mystery science

Grades K-5
Mini-Lesson: “Has a shooting star ever landed on someone?”

VIDEO TRANSCRIPT

VIDEO 1

[Video Call]

- Hi, Doug!
- Hi, Mariana!
- I’ve got a question for you. Has a shooting star ever landed on someone?
- That is a great question.

You've seen water fall from the sky. Maybe you've seen snow. Maybe you've even seen hail—that's when round bits of ice fall from the sky. But on June 28th, 1911, if you were living in the small town of Abu Hummus, Egypt, then you saw what looked like this falling from the sky. As it was falling, people heard what sounded like an explosion. Dogs started barking. The townspeople went out to see what it was. There on the ground, in the area outside of town, was a rock—a rock that had come from outer space.

But what was a rock doing up in space in the first place? And why did it suddenly fall and hit the Earth?

VIDEO 2

Well, if you go outside on a dark night, chances are you might spot one of these. Did you see that? Look again. Right there. See that? This is what people are talking about when they talk about a shooting star. But what is it? What's happening when you see one of these?

A shooting star isn't a star at all. It's a rock from space. Or the word that scientists use, they call it a *meteor.* You may have heard that word before. Like, if you've heard the idea that it was a huge meteor that might've killed off the dinosaurs so long ago—a meteor, which we think might've been one of the biggest meteors to ever hit the Earth—one as big as an entire city.

Or there are places like this meteor crater, in Arizona. A place where scientists think a meteor about half the size of a football field once slammed into the Earth.

But why are we constantly getting hit by rocks from space? What are these rocks even doing up there?

Well, as we've learned more about our solar system, we've realized that it's not just the eight planets and the Sun. There are also a lot of rocks that float around in between the planets. Many of them are located between Mars and Jupiter—what we call the *asteroid belt*. But some of them are floating around in the pathway of the Earth, too.

And when these rocks get too close to the Earth, they get pulled toward us. As anything falls toward the Earth from space, it's constantly rubbing against the air of the Earth's atmosphere, which heats it up so hot that it glows. This is why a meteor, or shooting star, is bright and gives off light as it streaks across the sky.

And you can already guess, just from the examples we've talked about. Meteors come in all different sizes. There are definitely huge meteors out there. Ones like the kind that caused this crater in Arizona. Ones this big are incredibly rare, though. One like this might not hit Earth for thousands and thousands of years.

On the other end are meteors like the kind that can be seen on any given night. These meteors are the most common. They're hitting Earth every day and every night. From dark skies, you can notice as many as two or three per hour each night.

But they're also the smallest meteors. Even though these meteors give off enough light that you can see them in the nighttime sky, amazingly, scientists have discovered that most of these meteors are no bigger than a grain of sand. Isn't that incredible?

But could a meteor ever land on a person?

Given how small these everyday meteors are, it probably won't surprise you to hear that even if one of these did hit a person, that person might not even feel it.

But what about one a little bigger? Like the size of the meteor that landed in Egypt?

Even meteors this size are still incredibly rare. And keep in mind, the Earth is such a big place that most of the meteors like this that do fall to Earth fall into the ocean or out into the middle of nowhere, where nobody notices them.

But on the evening of October 9th, 1992, a bright meteor was seen by people all over the eastern part of the United States. When it landed, it crashed into a parked car sitting there in the town of Peekskill, New York. Luckily, no one was inside the car.

And even better news, lots of people wanted to own a piece of this rock that had come from space. The owner of the car was able to sell the meteor for over $50,000.

If you like that story, I've got something even more amazing. On the afternoon of November 30th, 1954, a woman named Elizabeth Ann Hodges was taking a little nap on her couch. Suddenly, a meteor the size of a grapefruit came crashing through her roof and landed right on her hip. It gave her a nasty bruise, but she did recover. And she became, we think, the first person ever in history to be hit by an object from outer space.

That's all for this week's question. Thanks, Mariana, for asking it!