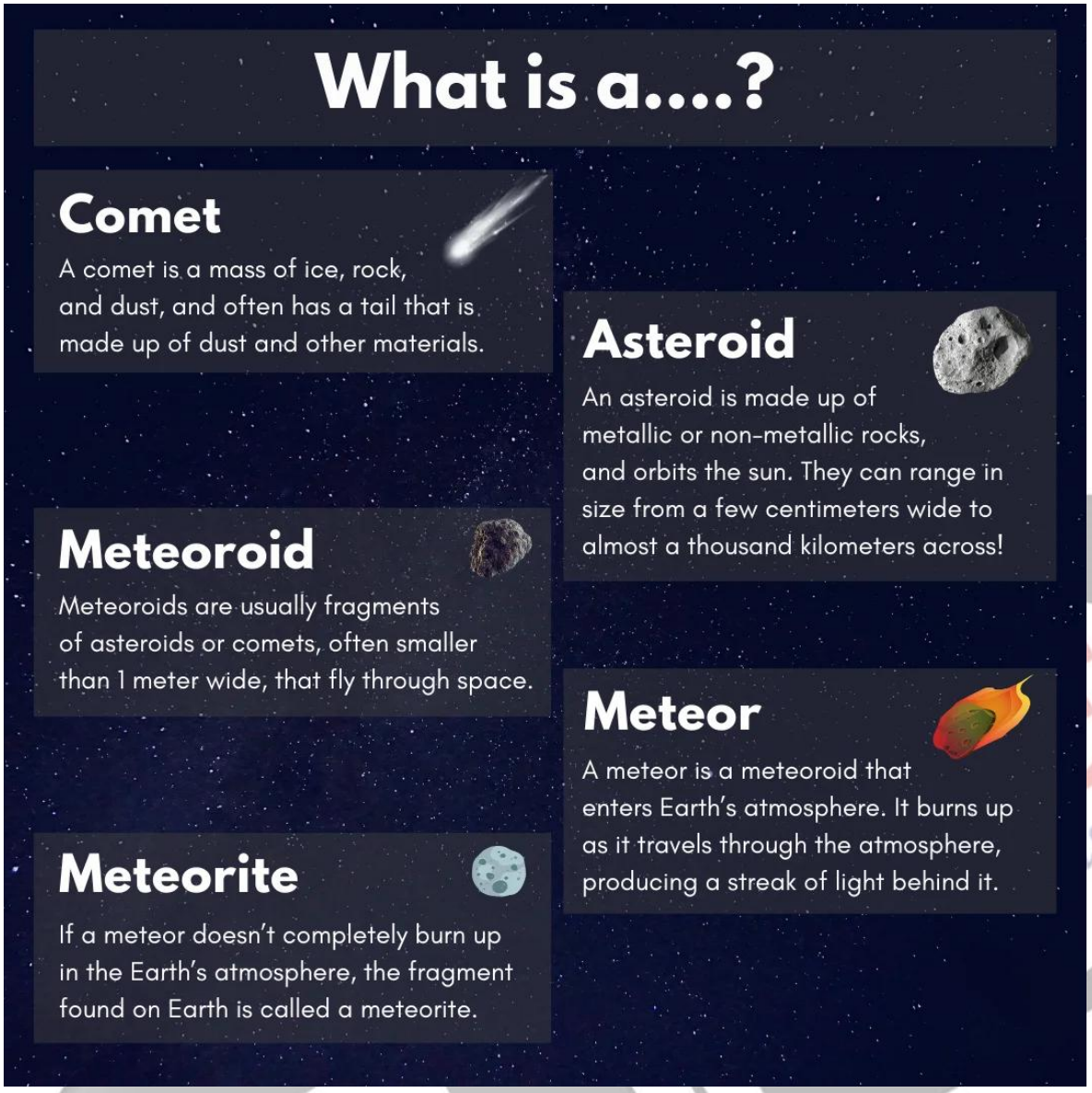
Interstellar Comet 3I/ATLAS

Source: TH

The **NASA-**funded **ATLAS telescope** in Chile reported the discovery of interstellar **comet 3I/ATLAS,** originating from the **constellation Sagittarius**.

3I/ATLAS Comet

- **Discovery & Trajectory**: It is the **third confirmed interstellar object** (denoted by 3I) after **1I/'Oumuamua(2017)** and **2I/Borisov (2019)**.
    - It travels at a speed of **57–68 km/s** in a **hyperbolic orbit**, confirming its **interstellar origin**.
- **Origin and Age:** Likely **originated from the Milky Way's thick disk**, a region of **ancient stars**, making it **distinct from previous interstellar objects**.
    - Simulations using the **Ōtautahi–Oxford model** suggest a **70% probability** that it **predates the Solar System by over 3 billion years**, making it **possibly the oldest comet ever observed**, at over **7 billion years old**.
- **Physical & Chemical Properties:** Shows active **coma** and likely **tail**, with spectral evidence of **water ice and complex organics**.
    - Its estimated nucleus size is **10–30 km**, larger than earlier interstellar comets.
- **Significance**: **3I/ATLAS** is the **first ISO** traced to the **Milky Way's thick disk**, unlike earlier ISOs from the thin disk.
    - It offers rare insight into **primordial galactic material**, aiding study of **planet formation**, **organic chemistry**, and possibly **panspermia**.



Read More: [2I/Borisov: An Interstellar Object]

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