National Aeronautics and Space Administration

the Space Place

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NEWS AND 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!

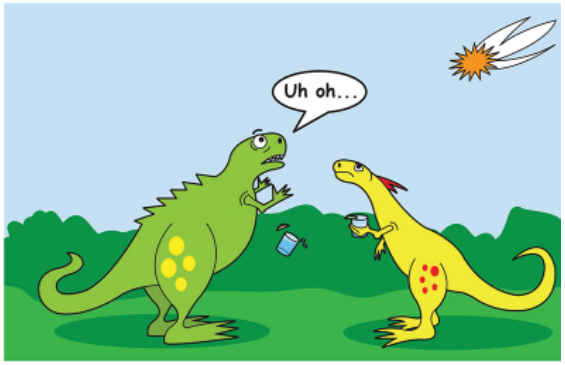
It's informal.
It's meaty.
It's easy to read and understand.
It's also in Spanish.
And it's free!

It has over 150 separate modules for kids, including hands-on projects, interactive games, animated cartoons, and amazing facts about space and Earth science and technology.

Earth is a water world. Even if we live far from the ocean, we feel its effects. We feel it in the weather and climate. We breathe in the oxygen produced by its plant life. We are cooler for the ocean's ability to absorb some of the excess greenhouse gases we add to the atmosphere. The ocean influences every aspect of our planet that make it habitable. The Space Place website is about space out there and Earth down here as studied from space out there. This month we pay tribute to the ocean and the technologies that help us understand it better.

What's new on Space Place

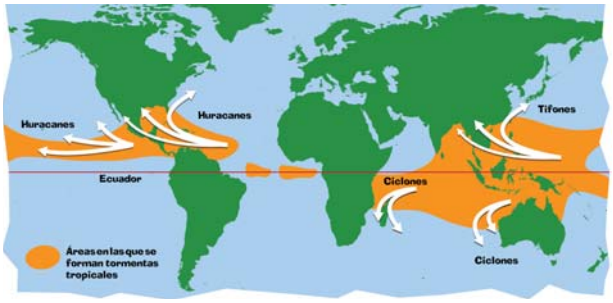
When Earth first formed, it was very hot. Any liquid water would have boiled away into space. So where did the ocean come from? Scientists think comets may have provided an important water delivery service. But how can they know?



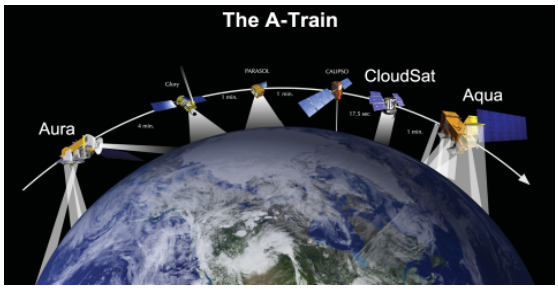
A new "Explore" article on the Space Place explains how even water has fingerprints of sorts that can be used to trace its origin. Visit spaceplace.nasa.gov/comet-ocean.

Space Place en español

Satellite images show the swirling, organized rotational cloud systems of tropical storms and hurricanes. We can watch them in fascination—or fear, if they are headed our way. What is actually going on in the belly of these monsters? How do they begin and grow? What determines their severity and their path? In both English and Spanish, the basics are explained. Check out ¿Cómo se forman los huracanes? And see Space Place entirely in Spanish at spaceplace.nasa.gov/sp, with toggles to the English on every page.



Spotlight on . .



"**Missions to Planet Earth**" is an online card game. It started out as a real card game, but we wanted everyone to be able to enjoy playing it and learn about what it takes to build a space mission. The player competes with the computer, but can tell the computer how "smart" to play. So beginners can succeed too. The object is to gather all the necessary components to complete the maximum number of missions—before the

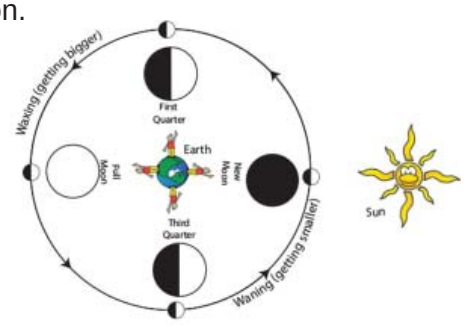
computer opponent does. This is a great game for the classroom when students have a few minutes to spare. Go to spaceplace.nasa.gov/earth-card-game.

For the classroom

"Voyage on the High Seas: A Jason I Ocean Adventure" is a real board game. Go to spaceplace.nasa.gov/posters/high_seas to download a full-size game board (42.5 x 33 inches). You can have it printed—and perhaps laminated—at an office supply store. There are also game cards to print on standard paper and cut apart, as well as a spinner and tiny game markers (research vessels). The game is a fun way for students to learn some geography, oceanography, and meteorology. The back side of the poster (printable on standard paper) has other related activities and articles as well.

For out of school (cookie) time

We leave the ocean theme for a moment to tell you of our new Oreo® cookies Moon phases activity. It reduces the oft-confusing topic of Moon phases to its simplest—and sweetest—form. To make a new Moon, eat all the crème filling. To make a 1st or 3rd quarter Moon, scrape off half the filling. For a full Moon, alas, you must resist. Printable activity sheets make it easy for the activity director. Go to spaceplace.nasa.gov/oreo-moon.

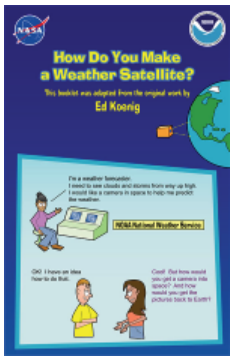


Special Days

Nov. 9, 1934: Carl Sagan was born.

Dr. Sagan helped pick the sounds and images for the Voyager spacecrafts' "Golden Record." See and hear samples at spaceplace.nasa.gov/voyager-to-stars.

Nov 13, 1946: Vincent Joseph Schaefer made the first artificially induced snowstorm.



It's easy to predict a snowstorm it you make it yourself. If nature makes it …not so much. Check out a little booklet that explains in the simplest possible terms how to make a weather-prediction satellite. It's at spaceplace.nasa.gov/story-weather-satellite. The booklet is also in Spanish and Italian.

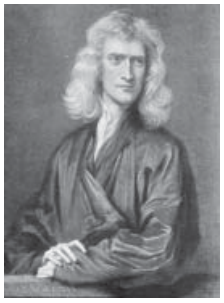
Nov 29, 1803: Birthday of Christian Doppler.

He described the Doppler effect, a good analogy for the expansion of space and understanding why the sky is dark at night. Check it out at spaceplace.nasa.gov/classroom-activities#bluesky.

Dec. 14: Geminids Meteor Shower

Get tips on the best meteor viewing techniques at spaceplace.nasa.gov/meteor-shower.

Dec. 25, 1642: Birthday of Isaac Newton.



He understood how orbits work, and so can you by firing a cannon into space. With enough gunpowder, you, too, can achieve orbit! Go to spaceplace.nasa.gov/how-orbits-work.

Dec. 31, 1705: First recorded sighting of Halley's comet.

Play Comet Quest and learn about comets at spaceplace.nasa.gov/comet-quest.

Don't forget . . .

You can find dozens of other ideas and rich resources for the classroom and out of school time at our Parents & Educators page, spaceplace.nasa.gov/menu/parents-and-educators.