

## GLOSSARY

### ASTEROID

A small rocky or metallic celestial body that orbits the sun.

### ATMOSPHERE

A mostly gaseous mass surrounding planets and some moons, held in place by gravitational forces.

### GALAXY

A large group of stars, planets, dust and gases brought together in a definable structure or form.

### GEYSER

A natural spring that periodically spews hot water or steam.

### GRAVITY

The pull of a celestial body on other objects as a result of weight or mass.

### NITROGEN

An element which makes up 4/5 of Earth's atmosphere as a colorless, odorless gas. Nitrogen becomes a liquid at extremely low temperatures and exists in that form on some other planets.

### ORBIT

The path made by a celestial body or other object revolving around another planet.

### PLANET

Large celestial bodies in our solar system which revolves around the sun and gives off no light of its own.

### SOLAR SYSTEM

A star, or sun and all of the planets, moons, asteroids, meteors and comets which orbit around it.

### STAR

A self-luminous, self-contained mass of gas visible at night as a twinkling point of light.

### VOLCANO

A vent between a planet's crust and surface through which heated liquids and gases escape.

### VOYAGERS 1 & 2

Two robot spacecraft which were the first to explore the four large outer planets.

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# Show Me Science

## The Wonders of Astronomy & Space

**K4558DVD**

*Exploring Our Solar System*

*Advanced Teachers Guide*

## SYNOPSIS:

Students embark on a journey which takes them from planet Earth to the outer fringes of our solar system. With the aid of cameras from various spacecraft, students get a close-up look at all nine planets in our solar system, from Mercury's cratered surface to Jupiter's huge red spot and Saturn's spectacular rings.

"Since this program was made, Pluto has been reclassified from planet to dwarf planet. After the discovery of Eris, Pluto is now ranked as the second largest dwarf planet in the Solar System."

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## CURRICULUM UNITS:

- Astronomy
  - Earth Science
  - General Science
  - Geology
  - Meteorology
  - Space Science
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## CAREER OPPORTUNITIES:

- Aerospace engineer
- Astronaut
- Astronomer
- Geologist
- Mathematician
- Meteorologist
- Physicist
- Radio operator
- Systems analyst

## PROGRAM OVERVIEW:

This program takes students on a tour of our solar system. It begins with a description of our solar system and an animation of how it is theorized to have been formed. Students board an imaginary spacecraft. Flying towards the sun, they pass the moon, Venus and Mercury. Changing course, they head toward outer space and fly past Mars, Jupiter, Saturn, Uranus and Neptune. Along the way they'll see and hear what we have been able to learn from various space probes about each of our celestial neighbors.

## ISSUES & CRITICAL THINKING:

- 1) After showing the program, ask students the following questions.
  - a) What is the theory of the formation of our solar system?
  - b) What are the three planets closest to the sun?
  - c) How can Jupiter's Great Red Spot be explained?
  - d) What is the make-up of Saturn's rings?
  - e) What are the names of the four planets furthest from Earth?
- 2) Discuss the difference between a star and a planet. Talk about other bodies that can be found in the solar system, such as moons, asteroids, meteors and meteorites and comets.
- 3) Compare the planets' sizes and distances from the sun.
- 4) Have student's list planets and draw them in orbit around the sun.