

Chapter 22

Use with Section 3

ENRICHMENT**• History of Life****What killed off the dinosaurs?**

Read the following information. Then answer the questions.

In the history of Earth, many species of plants and animals have died off. There have been five periods when very large numbers of species became extinct. One of these periods occurred about 66.4 million years ago.

At that time, all the dinosaurs died out, including those that flew and those that lived in the ocean. Much of the ocean's plankton, which are very small organisms that float in the water, became extinct. In fact, many species all over the globe became extinct. This is not easy to explain. When a species becomes extinct, it is possible that its surroundings have changed in one or more places on Earth. Whatever happened 66.4 million years ago involved more than just local changes.

A Rare Metal in Earth's Crust

In the 1970s, a team of scientists discovered a layer of rock in Earth's crust that contains huge amounts of iridium. This is a very heavy, silver-white metal. The layer of rock formed about 66.4 million years ago. The extra iridium in this layer is found all over the planet. Outside this layer, iridium is very rare on Earth. However, it is very common in asteroids and meteors.

The Biggest Crash Ever?

Some scientists think that a large asteroid crashed into Earth 66.4 million years ago. The impact was like a huge explosion, spreading an enormous cloud of particles into the air. Over time, the cloud drifted around the world, blocking out sunlight. Eventually the particles settled back to Earth. In the meantime, many species of plants, and the animals that depended on them, died out.

A huge crater has been found under the ocean off the coast of Mexico. It's big enough to have been formed by a huge asteroid, and it is about 66.4 million years old. Perhaps this is the asteroid responsible for the high rate of extinctions at that time.

Applying Critical Thinking Skills

1. What are some of the questions raised by the mass extinction of 66.4 million years ago?

2. How might iridium be connected to something unusual that happened 66.4 million years ago?
