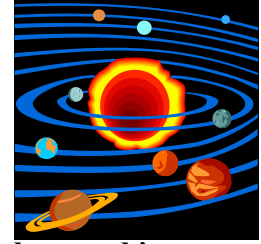


The Solar System (A)

Use the glossary on the back of this reading for the underlined words.



The words "solar system" refer to the Sun and all of the objects that travel around it. These objects include planets, natural satellites such as the Moon, the asteroid belt, comets and meteoroids. Our solar system has an elliptical shape. The Sun is the center of the solar system. It contains 99.8% of all of the mass in our solar system. Consequently, it exerts a tremendous gravitational pull on planets, satellites, asteroids, comets, and meteoroids. The planets and their satellites orbit the sun at different periods of revolution. A period of revolution is directly related to a planet's distance from the sun. As distance decreases, the period of revolution decreases. Therefore, a year length is different for each planet. In addition, planets also rotate on their axis at different speeds. A planet's length of day and night is related to its speed of rotation. The slower a planet rotates, the longer its length of day. Astronomers believe the solar system formed 4.5 billion years ago. However, they differ in their beliefs about how the system formed. Some believe the whole solar system formed from a single flat cloud of gas, while others believe it formed when a huge object passed near the Sun, pulling a stream of gas off of the Sun. Astronomers theorize the planets then formed from this gas stream.

Astronomers are now finding new objects far, far from the Sun which they call dwarf planets. Pluto, which was once called a planet, is now called a dwarf planet.

Answer the following:

1. Our solar system is elliptical in shape. Draw an elliptic shape.
2. Some call the solar system the "sun system." Do you agree? Why or why not?
3. Summarize "Our Solar System" in 2 sentences.
4. Why do astronomers differ in their beliefs about the solar system? Do you have a theory on how the solar system formed?

SOLAR SYSTEM

The Sun and all of the planets, comets, etc. which revolve around it.

SATELLITE

An object that revolves around a larger primary body. Satellites may be naturally occurring, such as the Moon, or they may be man-made, such as the *Hubble Space Telescope* and the *Compton Gamma-Ray Observatory*.

ASTEROID

A rocky space object which can be from a few hundred feet to several hundred km wide. Most asteroids in our solar system orbit the Sun in a belt between Mars and Jupiter.

COMET

Frozen masses of gas and dust which have a definite orbit through the solar system.

METEOR

Meteoroids which burn up in the atmosphere of a space body, such as the Earth, prior to impacting on the surface.

METEORITE

Fragments of material that fall from space and impact on other larger space bodies.

METEOROID

Fragments of material which vaporize when they have a close encounter with a space body which has an atmosphere.

ELLIPTICAL

Shaped like an elongated closed curve.

MASS

The measure of the amount of matter in an object.

GRAVITY

The force of attraction between two objects which is influenced by the mass of the two objects and the distance between the two objects.

REVOLUTION

The traveling of a celestial body around the sun. A year is one complete revolution.

ROTATION

The spinning of a planet on an axis. Day and night lengths are determined by the speed of rotation.

ASTRONOMER

An expert in the study of the Sun, Moon, stars, planets, and other space bodies.

