Asteroids are small bodies that orbit the Sun that are neither planets nor comets. They are sometimes called “planetoids” or “minor planets”. They can be found throughout the solar system, from inside the orbit of mercury (Vulcanoids) to beyond the orbit of Neptune (TNOs - Trans-Neptunian objects). Beyond the orbit of Jupiter, they are usually called minor planets. Asteroids are classified by their position in the solar system, their size and shape, their chemical composition, and dynamic properties.

The largest groups of asteroids are present in the asteroid belt between Mars and Jupiter, and sharing the orbit of a larger planet as Trojans where the gravitational attraction between bodies is at equilibrium. There are also known to be a large number of Near-Earth Asteroids (NEAs) whose orbit comes close to that of Earth, or perhaps crosses it at some point (Earth-crossers).

The two largest known asteroids are 1 **Ceres** (590 miles diameter, 0.27 Moon radii) and 4 **Vesta** (326 miles diameter, 0.15 Moon radii). Ceres is the largest asteroid *and* the smallest dwarf planet, the only one in the inner solar system.

Impact Hazard: The entire solar system (including Earth) is scarred with the evidence of asteroid impacts from early in the formation of the solar system. Many scientists are currently assessing the possibility of a devastating asteroid impact on Earth in the near future, for which there is significant evidence that the risk is real. An impact event 65 million years ago is thought to have caused large-scale mass extinction of plants and animals, including dinosaurs. An average of 15 thousand tons of cosmic dirt has been detected entering the Earth’s atmosphere each year by military satellites.

Meteors are streaks of light (or fireballs) created by meteoroids entering the atmosphere. A meteoroid that traveled through the Earth’s atmosphere and is found on the ground is called a meteorite. Meteors are like asteroids that have been captured by Earth’s gravity, but they are smaller, generally 1 micron (millionth of a meter) to 1-10 meters. Some meteoroids are known to have originated from the Moon, Mars, specific asteroids, and possibly other terrestrial planets. The largest known meteoroid is “Hoba”, discovered in place in 1960 at about 60 tons composed mostly of iron.