov/gps and http://spaceplace.nasa.gov/

gps-pizza to learn and teach about this technology. In addition, at the middle school level, Space Place has a classroom activity and article on how GPS works. This article is also helpful in answering any questions younger, curious students have about how GPS works. That article is in .pdf form at http://spaceplace.nasa.gov/classroom-activities/#watery.

For the classroom

Space Place has compiled a gallery of 3-D anaglyph images of Earth and other planets, moons, and smaller objects taken from space. The images range from of a human boot print on the Moon to the Sun's stormy surface, to a crater on the asteroid Vesta. Anaglyphs appear three-dimensional when viewed with red and blue 3-D glasses, which are inexpensive. Bargains may be found on the internet, so that you could buy these for a whole classroom for around $12-15. The anaglyphs on the site are large images that will project well onto a screen so the whole class can see them at once. These images are at http://spaceplace.nasa.gov/3d-gallery.

For out-of-school time

April 22 is Earth Day. What better time to make a beautiful "stained glass" Earth to hang in the window. This activity uses a paper plate and colored tissue paper, along with other simple and common materials to celebrate the beauty of Earth from afar. The "stained glass" Earth ends up looking like the jewel suspended in space that it is, helping to remind us of its loveliness and fragility and how important it is to take good care of our home. For this activity, go to http://spaceplace.nasa.gov/stained-glass-earth.

Special days to celebrate

April is Math Education Month

For a whole page of math-related classroom activities, check out http://spaceplace.nasa.gov/math-activities.

April 4—National Reading a Road Map Day

It's fun to speculate on how racing pigeons can find their way home from anywhere without consulting a map—that is if a recent solar storm isn't messing with their navigation equipment! Go to http://spaceplace.nasa.gov/pigeons.

April 10—Encourage a young writer day

Creative juices will start to flow when students choose a topic to write their own "Loopy Legend" about. Visit http://spaceplace.nasa.gov/loopy-legends.

May 4—National Weather Observers Day

Anyone can be a weather observers when they play the Weather Slyder game at http://spaceplace.nasa.gov/weather-slyder.

May 18—Mt. St. Helens blew its top in 1980

An opportunity to talk about volcanoes, what causes them, and how common they are in our solar system. http://spaceplace.nasa.gov/volcanoes2

May 29—Daniel Gabriel Fahrenheit (1686–1736) invented a precise thermometer in 1724.

A good time to talk about the Sun, and the weird fact that the Sun's corona is millions of degrees Fahrenheit, while the Sun's core is "only" 10,000 °F. Check out this solar mystery at http://spaceplace.nasa.gov/sun-corona.