

Earth is about to lose its second moon

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In News: Earth's second moon will make a close approach to the planet next week before drifting off into space, never to be seen again.

About Earth's second moon (2020 S0)

- Astronomers call it 2020 S0 – a small object that dropped into Earth's orbit about halfway between our planet and the moon in September 2020.
- Temporary satellites like these are known as minimoons, though calling it a moon is a bit deceptive in this case.
- In December 2020, NASA researchers learned that the object isn't a space rock at all, but rather the remains of a 1960s rocket booster involved in the American Surveyor moon missions.
- This non-moon mini moon made its closest approach to Earth on Dec. 1, but it's coming back for one more victory lap.
- Mini Moon 2020 S0 will make a final close approach to Earth on Tuesday (Feb. 2) at roughly 140,000 miles (220,000 kilometers) from Earth, or 58% of the way between Earth and the moon.

2020 CD3 mini-moon

- Astronomers have observed a small object orbiting Earth, which they have dubbed a "mini-moon" or the planet's "second moon".
- It is actually an asteroid, about the size of a car; its diameter is about 1.9-3.5 m.
- And unlike our permanent Moon, the mini-moon is temporary; it will eventually break free of Earth's

orbit and go off on its own way.

- Dubbed 2020 CD3, the mini-moon was discovered by Kacper Wierzchos and Teddy Pruyne of the NASA-funded Catalina Sky Survey (CSS) in Arizona..
- When an asteroid's orbit crosses Earth's orbit, it can sometimes be captured into the latter orbit. This is what happened with the 2020 CD3.
- It is now orbiting at a distance farther from Earth. Such an asteroid is called a Temporarily Captured Object (TCO).
 - The orbit of such objects is unstable.
 - They have to contend with the gravitational influence of our permanent Moon as well as that of the Sun.
 - Once caught in Earth's orbit, such objects usually remain for a few years before they break free and go into independent orbit around the Sun.