



Meteorite (ALH) 84001

Why in News

Recently, a new study published in the journal Science, offers an explanation for the existence of organic compounds on the surface of [Meteorite called \(ALH\) 84001](#).

- It landed on Earth from Mars in 1984, and can possibly unravel the existence of life on [Mars \(Red Planet\)](#).

Key Points

▪ About:

- Meteorite named Alan Hills (ALH) 84001 was found in December, 1984 in the Far **Western Icefield of Allan Hills in Antarctica** by a **US meteorite hunting expedition**. At the time of its discovery it was recognised as the **most unusual rock collected**.
 - It was described at the time of discovery as, shaped like a rounded brick or a large potato, about 6 inches long by 4 inches by 3 inches, and was partly covered with black glass.
- In 2021, [NASA's Perseverance rover](#) collected the first sample of Martian rock.
- It can be said with **certainty that the meteorite did come from the Red planet because of the presence of traces of certain gases that are just like the Martian atmosphere**.

▪ Study:

- The study posits that the **organic compounds found in the meteorite were a result of the interactions between water and rocks** that occurred on Mars. These interactions were similar to **those that happen on Earth**.
- These kinds of **non-biological, geological reactions are responsible for a pool of organic carbon compounds** from which **life could have evolved** and presents a basis that must be taken into consideration when searching for evidence of past life on Mars.
- The search for life on Mars is not just an attempt to answer the question 'are we alone, but also it relates to **early Earth environments and addresses the question of 'where did we come from**.

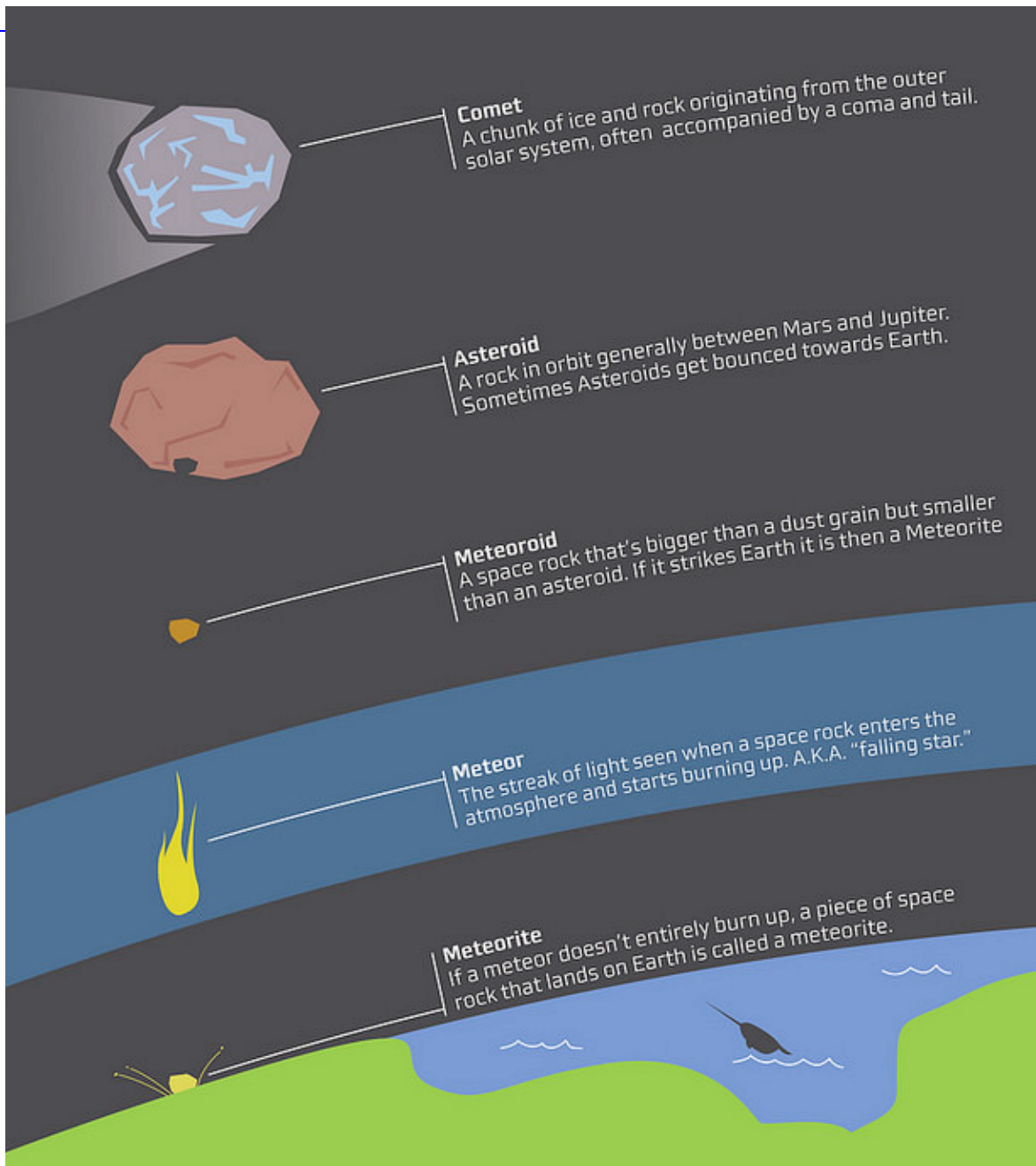
▪ Significance of Studying meteorites:

- Scientists are interested in studying meteorites as examining them **offers clues about the beginning of the solar system** and maybe even the Earth.
 - Space agencies have launched specific missions to asteroids to be able to study them.
 - One such example is [NASA's OSIRIS-REx mission](#) launched in 2018 with the aim of reaching **asteroid Bennu** and getting back a sample from the ancient asteroid.

Difference between Meteor, Meteorite and Meteoroid

- The difference between a **meteor**, **meteorite** and **meteoroid** is nothing but where the object is.
- Meteoroids are objects **in space that range in size from dust grains to small asteroids.** "Think of them as "space rocks,".
- But when meteoroids enter the Earth's atmosphere they are called **meteors.**
- But if a meteoroid enters the Earth's atmosphere and hits the ground, it is called a **meteorite.**

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Source: IE