

NASA SpacePlace

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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 130 (and counting) separate modules for kids, including hands-on projects, interactive games, animated cartoons, and amazing facts about space and Earth science and technology.

Here's the Latest on spaceplace.nasa.gov . . .

Make pollutants from gumdrops, then gobble them up! Making science edible—and sweet—is a reliable way to attract kids' interest. The new "Gummy Greenhouse Gases" activity (spaceplace.nasa.gov/en/kids/tes/gumdrops) on The Space Place makes it fun and easy to learn a bit of chemistry and to find out why too many of these kinds of molecules in the air are likely to cause Earth to get warmer. Kids use gumdrops and toothpicks to make simple molecules of ozone, nitrous oxide, carbon dioxide, water vapor, and methane. The curious can go on to spaceplace.nasa.gov/en/kids/tes/gases to learn more about the greenhouse effect and about the "good and bad" roles of ozone. A short video shows how new space technology can literally paint a 3-D picture of these gases all around the globe. Afterwards, the ghastly gases can be consumed (mind the toothpicks!), thus helping the environment!



. . . y en Español



Perhaps not as snappy as the English word "gumdrops," "pastillas de goma" may also be used to make model gumdrop greenhouse gas molecules. The newest articles on The Space Place are also en Español at spaceplace.nasa.gov/sp/kids/tes/gumdrops.

Most of The Space Place web site modules have Spanish counterparts, accessible with one click. For both

Spanish-speaking English learners and English-speaking Spanish learners, the site is valuable for its interesting topics, clear illustrations, and focus-holding interactivity.

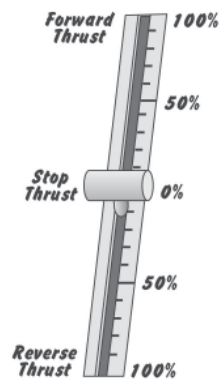
Spotlight on the "Projects" Section of The Space Place

Easy experiments to demonstrate concepts such as atmospheric pressure, stereoscopic vision, and ionization are some of the hands-on activities in the "Projects" category on The Space Place. There are also art projects to express the beauty of the planets—including Earth—the stars, and the galaxies. Know a child who likes to build models? How about a balloon-powered Asteroid Nanorover? Or how about hanging out in the kitchen and making (then eating) Asteroid Potatoes, El Niño Pudding, or a Tortilla Spacecraft? Our most popular project is the Star Finder. Star Finders are "dressed up" star maps, one for each month, that kids print, cut out, and fold into the familiar "fortune teller" shape and use to play a constellation-finding game. All these projects and more are accompanied by short, readable explanations, with lots of colorful and compelling illustrations of the concepts modeled in the activity.

For the Classroom

When it comes to mathematics, NASA's work is where the rubber meets the road. The first and foremost mathematical skill is to be able to think logically. The activity article "Teaching Machines to Think

Fuzzy (spaceplace.nasa.gov/en/educators/teachers_page2.shtml#fuzzy) explores machine logic versus human logic. Humans understand complex problems with seemingly unquantifiable parameters, then manipulate the input parameters to come up with a probable solution. If that doesn't work, they take the less-than-perfect result as a new input and tweak the answer some more until satisfied with the result. This article and activity show how you could teach a computer—or a robot—to solve problems that way.



Geared for middle-schoolers, this individual or group exercise and discussion supports the standards of the National Council of Teachers of Mathematics (NCTM). Specifically, it applies algebra (understanding patterns, representing and analyzing mathematical situations and structures using algebraic symbols, and analyzing change in linear relationships); problem solving (applying and adapting a variety of appropriate strategies to solve problems); reasoning and proof (constructing and evaluating mathematical arguments); and making connections (recognizing and applying mathematics in contexts outside of mathematics).

For After-school Programs

If you ask kids “What is your favorite planet?” many will answer “Saturn.” Why? Because of its beautiful rings. Now they can celebrate the rings by making their own Saturn model from an unwanted CD and a small styrofoam ball. The CD, already sparkling and iridescent, can be decorated with rings of glitter and divisions of black yarn. Go to spaceplace.nasa.gov/en/kids/cassini_make1.shtml for complete instructions.



Celebrate Special Days

The Space Place greets each date with a different reason to celebrate. Here are a few days in May for which you might want to make some special plans:

May 10, 2008: National Astronomy Day

(Grades 3-5) Meet Michelle Thaller, enthusiastic astronomer, on Space Place Live!—a cartoon “talk show” guest starring scientists and engineers, who talk about their work and why they love it. Go to spaceplace.nasa.gov/en/kids/live/#thaller.

May 14, 1804: Lewis and Clark began their journey of exploration.

(Grades 6-8) If only they had a satellite's view of North America, it would have saved them a lot of trouble. In this group activity and discussion, students think about how high-resolution images of Earth from space might be used, and about the political and economic aspects of studies using this type of data. Go to spaceplace.nasa.gov/en/educators/teachers_page2.shtml#rising.



May 18, 1980: Mt. St. Helens erupted, blowing off its whole top.

(Grades 3-8) Download, print (on regular letter-size paper), and display beautiful, high-resolution images (with simple captions in large letters) of volcanoes as seen from space. Go to spaceplace.nasa.gov/en/educators/teachers_earth_volcano_images.shtml.

May 29, 1917: John F. Kennedy was born.

(Grades 3-8) It was President Kennedy who, on May 25, 1961, set the goal of putting an American on the Moon before the end of the 1960s. You can print and display high-resolution images of the Apollo landings and the Moon at spaceplace.nasa.gov/en/educators/teachers_moon_images.shtml.

How do you use The Space Place?

Please let us know how you use spaceplace.nasa.gov. Share this newsletter with others, and share your ideas with us. Send them to spaceplace@jpl.nasa.gov. We may include your idea in our next newsletter!