Why do animals go extinct?

KS2 KS3 Ages 7-14 ⏰ 4 min read

Extinction — the complete disappearance of a species — is a normal part of life on Earth. Scientists estimate that 99% of all species that have ever existed are now extinct. The average lifespan of a species in the fossil record is about 1–10 million years before it either evolves into something different or disappears entirely.

Natural extinction

Species go extinct naturally when their environment changes and they can't adapt quickly enough. Climate shifts, sea level changes, disease, competition from new species, or just bad luck with a small population. Extinction is the other side of the evolutionary coin — the species that fail to adapt die out, clearing space for new ones.

Think of evolution as a slow, continuous tournament. Species are constantly competing, adapting, and being replaced. Most players eventually get knocked out — either eaten by better competitors, outlasted in resource competition, or wiped out by environmental change. Being knocked out is the expected outcome for most players over long enough time. The remarkable thing is that life as a whole keeps going, with new players constantly entering the tournament.

Mass extinctions

Five times in Earth's history, a catastrophic event wiped out the majority of species in a geologically short period. The most famous was 66 million years ago — a 10km asteroid struck the Yucatán Peninsula in Mexico, triggering fires, debris clouds that blocked sunlight, and cooling that killed about 75% of species, including all non-avian dinosaurs. The most severe was the "Great Dying" 252 million years ago, which wiped out 96% of marine species and 70% of terrestrial vertebrate species, probably caused by massive volcanic eruptions in Siberia.

What's happening now?

We are in a sixth mass extinction, driven this time not by asteroids or volcanoes but by one species: us. Species are currently going extinct at an estimated 100–1,000 times the natural background rate. The main causes are habitat destruction

(particularly deforestation), overexploitation (hunting, fishing), invasive species, pollution, and climate change. Unlike the asteroid event, this one has a knowable cause — and therefore, in principle, a solution.