Asteroids are rocky objects that orbit the Sun, primarily found in the asteroid belt between Mars and Jupiter. Comets are icy bodies composed of dust, rock, and frozen gases that orbit the Sun in elongated orbits, often originating from the Kuiper Belt or Oort Cloud. Meteoroids are smaller rocky or metallic objects in space.

Asteroids and comets can pose threats to Earth if they collide with our planet. Depending on their size, composition, and trajectory, impacts could result in devastating consequences, including regional or global destruction, climate change, and mass extinctions.

Asteroids are typically larger and more numerous than comets, and their orbits are often closer to Earth's orbit. They can cause significant damage if they collide with our planet.

Comets, although less numerous, can also pose a threat if their orbits intersect with Earth's path. When comets enter the inner solar system, they can release gas and dust, creating spectacular tails and occasionally fragmenting. If a comet fragment were to collide with Earth, it could result in localized damage or atmospheric effects.

Meteoroids are smaller objects and are usually the remnants of asteroids or comets. When they enter Earth's atmosphere, they become meteors (shooting stars). If they survive atmospheric entry and reach the ground, they are then called meteorites. While smaller meteoroids typically burn up harmlessly in the atmosphere, larger ones can cause damage upon impact.