

Name _____

Celestial Wanderers: How Often Do Comets Grace Our Skies?

Short Answer Key

1. Short-period comets have shorter, more circular orbits, visiting the inner solar system every few years or decades. Long-period comets have elongated orbits, making infrequent appearances, often once in a human lifetime or less.
2. The gravitational pull of massive planets like Jupiter can alter a comet's orbit by either bringing it closer to Earth or changing its trajectory. These interactions can increase or decrease the frequency of a comet's visits.
3. The Oort Cloud is a distant region of the solar system where comets originate. Comets from the Oort Cloud have long and erratic orbits because they formed in this distant birthplace, making rare appearances in the inner solar system.
4. Modern technology and astronomical observations, including powerful telescopes and advanced software, have improved our ability to track and predict comet movements. These tools allow astronomers to analyze comet orbits and forecast their future appearances with accuracy.
5. Comet appearances create a sense of anticipation and awe because they remind us of the vastness and beauty of the universe. They inspire curiosity and wonder, encouraging us to explore the mysteries of the cosmos.

