



Discussion Guide for

THE SOLAR SYSTEM: OUR NEIGHBORS IN SPACE

OBJECTIVES

After viewing this program, students will be able to:

List the nine planets in our solar system.

- Explain the differences between the inner and outer planets.
- Discuss possible ways that the solar system may have formed.
- Give specific characteristics of each of the planets.
- Discuss the distinguishing features of the Earth and explain why these features make life possible.
- Explain what asteroids are and give a possible explanation as to how they formed.
- Compare Jupiter's four largest moons - Europa, Io, Ganymede, and Callisto.

This program is part of the AIMS Interactive Science Essentials Series. This twenty-four part series covers four subject areas- Earth Science, Biology, Physics, and Chemistry. There are six programs in each subject area. The individual programs are divided into randomly accessible sections. A glossary provides written definitions of terms used in the program, and in most cases will run a section of the video where the word is used in context. A script of the narration is accessible, as well as a bulletin board containing a general introduction to the subject.

A quiz allows the student to test their knowledge and the results are recorded for you. In the teacher's section you can view each student's test responses and edit or create your own quiz and test questions.

OVERVIEW

The Solar System: Our Neighbors in Space is part four of the Earth Science Essentials series which examines modern day earth science. The program begins by explaining the nebular theory of the origin of the solar system. Students are then taken on a spectacular journey across the solar system-from the scorching surface of Mercury to the rocks and ice of Pluto. With 3-D animation and actual satellite and telescope photographs, the program details the geology, climate, atmospheric composition, and moons of each of the nine planets that orbit the sun.

TEACHER'S PREPARATION

- Before the student uses the program set up the computer so that they can easily reach the mouse and the keyboard.
- Load the CD-ROM into the computer so that it is ready for the student to begin using.
- While students are able to work at their own pace, some students may benefit from using the program more than once.

SUGGESTED DISCUSSION QUESTIONS

1. List and briefly describe each of the nine planets. Include specific characteristics of each planet.
2. Contrast Mercury and Jupiter.
3. Discuss the Big Bang and other theories as to how the solar system may have formed.
4. Describe some of the characteristics of Mars. Is Mars suitable for life?
5. Explain several ways that astronomers find answers to the questions they have about the planets in our solar system.
6. Discuss the major differences between the inner and the outer planets.
7. List possible explanations as to how the asteroid belt may have formed.
8. In 1976, the Viking spacecraft sent landers to the surface of Mars. What type of experiments did they conduct? What were some of their conclusions?
9. Give a possible explanation for the alternating light and dark bands of Jupiter.
10. List three of Jupiter's sixteen moons. Which one of these moons has a surface that is different than any other body in the solar system?
11. Contrast the Earth and the eight other planets in our solar system. Give specific reasons as to why the Earth is the only planet suitable for life.

VOCABULARY

Asteroid
Copernicus
Earth
Elliptical
Io
Jovian planets
Jupiter
Kepler
Mars
Mercury
Moon
Nebula
Pluto
Saturn
terrestrial planets
Uranus
Venus
volcanic

ADDITIONAL BENEFITS

Students will be able to:

- Discuss the composition of Saturn's rings.
- Explain why it was so hard for astronomers to find Pluto.

PROGRAMS DETAILS

LENGTH:

30 minutes

SUBJECT AREAS:

Earth Science

AUDIENCE LEVELS:

Junior-Senior High

ORDER NUMBER:

1-9084SG6

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