

Solar System Live!

A planetarium program designed for grades 2 and up.

Learning objectives for each student

- 1 Describe each planet and give one fact about it.
- 2 Describe how we study these far away places.
- 3 Find and locate at least one planet in the current sky IF any are visible.

Pre-visit activities

- 1 Sun gives off not only visible light but energy from across the entire range of the electromagnetic spectrum.
Has temperatures ranging from 10,000 degrees F. on the surface to 27 million degrees at the core.
- 2 Have the students discuss the two major types of planets.
- 3 Have the students discuss each planet and decide which ones could support life as we know it. Have small groups of students pick (or assign them) a planet and write up a brief report that can be presented to the class.
- 4 Explore "extra solar planets" through periodicals and the internet.
- 5 Mercury has surface temperatures ranging from -300 degrees to +800 degrees Fahrenheit.
- 6 Venus has a thick atmosphere of carbon dioxide and sulfuric acid that traps heat close to the planet (like a greenhouse) creating surface temperatures of 900 degrees F.
- 7 Earth is made of rocks and metals with a molten core that creates the strong magnetic field.
Has a tilted axis that causes seasonal changes on the planet.
Has an abundance of liquid water making life possible.
Has increasing amounts of carbon dioxide in the atmosphere which may contribute to global warming, harm the environment, or threaten all life on the planet.
- 8 Mars has surface features that include huge ridged gullies and trenches, indicating the possibility of water once existing on the

- planet.
- 9 Jupiter is 2.5 times larger than the rest of the planets combined. It rotates in just under ten hours. Its red spot is a storm three times the size of the Earth.
 - 10 Saturn gives off twice as much heat as it receives from Sun, is very light compared to its size, and has a very complex ring system.
 - 11 Uranus has a dark ring system, an axis of rotation is nearly parallel to the plane of the solar system, and it has a magnetosphere that is tilted and off-center.
 - 12 Neptune is the smallest planet with a diameter of only 1500 miles (that's the distance from Denver to New York), and has one known moon nearly half its size.
 - 13 Neptune displays a very thin ring system of varying thicknesses and widths, has visible atmospheric features such as the Great Dark Spot, and has a turbulent atmosphere with winds of up to 1400 miles per hour.
 - 14 Pluto is usually the farthest planet from the Sun, but its unusual orbit occasionally takes it inside the orbit of

Vocabulary

These words or terms are used in "The Solar System." Some may be new to your students.

planet
galaxy
nebula
imaging
moon
crater
probe
planetarium
gas
orbit
asteroid
ring

Program summary

This live walk through the solar system used images from NASA and other sources and grade appropriate content. We learn a few facts about the planets and use the Planetarium to learn how the planets move over time. We also look at what planets might be visible that night.