

Suggested Internet Resources

Periodically, Internet Resources are updated on our web site at www.LibraryVideo.com

- pds.jpl.nasa.gov/planets/
"Welcome to the Planets" presents some of the best images from NASA's planetary exploration program along with detailed information on the planets and the space probes used.
- amazing-space.stsci.edu/trading-top-level.html
"Solar System Trading Cards" provides students with a fun matching game to help them learn about the objects in our solar system, while teachers can browse informative tips and links.
- planetquest.jpl.nasa.gov/TPF/tpf_index.cfm
NASA's Planet Quest contains information on the search for more terrestrial planets.



The Inner Planets

Grades 2-5

TEACHER'S GUIDE

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COMPLETE LIST OF TITLES

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|--|------------------------------|
| • THE EARTH | • SPACE TRAVEL |
| • THE INNER PLANETS | • STARS |
| • THE MOON & OTHER OBJECTS
IN THE SKY | • STUDYING THE SOLAR SYSTEM |
| • THE OUTER PLANETS | • UNDERSTANDING THE UNIVERSE |

Teacher's Guides Included
and Available Online at:

800-843-3620



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The *Space Exploration: Adi in Space* series includes eight segmented space science programs that ask the everyday questions many children have about the world around them. Animations and space footage, along with clear illustrations, explain some of the many mysteries in the sky above our heads. Designed to reinforce fundamental concepts in Earth and Space science, viewing these programs also stimulates children's interest in the scientific process and helps them grow comfortable asking questions of their own.

This guide provides a brief synopsis of the program, background on the science concepts presented in the show, discussion topics, activities, vocabulary and additional resources.



Program Summary

The Inner Planets asks the following five questions about the terrestrial planets near us in the solar system. Space travelers Adi and Woops help viewers clearly answer each question using computer graphics and space footage.

Which is the planet closest to the Sun?

The planet closest to the Sun is Mercury, a small planet with few attractions. With no atmosphere, it is constantly bombarded by meteorites, night and day last six months each, and it is either baking hot or bitterly cold.

What is the first star we see at night?

In fact, the first star we see at night isn't a star, but rather the planet Venus. Venus is the closest planet to Earth, and is very bright due to its clouds being lit by the Sun. Due to the greenhouse effect, its toxic atmosphere is not breathable and it is stiflingly hot!

Is Mars similar to Earth?

Mars is smaller than Earth, and while it does have an atmosphere, it is not one that we can breathe. Its soil is red; in fact, Mars is an immense desert, but there is evidence that water once flowed there. It is home to some of the biggest volcanoes in our solar system!

Is there life on Mars?

There may be life on Mars, but there are certainly no little green men! If life exists on Mars, then it would be microscopic creatures called microbes. We will know for sure in a few years' time.

Are asteroids really planets?

In fact, asteroids are just big rocks that haven't managed to get together to make a planet. They are irregularly shaped, just like a potato, and fly around in orbit between Mars and Jupiter. There are millions of them — some small enough to hold in your hand and some larger than your school!

Vocabulary

Tellurian — Another word for terrestrial. The inner planets are terrestrial, meaning that they are solid. Outer planets, like Neptune, are mostly gas and are not terrestrial.

Mercury — The first planet from the Sun is a ball of rock that resembles Earth's moon, containing no oxygen and a thin atmosphere.

Venus — The second planet from the Sun is the hottest in the solar system, featuring a solid, rocky surface with volcanoes and channels, and surrounded by a thick, toxic atmosphere.

Earth — The third planet from the Sun is our home and features a breathable atmosphere containing oxygen, large amounts of liquid water and a range of temperatures suitable for sustaining life.

Mars — The fourth planet from the Sun is known as the "red planet" because the soil contains iron oxide (rust), which is often blown into the air, giving the sky a reddish-pink appearance.

asteroids — Irregularly shaped rock or metal pieces which orbit the Sun, varying in size from small enough to hold to big enough to land on. There are approximately one million asteroids that orbit the Sun in a belt between the inner and outer planets.

Discussion questions

1. Which planet looks like Earth's moon?
2. If Mercury is the closest planet to the Sun, why is Venus the hottest?
3. Several planets have an atmosphere. Why is Earth's atmosphere the only one that can support life like ours?
4. How old would you be on Mercury?
5. How old would you be on Venus?
6. What is so special about the way Venus spins?
7. Why is Mars called the "red planet"?
8. What happened to the water on Mars?
9. What is found between the inner and outer planets?
10. Why have we sent probes instead of astronauts to explore the distant areas of the solar system?

Activities

- Have students research some of the technology humans have used to explore the solar system, reporting back to the class on probes such as the Venera and Voyager, the Hubble Space Telescope and the Sojourner rover used on Mars.
- Ask students whether they think humans will ever set up a colony on any of the other planets in our solar system. Based on the information presented in the program, discuss with students what other planet they think would be best for humans to inhabit.
- Have students select one new fact they learned from the program and prepare an illustrated poster explaining it.
- Create promotional pamphlets advertising the beauty of an inner planet to fictionalized visitors from other worlds. Identify the characteristics of the planet that would enable the alien visitor to survive based on the adaptations you imagine.

Suggested Print Resources

- Chrismer, Melanie. *Venus*. Scholastic News, Scholastic Publishing, New York, NY; 2005.
- DK Publishing. *Mars (DK Eyewitness Books)*. DK Publishing, New York, NY; 2004.
- Kerrod, Robin. *Exploring the Universe: The Near Planets*. Raintree Publishers, Chicago, IL; 2002.
- Ride, Sally. *Exploring Our Solar System*. Crown Books, New York, NY; 2003.