Celestial Bodies

Apart from planets there are many other celestial bodies that call our solar system home. Moons that orbit other planets, Asteroids, Comets, Meteors, and other small things that orbit the Sun, are all collected together by the gravity that holds our solar system together. The Asteroid Belt, the Kuiper Belt, and the Oort Cloud are all composed of remnants from the formation of the solar system.

Moons

There are over two hundred moons in our solar system, orbiting planets and asteroids in the same way planets and asteroids orbit the Sun. Earth's moon is the best studied body and the most readily visible to us with the naked eye. Its presence helps stabilize Earth in its orbit, which provides us with a relatively stable climate and creates the tides. Some planets like Saturn and Jupiter have many moons, some of which have their own atmospheres and are as large as some of the smaller planets.

Image Courtesy of NASA

Earth's moon rotates at the same rate it revolves around Earth, so the same side is always facing us. The distinctive craters and mountains has led some to say they can see a face on the moon!

Asteroids and Comets

Currently there are 958,663 known asteroids and 3,645 known comets that orbit the Sun. When the solar system formed, a swirling cloud of dust and gas circled the Sun and as the particles collided they formed rocks. Eventually some grew large enough to create planets, but many remained as relatively small bodies we today call comets and asteroids. Even smaller objects called meteoroids, some broken off of comets and asteroids, often enter Earth's atmosphere and burn up from the increased friction. We see these as shooting stars and meteor showers. Only when they reach Earth's surface are they called meteorites.

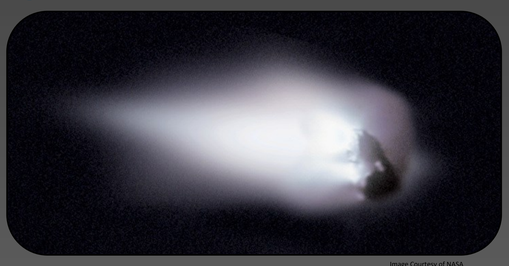

Image Courtesy of NASA

Halley's comet is perhaps the most famous comet and passes by Earth every 76 years. It was not until 1705 that astronomer Edmond Halley computed the orbits of several comets and realized that they were not just single events.

Kuiper Belt

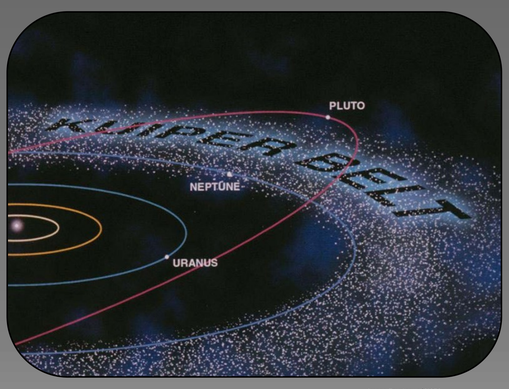

Image Courtesy of NASA

The Kuiper Belt is a large structure in our solar system that begins on the edge of Neptune's orbit. The belt, really shaped like a large donut, is composed of hundreds of thousands of icy objects sixty miles or more in width. Remnants of the formation of our solar system, some of these objects collide with each other breaking up to form smaller objects, dust, and even comets.

Asteroid Belt

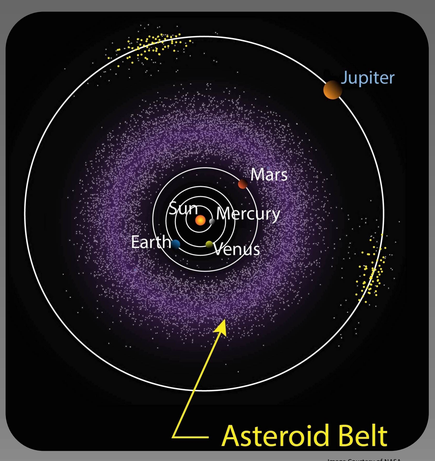

Image Courtesy of NASA

The Asteroid Belt lies mainly between the orbits of Mars and Jupiter, with some outlying asteroids known as the Trojans which share an orbit with another planet. The most numerous Trojans share Jupiter's orbit, but Mars and Neptune also have Trojans. In 2011 it was discovered that there is an Earth Trojan as well. There are some asteroids that orbit the sun in other paths, some of which take them near to Earth.