

Unit 12: Shooting Stars

Narrator: They light up the sky and fall toward Earth at speeds 32 times faster than a speeding bullet. Meteor showers have been mesmerizing us for centuries, and they're a beautiful reminder that we are part of a busy and mystical solar system.

But what exactly are meteor showers? Where do they come from, and are they dangerous to humans?

Our solar system contains countless space rocks, or asteroids. Some can be as large as hundreds of kilometers wide.

Space debris smaller than an asteroid are called meteoroids. If a meteoroid falls into Earth's atmosphere, it will heat up and start to glow. The streak of intense light we see is the hot air left behind the burning rock. This is called a meteor, or a shooting star.

When Earth encounters many meteoroids at once, we call it a meteor shower.

There are around 21 meteor showers every year, with most of them occurring between August and December. Meteors enter Earth's atmosphere at speeds ranging from 25,000 miles per hour to 160,000 miles per hour.

It's frightening to imagine all that interplanetary debris flying toward us.

Cameras around the world have captured meteors falling from the sky, and although some eventually hit, most of them disintegrate or burn off. The remaining pieces fall into the ocean. When they survive the fall and hit land, we call them meteorites.

Scientists estimate that most meteorites are the size of a pebble. In fact, 99 percent of the approximately 50 tons of space debris that falls on the Earth's surface every day is of that size.

Some meteorites, however, are as large as boulders. The largest meteorite found on Earth is the Hoba meteorite, discovered in Namibia in 1920. It weighs roughly 119,000 pounds.

It's meteors of that magnitude—and potential bigger ones—that inspire scientists to dedicate their careers to understand how they form and how they travel through our solar system, in order to better comprehend them and look for ways to reduce their damage.