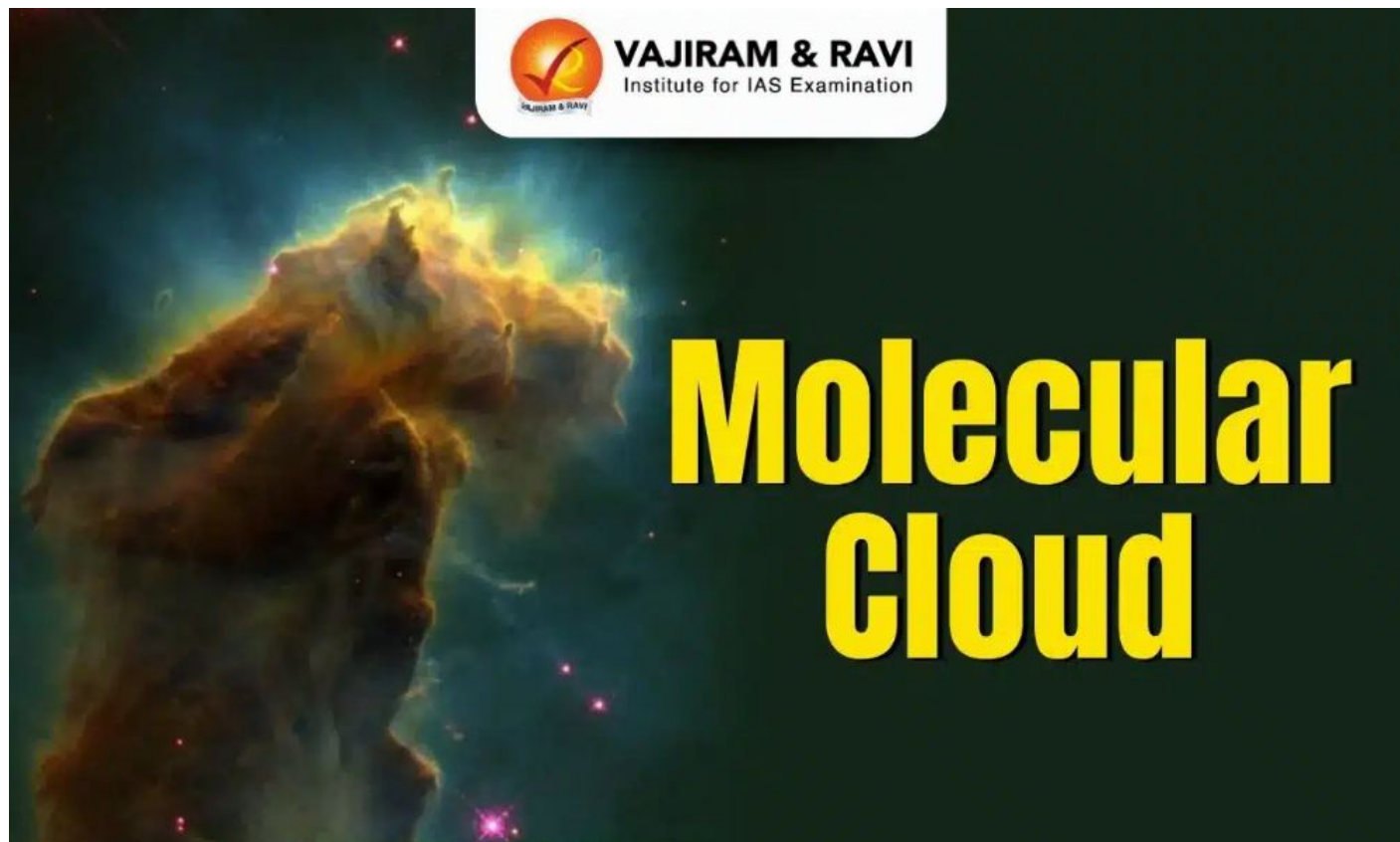


Molecular Cloud

January 15, 2026 • vajiramandravi.com



Molecular Cloud Latest News

Recently, astronomers studied the L328 molecular cloud, located around 700 light years away, to map the magnetic fields at multiple scales.

About Molecular Cloud

- It is an **interstellar cloud of gas and dust** in which molecules can form, the most common of which is hydrogen (H₂).

Properties of Molecular Cloud

- These are characterized by **their low temperatures** (below 40 K, colder than liquid nitrogen) and **relatively high densities** (10³–10⁴ particles per cubic cm).
- **Size:** The size of these clouds can be from a **few light years up to 600 light years**. Their total mass can reach several million solar masses.
- Molecular clouds with dimensions of more than about 15 light years are also called **giant molecular clouds**.

- The complex interplay between three key forces, namely **gravity, magnetic fields, and turbulence**, determines how these clouds collapse to form stars.
- The central regions of these clouds are **completely hidden from view by dust**.
- They are the raw material of stars and planets. These clouds do not last for a very long time.
- After the new stars are born, their solar winds blow away the remaining gas and dust.

Significance of Molecular Cloud

- Molecular clouds are so important because they are the **raw material of stars and planets**.
- It is thought to be the birthplace of stars and planetary systems through processes of contraction, condensation, and accretion.

Source: PIB

Source: <https://vajiramandravi.com/current-affairs/what-are-molecular-clouds/>

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