Earth’s temporary Mini-Moon (Asteroid 2026 QQ8)

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Why in News?

Recently, Earth has captured a new temporary mini-moon, a tiny space rock designated 2026 QQ8.

Key Highlights

- It is expected to stay until around December 2026 before resuming its independent path around the Sun in 2027.
- **Nature of the Object -** It ruled out an artificial origin, such as old space debris or rocket stages.
- Follow-up astronomical observations (utilizing the University of Hawaii’s 2.2-metre telescope and the Lowell Discovery Telescope).
- **Classification-** The **Minor Planet Center (MPC)** officially classified it as a natural object, specifically a small near-Earth asteroid (temporarily captured object).
- **Discovery -** The roughly 1-metre to 2-metre-wide asteroid was discovered by Hungarian astronomer ***Krisztián Sárneczky.***
- **Trajectory & Distance-** The asteroid does not maintain a close orbit by normal lunar comparisons.
- Its closest predicted approach during this temporary stay is roughly **568,000 kilometres**, about 1.5 times the average distance between Earth and the Moon.
- **Impact Threat -** It poses **no impact threat** to Earth; even if it were directed toward the atmosphere, its miniature size ensures it would burn up completely before reaching the surface.
- **Previous Similar Visitors- 2020 CD3, 2020 SO, and 2024 PT5.**

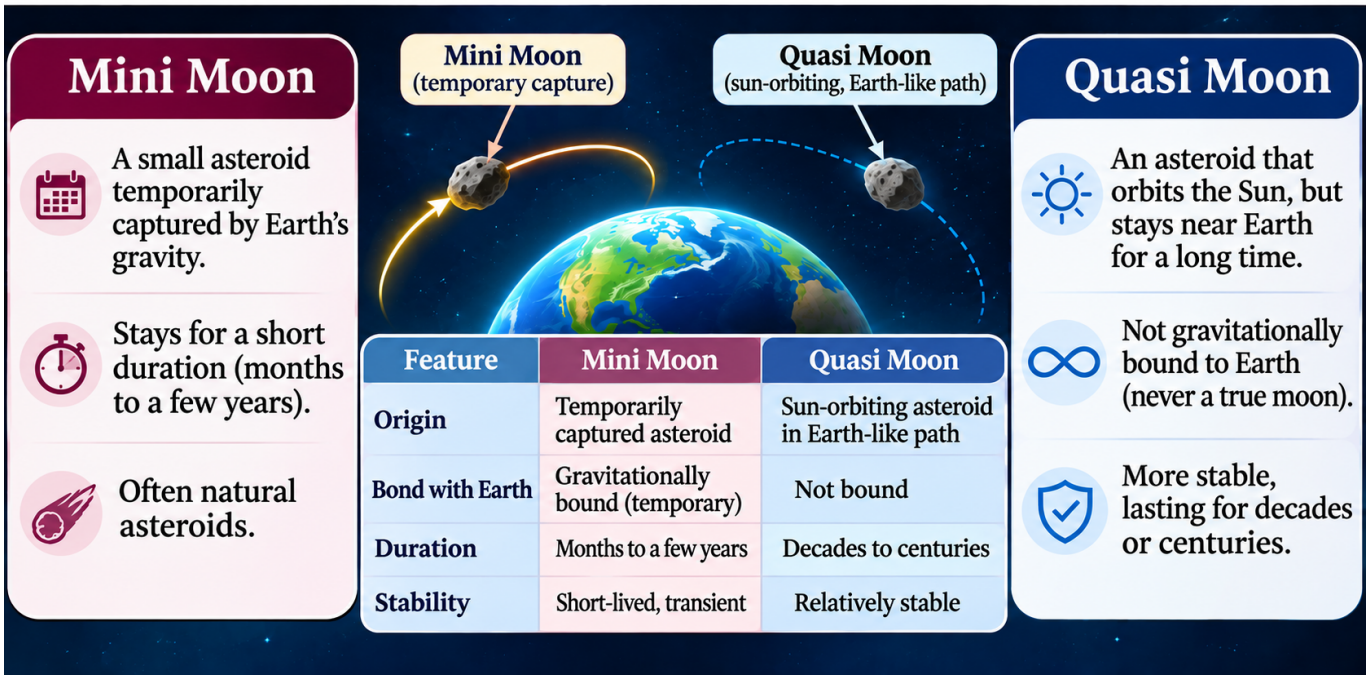
Mini Moon

- A mini-moon is a small near-Earth asteroid (NEA.
- It passes close enough to Earth to be temporarily captured by our planet's gravity, entering its **Hill sphere** (the region where the planet's gravitational pull dominates over the Sun's) before eventually breaking away to continue its solar orbit.

Quasi-Moon

- Unlike true mini-moons, *quasi-moons* (such as 2025 PN7) do not orbit Earth directly; instead, they orbit the Sun on a path closely synchronized with Earth, making them appear to accompany our planet over long periods.

Mini Moon vs Quasi Moon



Reference

[Times of India | Asteroid 2026 QQ8]

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