

# Space Systems: What is a meteor shower?

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People watch for the Perseid meteor shower in the night sky near Yangon, Myanmar, on August 12, 2013. Photo from: Ye Aung Thu/AFP/Getty Images.

You don't need a telescope to see a meteor shower. The view from your own backyard will do just fine. You might want a cozy sleeping bag and an alarm clock to wake you up, though. The best time for stargazing is in the middle of the night.

## What Is A Meteor Shower?

A meteor is a space rock that enters Earth's atmosphere. The atmosphere is the cloud of gases that surrounds our planet. Before the rock enters the atmosphere, it is called a meteoroid.

As the space rock falls toward Earth, the air pushes back against it. This makes the rock super hot. As a result, we see a "shooting star." That bright streak in the sky is not the rock itself. It is the glowing hot air as the hot rock zips through the air.

Sometimes Earth meets up with many meteoroids at the same time. Then many zoom through the atmosphere. We call that a meteor shower. During a meteor shower, we see many "shooting stars" in the sky.

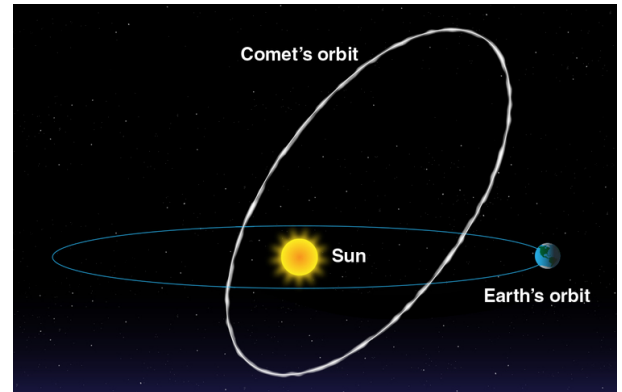
Why would Earth come close to so many meteoroids at once?

### **Meteoroids Come From Comets**

Meteoroids spin off from comets. Comets are another type of space object. They are made of ice, dust and small bits of rock.

Earth and the other planets orbit, or circle around, the sun. So do comets. The planets circle the sun on a flat plane. Picture ice skaters skating around the same rink. The orbits of comets are different. They are usually very lopsided.

At certain times in its orbit, a comet approaches the sun. Some of its icy surface boils off, and specks of dust and rock break off. These are meteoroids.



This rubble gets scattered along the comet's path. It looks like a long tail behind the comet. The sun's heat boils off more and more ice and dust specks. This makes more and more meteoroids.

Earth makes one full orbit around the sun each year. During the year, Earth crosses the orbits of comets many times. That is why Earth smacks into a bunch of meteoroids.

### **But Not To Worry!**

Meteoroids are usually small. They range from the size of a speck of dust to the size of a large rock. They almost always quickly burn up in our atmosphere. There's little chance any of them will strike Earth's surface. But there is a good chance that you can see a beautiful shooting star show in the middle of the night!

The streaks of meteors may be seen anywhere in the sky. But their "tails" all look like they come from the same spot in the sky. That's because all the meteors are coming at us at the same angle. It is like standing in the middle of railroad tracks and seeing how the two tracks seem to come together in the distance.

Meteor showers get their names from constellations. They are named after the constellation they look like they are coming from. For example, the Orionids Meteor Shower appears to start near the constellation Orion the Hunter. So it is named after this constellation.

### **Plan Ahead**

There are many different meteor showers. Each one happens around the same time each year. The best viewing times change by a day or two each year, though.

Keep this in mind: If the moon is full or near full, you may not see many meteors. Also, some years are better than others for numbers of meteors you may see.

The Quadrantids meteor shower occurs in late December or January. The Lyrids happens in April and the Perseids happens in August. In October, you can see the Orionids meteor shower. The Leonids happens in November, followed by the Geminids in December.

