Comet vs. Asteroid

Read about comets and asteroids. Then answer the questions on page 2.

A **comet** is a **small solar system body**. Comets can be as small as 100 meters or as big as 40 kilometers across. They have such low mass that they do not become spherical, or round. Most comets have elliptical orbits around the sun. Some comets have 200-year orbits, and others take millions of years to complete one orbit.

Comets are distinguished by their **coma** and their **tail**. A coma is a thin, fuzzy atmosphere that surrounds the center of the comet. Like comets, comas are made up of ice and dust. They form when a comet passes close to the sun. The tail forms when material—like the coma, dust, ice, and gasses—is blown off the comet by solar wind. This material remains behind after the comet's orbit takes it back into deep space.

Comet Vocabulary

- **small solar system body:** an object in the solar system that is not a planet, dwarf planet, or satellite of a planet or dwarf planet
- **coma:** a thin, fuzzy atmosphere that surrounds the center of the comet
- **tail:** the trail of gas, dust, and ice blown off the comet by solar wind

An **asteroid** is a small, rocky body that orbits the sun. Asteroids are sometimes referred to as **minor planets**. Asteroids are made up of carbon, rocks, and metals. Most asteroids in our solar system have orbits that lie between Mars and Jupiter. Unlike comets, asteroids do not have a coma or a tail. The biggest recorded asteroid is called Ceres. Ceres is 1,000 kilometers across and roughly a quarter the size of our moon.

Asteroid Vocabulary

- **minor planet:** a celestial body that moves around the sun and is not considered large enough to be a planet
- **celestial body:** a natural unit of matter located outside of Earth's atmosphere

Reading Comprehension: Comet vs. Asteroid

Answer the questions below after reading about comets and asteroids on page 1.

1. What is the main idea of the passage on page 1?

2. What are the differences between a comet and an asteroid? What are the similarities?

3. In outer space there is no air resistance; all objects in motion will stay in motion. With that in mind, what do you think causes comets and asteroids to move?

4. **True or False?** For questions that you mark false, rewrite the statement so that it is true.

   a. An asteroid has a tail. ☐ true ☐ false _____

   b. A comet has an orbit. ☐ true ☐ false _____

   c. The coma is just an optical illusion. ☐ true ☐ false _____

   d. Some asteroids are as big as our moon. ☐ true ☐ false _____

   e. A small solar system body is not a planet. ☐ true ☐ false _____

   f. Comets are not round. ☐ true ☐ false _____