

Geminid Meteor Shower

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About the Geminid Meteor Shower:

- **What it is?** It peaks during **mid-December** each year and is considered to be one of the best and most **reliable annual meteor showers**.
- Unlike most meteor showers that **originate from comets**, the Geminid stream appears to originate from an **asteroid known as 3200 Phaethon**,
- **New findings**
 - The new findings have perplexed scientists as **asteroids are not** typically **influenced by the Sun's heat** and should not leave behind a trail.
 - **Phaethon** is an asteroid, but as it flies by the Sun, it seems to have some kind of **temperature-driven activity**.
 - The Parker data indicates that a powerful event such as a high-speed **collision or a gaseous explosion** likely caused the creation of the Geminid stream.

Key facts about the 3200 Phaethon

- It is **classified as an asteroid** – the first to be discovered via satellite.

- It was discovered on Oct. 11, 1983, using the Infrared Astronomical Satellite, and named after the **Greek myth of Phaethon**, son of the sun god Helios, due to its close approach to Sun.
 - It is **blue in colour**, which is rare for an asteroid.
 - It orbits the sun every 524 days (1.43 years), coming as close as 0.14 astronomical units (AU) and reaching as far as 2.40 AU from the sun.
 - Its **orbit is highly elliptical**. It completes a rotation on its axis every 3.60 hours.
 - It is about 3 kilometres in diameter, making it larger than 99% of asteroids.
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Q1) What is an asteroid?

An asteroid is a relatively small chunk of rocky minerals that orbits the Sun, often described as a minor planet. When the orbiting object is larger, it's called a planetoid.

Source: [Parker Solar Probe reveals the mysterious origin of Geminid meteor shower on Earth](#)

Source: <https://vajiramandravi.com/current-affairs/geminid-meteor-shower/>

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