

Meteor Showers - Activities (Ages 12-15)



Today we are going to investigate:

- What are meteors?
- What size are meteors?
- How to find annual showers using Night Sky
- The origin of meteors

Activities

- 1 Today we are going to look at **meteor showers**. These are celestial events which occur each year. Meteor showers happen when the Earth moves through a volume of space which is full of particles called **meteoroids**. These fall into our atmosphere appearing as glowing streaks called **meteors**.

Question: What size do you think meteoroids are?

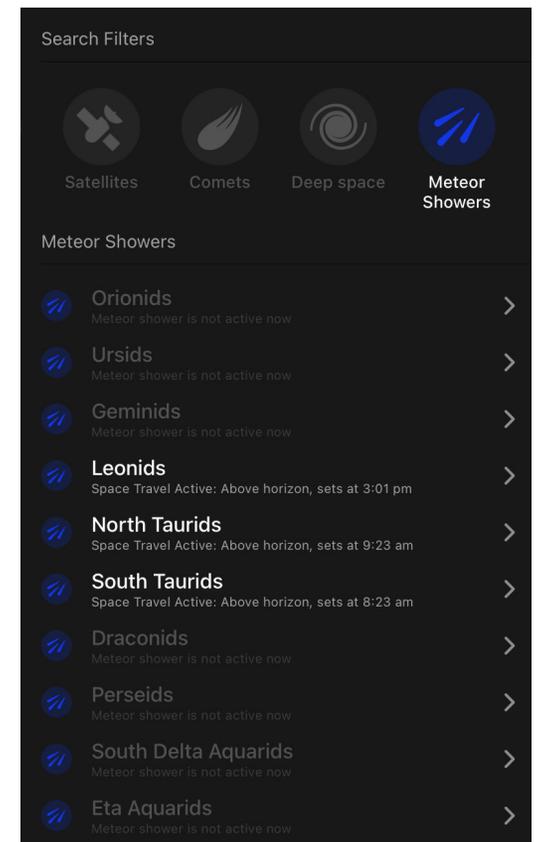
- a) grain of sand b) a basketball c) a car

- 2 Even though meteors are small we can still see them brightly glowing as they move through the Earth's atmosphere. When they enter our atmosphere they are abruptly slowed down and their kinetic energy is converted into heat and light.

Question: What physical process make the meteors glow?

- a) electrical discharges
b) energy transformations
c) nuclear reactions

- 3 Let's explore how to find out more about meteor showers using Night Sky. Go to the Night Sky Menu and tap on Search. Scroll down to Search Filters and deselect everything except Meteor Showers and you will see a list of meteor showers. Tap on "Leonids" to bring up the information panel for this shower. Meteor showers always last for days or weeks but have a peak date when you will see the most meteors.



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Question: What date is the peak of the Leonids?

4 Meteoroids are the particles that appear as meteors when they fall into the atmosphere. The meteoroids are debris that has been left behind by a comet which has moved on in its orbit and is no longer visible.

Question: What comet is responsible for the Leonids? (tip you can find this in the information panel)

5 Let's see what the shower will look like in the sky. In the information panel tap on the blue Directions button and Night Sky will move the sky around to show the constellation of Leo. To see the meteors, you will need to go to the Space Travel tab to set the date and time for during the peak. Meteor showers are named after the constellation closest to the imaginary point in the sky where they seem to radiate from.

Question: What do astronomers call this imaginary point?

- a) The Radiant b) The Central Hub c) The Origin

What we have discovered:

- Meteors are tiny particles which fall into the Earth's atmosphere
- Meteors often arrive in regular annual showers
- Night Sky can show you where and when meteor showers occur
- Night Sky can also provide additional information in its meteor shower information panels

Directions
Above horizon, sets at 3:01 pm

Pronunciation	/ˈliːənɪdz/	The Leonids (/ˈliːənɪdz/ LEE-ə-nidz) are a prolific meteor shower associated with the comet Tempel-Tuttle. The Leonids get their name from the location of their radiant in the constellation Leo: the meteors appear to radiate from that point in the sky. Their proper Greek name should be Leontids (Λεοντίδαι, Leontídai), but the word was initially constructed as a Greek/
Discovery date	902 AD (first record)	
Parent body	55P/Tempel-Tuttle	
Constellation	Leo	
Right ascension	10h 08m	

