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## What Is A Meteor?

In the night sky, a dazzling streak of light suddenly appears, drawing your attention as it traverses the heavens. This spectacular celestial event is none other than a meteor, often referred to as a "shooting star." Despite their captivating appearance, meteors are not stars at all, but rather pieces of cosmic debris hurtling through Earth's atmosphere. In this passage, we'll delve into the fascinating world of meteors, uncovering their origins, characteristics, and the awe they inspire.

### Meteoric Origins

Meteors originate from a variety of sources, with the most common being comets and asteroids. Comets are icy bodies that release dust and gas as they approach the Sun, leaving behind a trail of debris. Asteroids, on the other hand, are rocky remnants from the early solar system that occasionally break apart.

### Entry into Earth's Atmosphere

When a meteoroid (a small fragment of an asteroid or comet) enters Earth's atmosphere, it is referred to as a meteor. The meteoroid's high velocity causes it to compress the air in front of it, creating intense friction and heating.

### The Light Show

The tremendous heat generated during atmospheric entry causes the meteoroid to vaporize and disintegrate. This incandescent process results in the brilliant streak of light we observe. The meteoroid itself is typically much smaller than it appears from the ground.

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## Types of Meteors

Meteors come in various types, each with its own characteristics. A "shooting star" is a typical meteor, while a "fireball" is an exceptionally bright and large meteor. If a meteor survives its passage through the atmosphere and reaches the Earth's surface, it is called a meteorite.

## Meteor Showers

Occasionally, Earth's orbit intersects with the debris trails left by comets, leading to meteor showers. During these events, the night sky can be filled with numerous meteors, creating a spectacular display. Some well-known meteor showers include the Perseids and the Geminids.

## Size Matters

The size of a meteoroid can vary greatly, from tiny grains of sand to larger rocks. Smaller meteoroids typically burn up entirely in the atmosphere and produce faint meteors, while larger ones may survive longer, creating more impressive fireballs.

## Cosmic Spectators

Meteor watching has been a favorite pastime for skywatchers throughout history. People make wishes upon "shooting stars," a tradition rooted in the belief that meteors have the power to grant wishes.

## Scientific Insights

Meteors hold valuable scientific insights into the composition of our solar system's building blocks. Analyzing meteorites found on Earth can provide clues about the early formation of planets and the conditions in the early solar system.

