National Aeronautics and Space Administration

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.

We start the new decade by celebrating our own star, the Sun. The Sun and Earth are locked together in a dance of gravity and a dance of life. What happens on the Sun affects Earth and all the life on it, often in profound ways. We study the Sun to understand Earth better. We also study the Sun to understand the stars, galaxies, and, indeed, the whole universe better.

What's new on spaceplace.nasa.gov . . .

The latest episode of Space Place Live! (at http://tiny.cc/live994) guest stars Don Burnett, chief scientist on NASA's Genesis Mission. The Genesis spacecraft collected particles of the solar wind and returned them to Earth for study. Space Place Live! is a "talk show" in which cartoon kids interview real NASA scientists and engineers to find out what they do and—from a personal point of view—why they do it. Don's story is an exciting one of venturing into space and sampling the Sun—something humans have dreamed of since the ancient story of Icarus.

Space Place en español

¡Oh-oh! ¡Indigestión solar! (http://tiny.cc/spsun). Solar indigestion is not really a malady of our favorite star, but a normal condition—at times more violent than at others, but still de rigueur for a giant nuclear fusion factory. This short, well-illustrated discussion of space weather introduces solar storms, Earth's magnetosphere, the aurorae, and how we study the Sun in different wavelengths of light.

Spotlight on . . .

The Space Place looks at the Sun (well, not really—that would be dangerous) from a number of angles. These are some of the relevant pages:

"A Cool Sun for Cool Music" reflects on why Stradivarius violins and other instruments created 300 years ago in Europe are such superior instruments. Could it have anything to do with what the Sun was like at that time? Find out at http://tiny.cc/strad.

"What causes the beautiful Northern Lights?" is a Podcast by our science advisor, Dr. Marc Rayman. Hear or read it at http://tiny.cc/aurora.

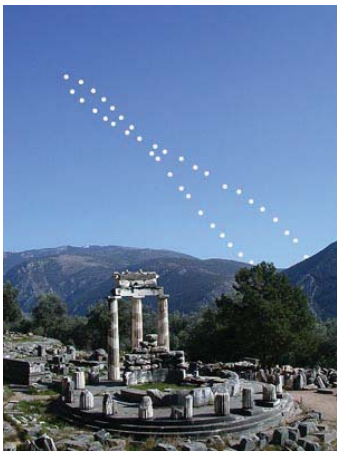
"How does the Sun make enough energy and light for all the stars we see?" is a question from a young science museum visitor. Dr. Marc takes it on at http://tiny.cc/energy121.

"Why are stars different sizes?" is another Dr. Marc Podcast. Our own star figures prominently in his answer at http://tiny.cc/sizes.

"Why is the sky blue?" After all, the light is coming from the Sun, and the Sun isn't blue! A clear and definitive explanation awaits at http://tiny.cc/bluesky572.

For the classroom

Are you a slave to the clock? Our society runs on the clock. But our dependence on timekeeping is not just to get to class on time—or to tune into our favorite TV programs on time. Our very technological infrastructure depends on extremely accurate timekeeping—for delivery of power, for communications, for computing, for transportation. (Ever heard of a "timing belt" in a car? Know what happens when one breaks?) But time, as we know it, is our own invention.



"Reinventing Time" is a classroom activity (group activity and discussion) summarizing the history of timekeeping technology and secondary inventions people have come up with to reconcile our mechanical timekeeping with our master timekeeper, the Sun. Ever wondered about that funny figure-8 shape found on some world globes? It's called the analemma curve. This article also explains how to use it to calculate the exact time of high noon in any location. Check it out at http://tiny.cc/time483.

For after school

The light from the Sun is white. But not all stars look white. Some very young, hot stars burn blue. Old red giant stars nearing the end of their lives are, well, red. Some stars are yellow. Make star cookies that show this wonderful variety of sparkling gems in the night sky. You can use pre-made sugar cookie dough or make them from scratch. Use clear, colored hard candies (such as Life Savers®) in the centers to make the colors. Recipe and instructions are at http://tiny.cc/cookies95.

Dates to celebrate

January 3: Earth is at perihelion, the point in its orbit when it is closest to the Sun. Why do planets go around the Sun? Dr. Marc gives a thorough and clear answer at http://tiny.cc/peri.

January 3, 1643: Birthday of Isaac Newton. What does "center of gravity" mean and what does it have to do with Newton? Find out at http://tiny.cc/gravity617.

January 29: National Puzzle Day. Solve a Weather Slyder, including space weather, at http://tiny.cc/slyder.

February 2: Groundhog Day. Will the groundhog see its shadow today? Not if the Sun were to become a black hole. Could it ever? Find out at http://tiny.cc/sizes.

February 15, 1564: Birthday of Galileo Galilei. He was the first to point a telescope toward the night sky. See his telescope, along with other "Supercool Space Tools," at http://tiny.cc/supercool912.

February 22: Thinking Day—although shouldn't every day be thinking day? The Spitzer Concentration Game will make you think—and enjoy doing it! Go to http://tiny.cc/concentration822.

Become a fan and a follower

Become a fan of The Space Place on Facebook or a follower on Twitter. You'll find out what's new just as soon as it's available. On Twitter, you will also get the Space Place Fact of the Day. Go to http://facebook.com/nasaspaceplace or http://twitter.com/nasaspaceplace.

Did you know?

This year, 2010, is the United Nations International Year of Biodiversity. As you talk to students this year about the importance of and threats to biodiversity, remember the many activities and fun facts on The Space Place related to Earth science and NASA's role in helping to understand and mitigate threats to species diversity. Check out all the Earth-related pages at http://spaceplace.nasa.gov/en/kids/cs_earth.shtml.

2010 International Year of Biodiversity