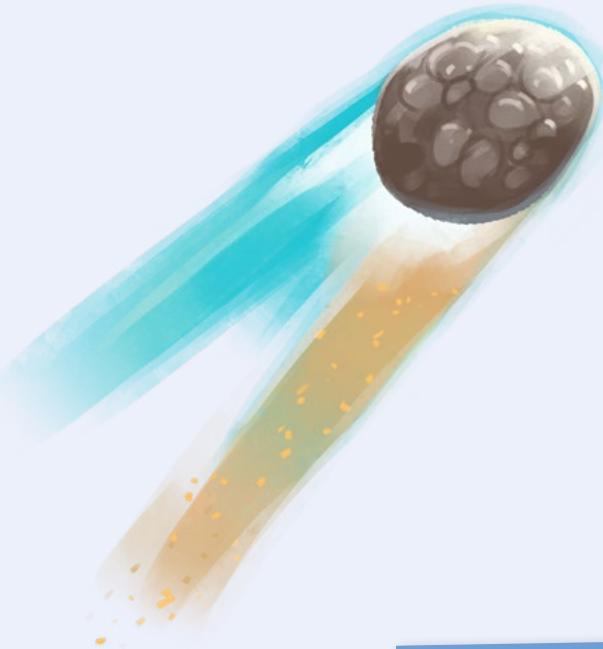


Comets



Imagine a giant, dirty snowball traveling very, very far through space, around the Sun!

- A comet is a **small celestial body** that is part of the Solar System.
- It is made of **ice** (frozen water and gases) mixed with **dust** and **rocks**. This is called its **nucleus**.
- Comets spend most of their time in the very cold regions of space, far away from the Sun.

Why do comets have two tails?

When a comet gets close to the Sun, its ice **sublimate**: they change directly from a solid form into a gas form. The released gas and dust form an atmosphere around the nucleus, called the **coma**.

The dust tail: Solid grains pulled from the nucleus are pushed by sunlight. They form a white or yellowish trail that follows the comet's path.

The gas tail (not always visible): Ionized gases, made of electrically charged particles affected by the solar wind, are pushed straight away from the Sun. It often appears bluish.

So, a comet can show two distinct tails, created by different processes but both coming from the **sublimation** of its ice.

And the most amazing part:

This tail is made of dust and ionized particles and **can stretch over millions of kilometers**, which is huge compared to the comet's small nucleus and the gas cloud around it.

What is sublimation?

Sublimation happens when a comet's ice heats up and turns directly into gas, because there is no liquid water into space.

