Name _____

Shooting Stars vs. Meteors: Unraveling the Cosmic Confusion

Open-Ended Response Answer Key

1. Answers may vary. Example: "Stars are distant celestial objects that emit their own light due to nuclear fusion, while shooting stars (meteors) are small fragments that burn up in Earth's atmosphere, producing a streak of light. Stars have a much longer lifespan and are incredibly distant compared to meteors, which are relatively short-lived and much closer to Earth."
2. Answers may vary. Example: "As a meteoroid, I would embark on a journey from the outer reaches of the solar system. After breaking free from my celestial source, I would hurtle through space until I encounter Earth's gravitational pull. Then, I would enter the atmosphere, igniting in a fiery display, and finally disintegrate, leaving behind a luminous trail."
3. Answers may vary. Example: "In ancient cultures, shooting stars were often seen as omens or messages from the gods. They were believed to carry significant meanings, such as foretelling important events or guiding individuals. For example, in Greek mythology, they were associated with the hero Perseus."
4. Answers may vary. Example: "Meteorites can provide crucial information about the early solar system's composition and formation. By analyzing their chemical composition, scientists can learn about the materials present in the solar nebula and the conditions that led to the creation of planets and other celestial bodies."