New Worlds New Discoveries

News from the Field

Fall 2012

The Year of the Solar System (YSS) — a synthesis of NASA's 50-year exploration history — provides an integrated picture of our new understanding of our solar system! YSS: New Worlds, New Discoveries includes 20 topics that share thematic NASA solar system educational resources and activities, tied to the national science standards!

YSS: the Journey Continues

The Martian year that marked the initial dates for the ***Year of the Solar System*** is over, but the celebration will continue to offer ways for you to get involved with NASA's ground-breaking science discoveries through a transition to ***New Worlds, New Discoveries!***

As NASA spacecraft head to and arrive at key locations, *New Worlds, New Discoveries* and the continuing salute to the 50 year history of solar system exploration will provide an integrated picture of our new understanding of the solar system to educators and the general public! *New Worlds, New Discoveries* combines the amazing discoveries of past NASA planetary missions with the most recent findings of ongoing missions, and connects them to the related planetary science topics!

On the YSS website you will continue to find valuable hands-on science activities, resources and educational materials, as well as the latest news, to engage students, families, and the general public in planetary science topics and their related mission discoveries.

This journey of discovery continues with the anniversary of 50 years of NASA Solar System exploration!

50th Anniversary Events: Sept. 2012 – Dec. 2013
During the last five decades, NASA has launched a variety of robotic spacecraft to study the planets and moons of our Solar System. Over that time, our understanding of planets has been revolutionized, as has the technology that has made these discoveries possible.

Share the experience with your community through *New Worlds, New Discoveries* (YSS) resources!

solarsystem.nasa.gov/yss/

Curiosity Lands at Mars

Have you held a Mars Curiosity event?

Baraboo Public Library, Baraboo WI
Penny Johnson, Teen and Tween Specialist led Curiosity Club, a program based on a new LPI Explore module. This 7 week summer program had triple their normal attendance for this age group (3-6th grade) and with their efforts, they succeeded in attracting an audience that was 2/3 girls. This was a highly successful program. Parents gave rave reviews; one girl gushed "I just LOVE Curiosity Club!"

Mars Resources
NASA has released a suite of video games and virtual experiences for members of the general public who wish to follow the massive rover across the sands of the Red Planet, available at http://mars.jpl.nasa.gov/msl/participate/.

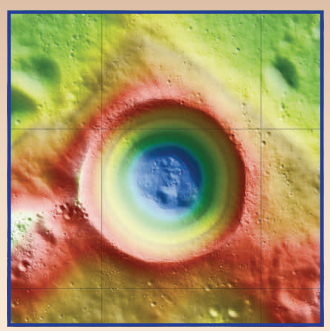
Additional activities and resources are available in the YSS topic, *Got Life?* http://solarsystem.nasa.gov/yss/display.cfm?Year=2012&Month=7

Tell us what you've done for the landing, at Share your Stories: http://solarsystem.nasa.gov/yss/shareastory.cfm

YSS Mission News

NASA's most advanced Mars rover Curiosity has landed on the Red Planet. The one-ton rover, hanging by ropes from a rocket backpack, touched down onto Mars on August 5 near the foot of a mountain three miles tall inside Gale Crater. During a nearly two-year prime mission, the rover will investigate whether the region ever offered conditions favorable for microbial life.
http://science.nasa.gov/science-news/science-at-nasa/2012/06aug_success/

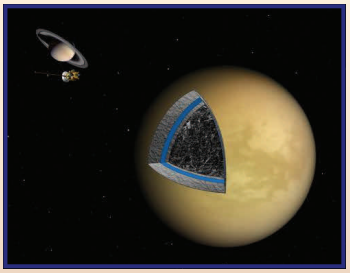
MESSENGER scientists have concluded that waves driven by the Kelvin-Helmholtz instability play a key role in driving Mercury's magnetosphere.
http://messenger.jhuapl.edu/news_room/details.php?id=223



The **Lunar Reconnaissance Orbiter** has evidence that ice may make up as much as 22% of the surface material in Shackleton crater at the Moon's south pole. Shackleton crater is two miles deep and more than 12 miles wide.
http://science.nasa.gov/science-news/science-at-nasa/2012/20jun_shackleton/

