

Name \_\_\_\_\_

## What Causes Meteors to Streak Across the Night Sky?

### Short Answer Key

1. As a meteoroid enters Earth's atmosphere, it undergoes intense friction and heating, causing it to become incandescent and vaporize, creating a streak of light in the sky known as a meteor.
2. Meteor showers are associated with specific comet debris trails because Earth's orbit intersects with these trails at specific times of the year. When Earth passes through the debris, multiple meteoroids enter the atmosphere simultaneously, leading to a meteor shower.
3. The speed of a meteoroid affects the brightness of the meteor it produces because faster-moving meteoroids experience greater heating and friction during atmospheric entry, causing them to become brighter.
4. Answers will vary, but students may mention the Perseid meteor shower, associated with Comet Swift-Tuttle.
5. Comets play a role in creating meteor showers by shedding material as they approach the Sun. This shedding is due to sublimation, where frozen gases and dust on the comet's surface turn into gas and are released into space, forming a debris trail along the comet's orbit.

