

# Comet vs. Asteroid

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## Student Information:



A comet is a small solar system body. They 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 on 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. A tail is the trails of gas and dust that a comet leaves behind as it passes through the solar system. These trails usually leave behind solid debris of dust particles.

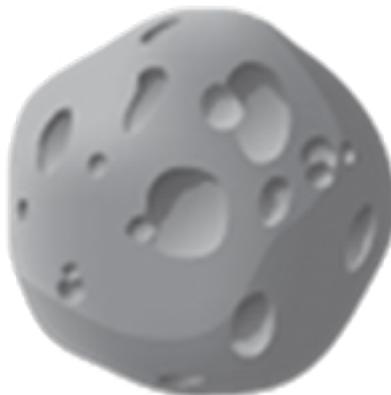
## Comet Vocabulary:

- 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 trails of gas and dust that a comet leaves behind as it passes through the solar system.



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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 object that is visible in the sky.

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## Reading Comprehension:

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

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

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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?

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## True or False:

For questions that you mark false, re-write the statement so that it is true.

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- 1. An asteroid has a tail. .... True  False
- 2. comet has an orbit. .... True  False
- 3. The coma is just an optical illusion. .... True  False
- 4. Some asteroids can be as big as our moon. .... True  False
- 5. A small solar system body is not a planet. .... True  False
- 6. Comets are not round. .... True  False

