

Name _____

Birth of Cosmic Snowballs: How Comets Are Formed

Open-Ended Response Questions

1. Reflect on the idea that comets are "cosmic time capsules" that preserve materials from the early solar system. Discuss the scientific value of studying comets to unlock the secrets of our solar system's origins.
2. Explore the potential risks and benefits associated with comets that come close to Earth's orbit. How can scientists monitor and assess the potential threat of a comet impact, and what measures can be taken to mitigate such a risk?
3. Consider the implications of comets as celestial messengers, bringing primordial materials to the inner solar system. How might the study of comets provide insights into the possibility of life's origins on Earth and other celestial bodies?
4. Imagine a future space mission designed to rendezvous with a comet. Describe the objectives, challenges, and scientific discoveries that such a mission might entail.

