

Asteroids, Comets and Meteors

Besides planets and their moons there are several other types of celestial bodies in our solar system. These include asteroids, comets and meteors.

Asteroids are also called planetoids or minor planets because they are in a fixed orbit around the sun. Many asteroids are quite small compared to the planets. For example, a probe launched into space by NASA sent back a picture of an asteroid that was merely 30 miles in diameter. An asteroid is like a large boulder orbiting around the sun. Astronomers have identified 26 asteroids larger than 125 miles in diameter and thousands between 50 and 125 miles in diameter. Space probes have taken a closer look at some large asteroids.

Meanwhile scientists have estimated that there are millions of asteroids too small to be visible from earth even with the most powerful telescopes. There is a large group of asteroids that orbit the sun between the planets Mars and Jupiter that is called the main belt of asteroids. Scientists don't yet know why so many asteroids exist in this part of the solar system.

Comets also revolve around the sun. While planets have elliptical orbits that are close to being circular, comets have highly elliptical orbits that are long and narrow. This means that at some points in their orbit comets are much closer to the sun than other times. Comets are balls of ice and rocky dust particles that look like giant dirty snowballs. The ice is a mixture of water, ammonia, carbon dioxide, carbon monoxide and methane. As it travels through space a comet has a trailing tail made of gas and particles. The tail of a comet always faces away from the sun due to the solar wind and solar radiation. Because comets have a different shape of orbit, sometimes they collide with a planet, causing an impact crater on the planet. NASA space probes are providing new information about comets.

A meteor is often called a shooting star, falling star or even fireball because it appears as a brief bright light traveling in the night sky. A meteor is caused by a small chunk of space material that enters the earth's atmosphere. Millions of tiny chunks of space rocks, called meteoroids, enter the earth's atmosphere daily and simply burn up. When a meteoroid does survive its trip through the atmosphere and lands on earth, it is called a meteorite.

