

The Impact of Space Rocks on Earth's History

Reading Passage: Throughout Earth's history, objects from space have occasionally had major effects on the planet. The most famous example is the **Chicxulub impact**, which occurred around 66 million years ago. A massive asteroid, believed to be about 6 miles wide, struck the Yucatán Peninsula in present-day Mexico. The impact caused widespread wildfires, massive shockwaves, and a dust cloud that may have blocked sunlight for months. This event is thought to have triggered the extinction of nearly 75% of all species, including most dinosaurs.



While catastrophic impacts like Chicxulub are rare, smaller objects enter Earth's atmosphere more frequently. Events like the **Chelyabinsk meteor** in 2013 serve as reminders that Earth is not immune to space collisions. Though the Chelyabinsk meteor exploded in the atmosphere, it still caused over 1,000 injuries due to shockwaves and shattered glass.

Scientists around the world are working on early detection systems and deflection strategies to protect Earth from future impacts. Missions like NASA's **DART** (Double Asteroid Redirection Test) aim to see if we can slightly shift the course of potentially dangerous asteroids.

Short Answer / Critical Thinking Questions:

1. What made the Chicxulub impact so destructive compared to smaller meteor events?
2. How did the Chelyabinsk meteor affect people, even though it didn't hit the ground directly?
3. What do both events tell us about the potential dangers of objects from space?
4. Why do you think scientists are working on ways to deflect asteroids instead of simply destroying them?
5. If you were designing a planetary defense plan, what would be your top priority and why?