



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, interac-
tive games, animated
cartoons, and
amazing facts about
space and Earth
science and
technology.

Technology is the application of scientific knowledge to real-life problems. But, conversely, science needs technology in order to push the boundaries of scientific understanding. At The Space Place, we've always been about that symbiotic relationship. This issue, we highlight just a few of the features of The Space Place that convey the importance of the tools of the Earth-and-space-exploration trade.

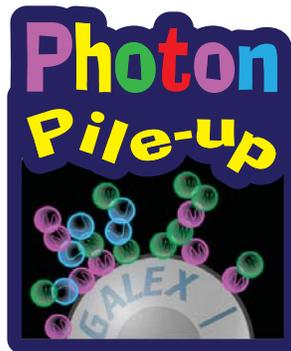
What's new on spaceplace.nasa.gov . . .

Let us light up your life with more colorful photons—or waves—or both, than you will know what to do with!

"Photon Pile-up" is a fast-paced game, with multi-colored photons raining in from all directions.

They come from old stars, new stars, galaxies, and glowing gas. Spin the Galaxy Evolution Explorer telescope around quickly to collect three photons of the same color and record the beautiful space image one piece at a time. This telescope detects ultraviolet photons best, so those count most. Don't let the sticky non-matching photons pile up too high, or the game will end before your picture is complete.

The game introduces the concept of light as little packets of energy. The player also learns that, over time, we can collect enough of these little packets from a faint, faraway source to reveal far more than we would see if we just took a snapshot—even if our "camera" could see in ultraviolet or infrared light.



Enjoy "Photon Pile-up." And don't get too addicted! Go to at <http://tiny.cc/photons>.

Spotlight on Storybooks

The Space Place has been collecting storybooks, and now has them all on one "shelf" at The Space Place. In previous issues, we've reviewed "Lucy's Planet Hunt" and "Prof. Starr's Dream Trip." A newer book is "Supercool Space Tools." It is a short, pictorial history of tools humans have used since the beginning of civilization to study the sky. Like all our storybooks, there's both an interactive Flash version with virtual pages to turn with the mouse, or a .pdf version you can print or read online. Find them at <http://tiny.cc/spacetools>.

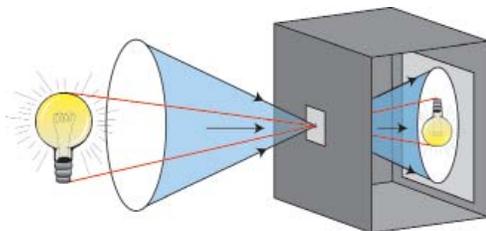


Space Place en español

¡Hola y saludos á todos! That's a greeting in one of 55 languages recorded on the Golden Records the two Voyager spacecraft are carrying to interstellar space—just in case we run into any of our neighbors out there and want to introduce ourselves! Last issue, we featured the English version of this "Amazing Fact" as our "what's new" item. Now we have the page in Spanish as well. Some of the images on the records are included on the page, along with other sample sounds in an interactive that invites listeners to identify the sounds before it reveals their sources. See <http://tiny.cc/voyager-es>.

For the Classroom

One tool of the space trade, of course, is the telescope and attached image recorder—which is a fancy name for camera. Nowadays, kids use digital cameras from the time they're old enough to utter "say cheese." But do they have any clue as to how a camera works? Sometimes it's good to go back to the basics to really understand something complex. The latest classroom activity posted for your use—previously published in *The Technology Teacher* by the International Technology Education Association—shows how to make a pinhole camera from a cereal box. It's a sleek and sophisticated tool when finished, and it works great. It's built around a roll of 35-mm film and a spare film canister. Yes, you can still buy real film at the corner drug store and get it developed there too. Along the way, students will learn some valuable lessons about optics, engineering design, astronomy, and—yes—patience. You can download the activity in .pdf form at <http://tiny.cc/cereal-box-pinhole>.



For the Younger Set

Most of the resources on The Space Place target upper-elementary and middle-school students. But we don't want to leave out little brother or sister. Thus, we made the GOES and GOES-R Fun Activity Books. These are .pdf files to print and do. Each is 16 pages, with an activity on every page—even if it's just laughing at some silly "bad weather jokes." There are also word games and puzzles, connect-the-dots pictures, coloring pages, object grouping, and a space to draw your own favorite weather. For that's what these books are all about—weather and the tools in space that help us know what it's going to do next. Download the booklets at <http://tiny.cc/goes-fun>.

Celebrate Special Days

- May 6:** National Space Day. Find lots of printable space images for the classroom at <http://tiny.cc/sp-images> or posters, postcards, lithographs, etc., at <http://tiny.cc/sp-posters>.
- May 9:** Mother's Day. Make Mom something beautiful, like a colorful work of galactic art. Our Galaxy Montage uses coffee filters, construction paper, and water-based markers. It's at <http://tiny.cc/galaxy-art>.

May 18, 1980: Thirty-year anniversary of eruption of Mount St. Helens. With erupting volcanoes again in the news, it's a good time to remember our own Cascade Mountains historic temper tantrum. See and print a picture of it from space at <http://tiny.cc/msh>.



June 5: World Environment Day. What a great day to play Missions to Planet Earth, the online card game about five NASA missions that are helping us to understand and take care of our complex planet. Go to <http://tiny.cc/earth-card-game>.

June 20: Father's Day. Dads often enjoy building things with their kids. The Toy Nanosat Launcher featured in our classroom activity article "Launch a Frisbee into Orbit" will be fun and challenging for both generations. Print out the directions and patterns for kids to take home to share with Dad. Go to <http://tiny.cc/frisbee-launcher>.

June 21: Summer Solstice. Another excuse to notice what's going on outside! Taking off from an activity in the GOES and GOES-R Fun Activity Books, Weather Word Cross is an interactive crossword puzzle, of sorts, that focuses on Earth, its weather, and tools of the weather forecasting trade. Try it out at <http://tiny.cc/goes-words>.

One more thing for you . . .



The people who bring you The Space Place have recently completed another website aimed at upper-elementary age students. This one is called Climate Kids, <http://climate.nasa.gov/kids>. It's all about global climate change. It presents the science of climate change using games, videos, interactives, and compellingly illustrated, clear and simple text. All the basics are here. There is also a page of links to other reliable Educator Resources. If kids—and adults—understand the basics, they will be better prepared to evaluate the merits of the diverse messages they receive on this subject.

