

Name _____

Comets: Visitors from the Cosmic Ice Realm

Short Answer Key

1. A comet's nucleus is primarily composed of water ice, dust, and volatile compounds. As the comet approaches the Sun, the heat causes these ices to vaporize, creating a glowing coma and tails.
2. A comet's tails are formed when the Sun's heat causes the ices in the nucleus to vaporize, creating a coma. The solar wind and radiation push the material in the coma away from the Sun, forming the ion tail and the dust tail. These tails point away from the Sun due to these solar influences.
3. Comets have been considered significant throughout history because their appearances in the night sky were often associated with major celestial events, births, deaths, or political changes. People interpreted comets as omens or signs of divine messages.
4. Comet Halley is famous because it returns to the inner solar system approximately every 76 years. Its regular appearances allowed astronomers to study and predict its movements for centuries.
5. When studying a newly discovered comet, astronomers would examine its size, composition, orbital characteristics, and the properties of its tails. They would also observe how it changes as it approaches the Sun and compare it to other known comets.

