

“Crafts Cruisin’ the Solar System” Booklet

**Create a booklet
highlighting some of the upcoming space
exploration missions for the next decade!**

1. To assemble this booklet, copy the booklet pages back to front, so you end up with a double-sided page.

Have you copied it right?

The front side lower right corner reads “Crafts Cruisin’ the Solar System.” The lower left of the back side reads “Hubble Space Telescope.”

Front Side
(top pp. 5 & 4; bottom 8 & 1)

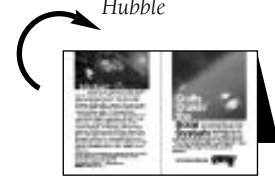


Cover

Back Side
(top pp. 3 & 6; bottom 2 & 7)



Hubble

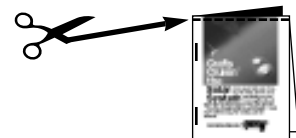


2. Fold the page in half horizontally, so the cover, “Cruisin’ Crafts” is on the right and “Stardust” is on the left.

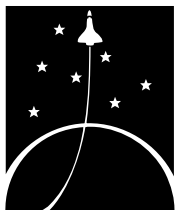
3. Fold the paper again, vertically, so that “Stardust” is now the back of the booklet.



4. Staple the left side of the booklet on the top and bottom along the spine.



5. Cut the top off the booklet at the dotted line.



Challenger
C E N T E R

**For lessons and links to go along with
the topics in this booklet, check out the
official Embrace Space Web site:
www.spaceday.com**

*Another classroom activity from Challenger Center for Space Science Education—
a proud Embrace Space partner.*

**1029 North Royal Street, Suite 300 • Alexandria, VA 22314 • (703) 683-9740
www.challenger.org**

Use this handy guide to get briefed... and stay briefed using the media and the Internet.

Cool spacecrafts are cruising the solar system and exploring our cosmic neighborhood right now and throughout the next decade.



Crafts 'Cruising' the Solar System



Mars Pathfinder

mpfwww.jpl.nasa.gov/

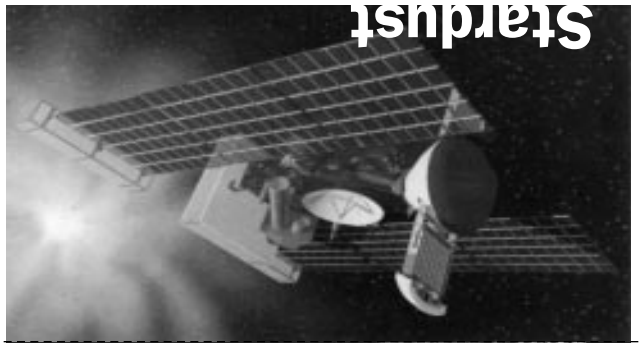
Before possible evidence of primitive life on Mars was discovered in August 1996, plans to send a lander and mini-rover to Mars were well under way. Mars Pathfinder was launched in December 1996 as part of a program to test technologies for future Mars explorations.

Pathfinder will hit the Martian surface like a big bunch of bouncy grapes in July 1997. Enormous air bags will cushion the spacecraft's landing until it tumbles to a standstill. Then the spacecraft will open like a giant, metal flower, and a rover the size of a microwave oven will roll down one of the craft's panels to begin surface explorations.

You'll have more than fireworks to watch this 4th of July, as the rover gives us a real, live look at the surface of Mars.

Comets can be among the most spectacular sights in the solar system. The spacecraft Stardust will literally "capture" the comet experience in 2004 and bring back particles from a comet's tail for study—a historic first! Launching in 1999, Stardust will rendezvous with Comet Wild 2 (pronounced "vilt"—its German), coming within 62 miles of the comet's nucleus. A substance called aerogel, which is 99.8% air and 1,000 times less dense than glass, will collect dust spewed from the comet. Scientists will have to wait until 2006 to get their hands on the comet dust and hope it will provide tantalizing clues to the origins of our universe.

Another classroom activity from Challenger Center for Space Science Education—a proud Embrace Space partner: Alexandria, VA 22314 (703) 683-9740 www.challenger.org



Mars Global Surveyor

mgs-www.jpl.nasa.gov

The Mars Global Surveyor is another spacecraft en route to Mars. Launched in November 1996, it will arrive at Mars in September 1997 and apply "aerobrakes" to bring it into a low-altitude orbit over the planet's poles.

By early 1998 Surveyor will provide us with a bird's-eye view of dramatic features of the red planet, like the polar caps and the winding river-like channels. Surveyor will also serve as a relay point of communication with the other landers and probes that will explore Mars over the next three years.

The Cassini spacecraft will begin its seven-year trek to Saturn in October 1997. In the meantime, we can expect to see flyby images of Venus in 1998 and 1999, and Jupiter in 2000. When Cassini reaches Saturn in 2004, it will send a lander to Titan. This moon may have lakes or oceans of methane or ethane. Titan is slightly bigger than the planet Mercury! It is the only moon in our solar system to have clouds and a significant atmosphere.

Cassini will orbit Saturn for four years, taking more than 30,000 color photos of the planet, its spectacular rings and its moons before the mission ends.

www.jpl.nasa.gov/cassini/



Cassini



Galileo

www.jpl.nasa.gov/galileo

Galileo began its journey to study Jupiter in 1989. Highlights of Galileo's career include images of the historic collision of Comet Shoemaker-Levy 9 into Jupiter's atmosphere in 1994.

Galileo has also brought us amazing footage of active, volcanic eruptions on the moon Io and arctic-type ice floes and dark bands on Europa. Scientists await future flybys to see if a liquid ocean exists under Europa's icy crust.

As Galileo's mission approaches its conclusion at the end of December 1997, there is no telling what intriguing sights of Jupiter's moons remain to be seen.

The Hubble Space Telescope (HST) is a four-story tall silver telescope with solar panels like golden wings, soaring some 300 miles above Earth's atmosphere. Deployed in 1990, HST has shown us never-before-seen glimpses of our universe, despite a slight flaw in its mirror. In 1993 astronauts gave Hubble the "glasses" it needed to correct the flaw.

The second servicing mission in February 1997 upgraded HST even more. Astronauts improvised some "lower tech" patchwork to fix tears in the foil skin using whatever they had handy on the shuttle. Over the next three years HST will let us look past thick dust into the center of galaxies and examine black holes even more deeply. Stay tuned for more revelations and incredible pictures of our universe.

www.stsci.edu/top.html

Space Telescope



Hubble



International Space Station

iss-www.jsc.nasa.gov/

Americans and Russians aboard Mir have been doing space walks and practicing assembly techniques for building the International Space Station in orbit, piece by piece. Assembling ISS will take nearly 44 flights over the next five years, to be completed in 2002.

The orbital research laboratory will let scientists conduct long-term "gravity-free" research that may lead to advances in technologies and medical breakthroughs, improving life on Earth. ISS also sets the stage for further human space exploration.

Towards the end of 1997, watch for the launch of the first hardware components for the new space station.