

Period Overviews

Life Emerges

Precambrian

4.5 billion–543 million years ago

In Earth's first four billion years—the time known as the Precambrian—**life first evolved, flourished, and changed the planet forever.**

The Earth is 4.5 billion years old. To help organize and understand this immense expanse of time, scientists divide Earth's history into smaller chunks, such as **eras** and **periods**. Together, these make up the **geologic time scale**.

World of Water

Cambrian and Ordovician Periods

543–443 million years ago

After more than three billion years of evolution, from single cells to multicellular life, an **“explosion” of life** happened in Earth's shallow seas.

In less than thirty million years, a mere instant in Earth's vast history, nearly **all the major animal groups living today first appeared.**

Among these animals, **skeletons** (plates and shells) and other new features would change the shape of life forever.



From Fins to Limbs

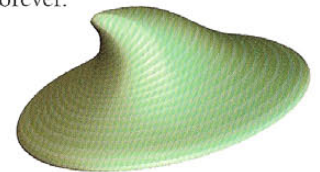
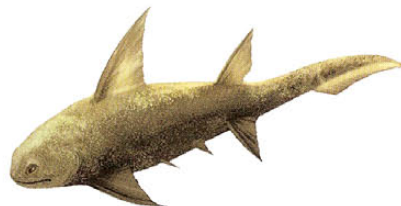
Silurian and Devonian Periods

443–354 million years ago

Trailblazing life forms, including **plants**, had made a major move: to **land**.

In the seas, life flourished as temperatures warmed. **Fishes** diversified in the deep. **Massive reefs** sprawled across tropical sea floors.

From this rich diversity of life in the waters, animals—including the first **tetrapods** (four-limbed vertebrates)—were beginning to colonize land.



Age of Coal Forest

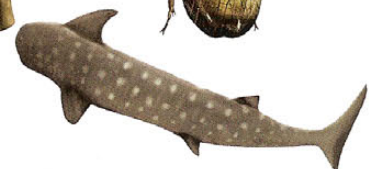
Carboniferous Period

354–290 million years ago

Though ice still covered the South Pole, **swampy tropical forests** stretched across much of Europe, Asia, and North America, which were gathered at the equator.

Insects and other **arthropods**, and **tetrapods** (four-limbed vertebrates) were among the creatures living in these forests.

Fifty million years earlier, the **land on which Chicago now stands** had been underwater. It was now dense with forest.



Patchwork from Pangaea

Permian Period

290–248 million years ago

Slowly, the continents were drifting together to form one giant supercontinent: **Pangaea**.

As this vast landmass formed, the amount of coastline shrank, along with the tropical swamps it supported. Pangaea came to be a **patchwork of different environments**, from desert to lush forest.

In this new world, **tetrapods** (four-limbed vertebrates) evolved new forms with new ways of living.

Among them were early **reptiles**, and **synapsids**: the group that would, one day, include mammals. A new type of **egg** let these newcomers live full-time, for the first time, on land.

On the poster front, see if you can identify Permian creatures *Helicoprion* Ⓣ and *Edaphosaurus* Ⓞ.

On the poster front, see if you can identify Carboniferous creatures *Stethacanthus* Ⓣ and *Diasparactus* Ⓞ.