A research team studying the stars of 226 **Kepler** planet candidates smaller than Neptune has learned that the occurrence of small planets does not depend as strongly on the amount of metals of the host star. This suggests that rocky planets may be more widespread in the disk of our Galaxy.
http://kepler.nasa.gov/news/newsaboutplanetfinding/

Dawn has confirmed that the asteroid Vesta is a geologically complex layered, planetary building block with an iron core – the only one known to survive the earliest days of the solar system. Scientists were surprised to discover that ts largest crater, the Rheasilvia basin, is only about a billion years old. http://dawn.jpl.nasa.gov/feature_stories/secrets_of_vesta_revealed.asp



New data from **Cassini** indicates that Saturn's moon Titan probably has a layer of liquid water under an icy shell, holding implications for the search for life in our solar system.
http://www.astrobio.net/pressrelease/4863/titans-subsurface-ocean

About the YSS

The Year of the Solar System is a 23-month celebration (a Martian year) of our exploration of the solar system, culminating in August 2012. NASA's diverse missions in this period create a rare opportunity to engage students and the public, using NASA missions to reveal new worlds and new discoveries. Although the 'year' concluded in August 2012, the resources will remain as the salute to 50 years of Solar System Exploration continues!

Send Your News

Do you have events or news for us to include in the next quarterly YSS newsletter? Send your information to us at http://solarsystem.nasa.gov/yss/shareastory.cfm

And don't forget to add your information to the YSS website!
Go to http://solarsystem.nasa.gov/yss/getinvolved.cfm

Opportunities for Educators

Cassini Scientist for a Day
Students, grades 5-12, are invited to participate in this international essay contest! Students select one of three different targets that the Cassini spacecraft orbiting Saturn could study, and write an essay of up to 500 words about why they think Cassini should take a picture of their chosen target. For more information, go to http://saturn.jpl.nasa.gov/scientistforaday.

IceHunters
The world is invited to help discover a potential new, icy follow-on destination for NASA's New Horizons spacecraft. Through this citizen science project, the public can help scientists search through telescopic images for currently unknown objects in the Kuiper Belt. For more information, visit http://www.icehunters.org/.

Upcoming Events

Look up various events related to the Year of the Solar System, and add your own events to the YSS calendar, at **http://solarsystem.nasa.gov/yss/getinvolved.cfm.**

Hasta La Vesta
Saturday, September 8
Dawn's mission extension studying the asteroid Vesta concluded in late August. Celebrate as we say *hasta la vista, Vesta,* our favorite giant asteroid and begin our journey to dwarf planet Ceres! Dawn scientists and engineers will share mission stories in a live, interactive video chat – and all are invited!

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Host your own *Hasta La Vista, Vesta* event, or find a celebration in your community. Check out the site (http://dawn.jpl.nasa.gov/news/hasta_la_vesta.asp) for information about local events, games, activities, and more!

International Observe the Moon Night (InOMN)
Saturday, September 22
This night will be dedicated to encouraging as many people as possible, worldwide, to spend an evening observing and learning about the Moon. Information, a map of registered events, instructions on hosting your own event, activities, a Moon map, star charts, and other resources are available at http://observethemoonnight.org/.

NASA Planetary Community

YSS Webinars
Have you missed the Year of the Solar System webinars? These are recorded and available online for you to view at your leisure; check them out at http://video.strategies.org/index.php?videoID=122#results.

Notes from Community Retreat
Materials from the May 2012 joint Planetary / Heliophysics community retreat are available online at the secure community workspace (http://smdepo.org/node/3695) including notes and powerpoints from workshops on cultural diversity and addressing misconceptions.

Finding Life Beyond Earth
This NOVA program explores possibilities of life existing beyond our own planet. NOVA Education has created a collection of seven activities and accompanying video excerpts from the show. The Education Collection is online at http://www.pbs.org/wgbh/nova/space/finding-life-beyond-earth-collection.html.

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Get Involved

All educators registering a program or event for the *YSS New Worlds, New Discoveries* calendar will be sent a packet of materials! Register your event now to receive:

- Four flyers (for advertising your program)
- A package of YSS bookmarks
- A package of YSS calendars
- A package of YSS tri-fold brochures
- Solar system lithograph sets
- Other miscellaneous NASA items as available

Go to http://solarsystem.nasa.gov/yss/getinvolved.cfm