

## WHAT'S UP IN SPACE SERIES (7-PART)

- EARTH
- EXPLORING SPACE
  - MARS
  - MOON
  - PLANETS
  - STARS
  - SUN

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THE SOLAR SYSTEM FOR KIDS (REVISED)

# WHAT'S UP IN SPACE?



# MARS

MEETS NATIONAL  
SCIENCE STANDARDS

## STUDY GUIDE

## INTRODUCTION TO SERIES

**What's UP In Space?** Is a refreshingly new series that introduces young learners to the solar system. These fascinating topics are presented at a developmentally appropriate level, using a combination of live action footage, illustrations and computer animation. Each program answers important questions in space science using the latest research and in line with the American National Science Education Standards.

As a complementary device with each program, an instructional guide suggests exercises to enhance the learning for teachers, parents and students. These interactive exercises will reinforce and further develop a student's level of comprehension.

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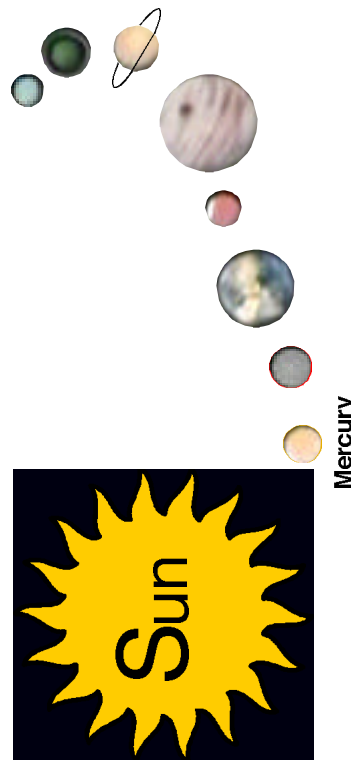
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### DIAGRAM:

Study the diagram of the solar system below. Knowing that planet Mercury is closest to the sun and planet Neptune is farthest from the sun, where is planet Mars? Where is planet Earth?



## **COMPREHENSION QUESTIONS:**

- Can you see Mars from Earth without a telescope?
- Where is Mars located in the Solar System?
- Why is Mars also called the Red Planet?
- What does the surface of Mars look like? Is there water on Mars?
- How is the atmosphere on Mars different from the atmosphere on Earth?
- What is gravity and how is gravity different on Mars?
- Where is the largest canyon in the Solar System located? What is its name?
- How are the north and south poles of Mars similar to the north and south poles of Earth?
- How many moons does Mars have? What are their names?
- Why is a year on Mars twice as long as a year on Earth?
- How have scientists learned so much about Mars?
- How did Sojourner and Pathfinder help scientists learn about the surface of Mars?

# MARS

As our neighbor in space, Mars has long been the object of fascination by people on Earth. This program explores the similarities and differences between Mars and Earth. Recent missions to Mars are also discussed, including amazing footage from the Mars Pathfinder.

## **ADDITIONAL RESOURCES:**

- <http://mars.jpl.nasa.gov/kids/>
- <http://athena.cornell.edu/kids/>
- <http://spacekids.hq.nasa.gov/>
- <http://www.dustbunny.com/afk/planets/mars/mars.htm>

- Mission to Mars  
*by Franklyn M. Branley and True Kelley*
- Mars: The Red Planet  
*by Patricia Demuth and Stephen Marchesi*
- The Adventures of Sojourner:  
The Mission to Mars That Thrilled the World  
*by Susi Trautmann Wunsch*

### **ASSESSMENT OF PRIOR KNOWLEDGE:**

- What do you know about Mars?
- What do you imagine Mars to be like?

### **DISCUSSION QUESTIONS:**

- Why do you think that people have not yet visited Mars? Why would it be difficult for people to stay on Mars? Do you think people will ever walk on the surface of Mars?
- What evidence do scientists have that there used to be water on Mars? What do you think of this evidence? Do you agree with their conclusions? Why do you think scientists are so interested in finding water on Mars?

### **FOLLOW UP ACTIVITIES:**

- Scientists continue to learn more about Mars. It would be interesting to keep a journal of current events that are connected to your studies of Mars. Students can keep clippings from newspapers and magazines, and can check in with NASA websites to stay posted on the latest missions to the Red Planet.

### **NASA & other websites:**

- <http://mars.jpl.nasa.gov/kids/>
- <http://athena.cornell.edu/kids/>
- <http://spacekids.hq.nasa.gov/>
- <http://www.dustbunny.com/afk/planets/mars/mars.htm>

### **VOCABULARY:**

**Planet** – A large ball of gas or rock that orbits the sun.

**Solar System** – The group of eight planets that orbit the sun.

**Orbit** – The regular path that one body in space travels around another body like the sun.

**Atmosphere** – The gasses that encircle the outside of a planet

**Gravity** – The force that keeps things anchored on Earth. There is no gravity in space, which is why astronauts float inside of their spacecraft.

**Rover** – A robot-like buggy that scientists invented to explore the surface of Mars. Sojourner is the name of one rover that visited Mars in 1997

**Pathfinder** – The name of the Probe that landed on the surface of Mars in 1997 with the rover, Sojourner. It sent many amazing pictures back to Earth.