



Global Friendship Through Space Education

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Partner School Science Program Newsletter

WELCOME TO THE FOURTH EDITION OF ASTRO



SPACE STUFF: 2008, the Year in Space Flight

1. NASA's 50th Anniversary

On Oct. 1 the National Aeronautics and Space Administration [turned 50 years old](#), marking a half century of achievements in space exploration that many would have doubted were possible before its founding in 1958. While some people are still smarting over the continued absence of flying cars, most can recognize that NASA has come a long way since the days when Americans watched with envy as Sputnik flew overhead. We won the moon (and may be racing back to it all over again), built a fleet of reusable space shuttles, and worked with other nations to construct a continuously-occupied floating space station for scientific research. There have also

been horrific tragedies along the way: the lives of the Apollo 1, Challenger and Columbia astronauts attest to the fact that those great achievements weren't attained without a price. However for all the heartbreaks, setbacks and even public frustration with NASA, Americans can't seem to give up the dream of space. Who knows what [the next 50 years](#) will bring?

2. Robot Safely Lands Farther North on Mars Than Ever Before

NASA's [Phoenix Mars Lander](#) touched down on the red planet in May for the first successful Mars landing since 2004. The stationary spacecraft spent more than five months testing the arctic plains environment for signs of habitability by potential Martian life, and [confirmed the presence of water ice](#) below the ground. Phoenix touched down farther north on Mars than any lander before it, and delivered a treasure trove of images and experimental results from our neighboring planet. After its prolific research stint, the lander finally ran out of power on Nov. 2nd due to decreasing sunlight which is caused by the arctic transition from summer to fall, and light-obscuring atmospheric dust.

3. China Conducts Its First Spacewalk

In another first for a nation building up its space program, Chinese astronauts carried out [their country's first spacewalk](#) in September. China launched three astronauts on the Shenzhou 7 mission, the nation's third manned spaceflight. Zhai Zhigang became the first Chinese spacewalker when he stepped out of his space ship wearing a new Chinese-made spacesuit. During his 20-minute voyage into space, Zhigang retrieved a test sample of lubricant from outside the vehicle, and waived a Chinese flag at the camera that was broadcasting his feat live. The event marked an impressive technological achievement for China, only the [third country](#) after Russia and the United States to independently launch a person into space.

4. Indian Probe Orbits the Moon

India's [Chandrayaan 1 probe](#) became the nation's first spacecraft to travel beyond Earth orbit when it arrived at the moon in November to begin a planned two-year mission. The vehicle carried a mini craft painted in the red, white and green pattern of [India's flag](#) that crash-landed at the moon's south pole, taking pictures on its way down. The achievement established India's space progress and sets the stage for the country's planned future goals of starting a manned space program and landing a rover on the moon.

5. Privately-Developed Falcon 1 Rocket Finally Reaches Orbit

In a major milestone, the Space Exploration Technologies (SpaceX) firm [successfully launched](#) its Falcon 1 rocket in September, capping off the company's six-year effort to lift the first non-governmental rocket into space. Arriving on the heels of

three consecutive [failed launch attempts](#), the Falcon 1's success was no foregone conclusion. The liquid-fueled booster's liftoff from the Kwajalein Atoll in the Pacific Ocean proved that SpaceX's engineering is sound, and the company is on its way toward fulfilling its goal of offering low-cost commercial rocket launches. It took about \$100 million to develop and test the booster, but future flights should carry an \$8 million price tag or less, the company said. SpaceX is now preparing to launch its larger Falcon 9 rocket from Cape Canaveral, Fla., and is one of two firms to win a NASA space station cargo contract.

6. The International Space Station Turns 10

For the past 10 years the ISS has been serenely floating above us, steadily growing in size and hosting more and more scientific cooperation between nations. The \$100 billion space station marked its [10th anniversary](#) Nov. 20, a decade after its first room, the Russian-built Zarya module, was launched into space. Over the years the lab has grown from the equivalent of a studio apartment into a three-bedroom house, hosted about 165 visitors from 15 countries, and circled the Earth more than 57,309 times.

7. Europe's First Cargo Ship Flies

The flotilla of space station-bound spacecraft had been static for the last nine years until a new ship was added to the ranks in March. Europe's [Jules Verne Automated Transfer Vehicle](#) was the first of a new fleet of unmanned cargo ships designed to ferry food and supplies to astronauts on the orbiting International Space Station. After launching and [docking at the station](#) successfully, the vehicle perished as designed in a fiery plunge through the atmosphere back to Earth.

8. Fermi Gamma-ray Space Telescope Launches

Some of the cosmos' most puzzling phenomena — supermassive black holes, dark matter and mysterious explosions called gamma-ray bursts — may soon be more understandable thanks to NASA's Fermi Gamma-ray Space Telescope, which [launched in June](#).

9. The Most Shuttle Missions to Fly in One Year Since 2002

NASA launched four [space shuttle missions](#) in 2008 — and returned each of them safely back home. That's the most shuttle liftoffs since 2002, and especially noteworthy in the wake of the Columbia tragedy of 2003. This year's flights each delivered vital components to the ISS, including major contributions from Japan, [Europe](#) and Canada.

10. The First Second-Generation Space Travelers Launch

Richard Garriott, the son of former NASA astronaut Owen Garriott, became the first American [second-generation spaceflyer](#) to reach orbit when he launched aboard a Soyuz rocket in October. For a hefty \$30 million, paid to the Russian Federal Space Agency through the private U.S. firm Space Adventures, Garriott booked himself a 10-day vacation on the International Space Station (ISS).

WE INVITE SCHOOLS TO CREATE AN ENTIRE
EDITION
OF
ASTRO
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Every other week when you check your mailbox, you will find a link to reach cool pictures, fun, facts, space news, and more in the **Astro** Newsletter.

Being part of the Partner School Science Program and getting the chance to talk to other kids from all over the world can be really fun!

To get the most out of it, make sure to e-mail your E-Pal after your teacher assigns you one.

Do you have something you would like to see in **Astro**? If so, ask your teacher to send an e-mail to tyildirim@gftse.org with the photo, story, or link. You might just see it in the next **Astro**!

Teachers can submit pictures and stories of their class to be included in the partner school highlights section!

COME BACK IN TWO WEEKS FOR MORE !

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