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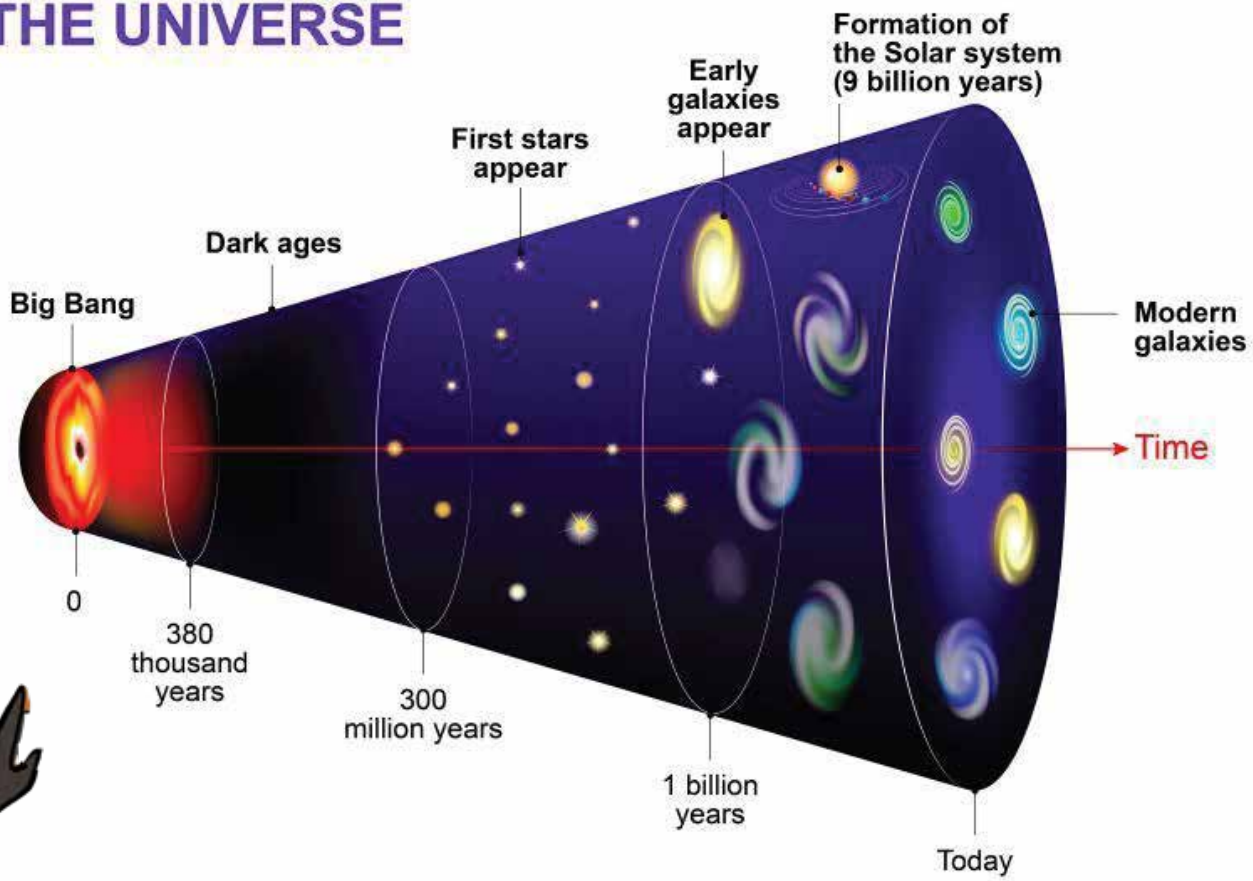
THE BEGINNING OF EARTH

CHAPTER 2



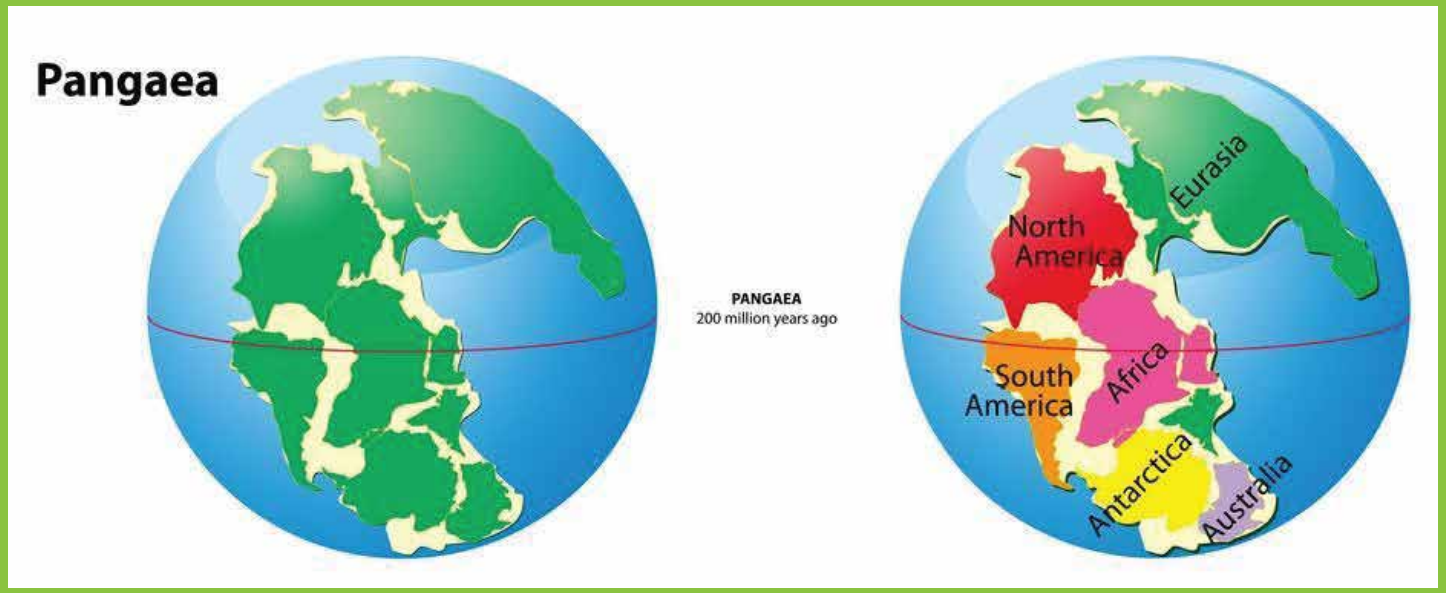


EVOLUTION OF THE UNIVERSE





Take a look a Pangaea, the supercontinent





Pangaea was a supercontinent that existed around 335 million years ago. It included almost all of Earth's landmasses joined together in one large piece.

And here's how the continents began to drift away





About 200 million years ago, Pangaea began to break apart due to the movement of tectonic plates, eventually forming the continents we see today.



Pangaea

Pangaea was a supercontinent



Laurasia and Gondwana

After Pangaea broke apart, it split into two large landmasses- Laurasia and Gondwana.



Modern world

The movement of these landmasses over millions of years has shaped the continents we know today.



Hadean eon





Earth’s atmosphere during the Hadean was mostly made of gases like carbon dioxide, water vapour, methane, and ammonia, with little to no oxygen. This made the atmosphere thick and toxic, unlike the breathable atmosphere we have today.

Archean eon





The first forms of life, including simple single-celled organisms like bacteria and archaea, appeared during the Archean. These early life forms thrived in Earth's warm, oceanic environments.

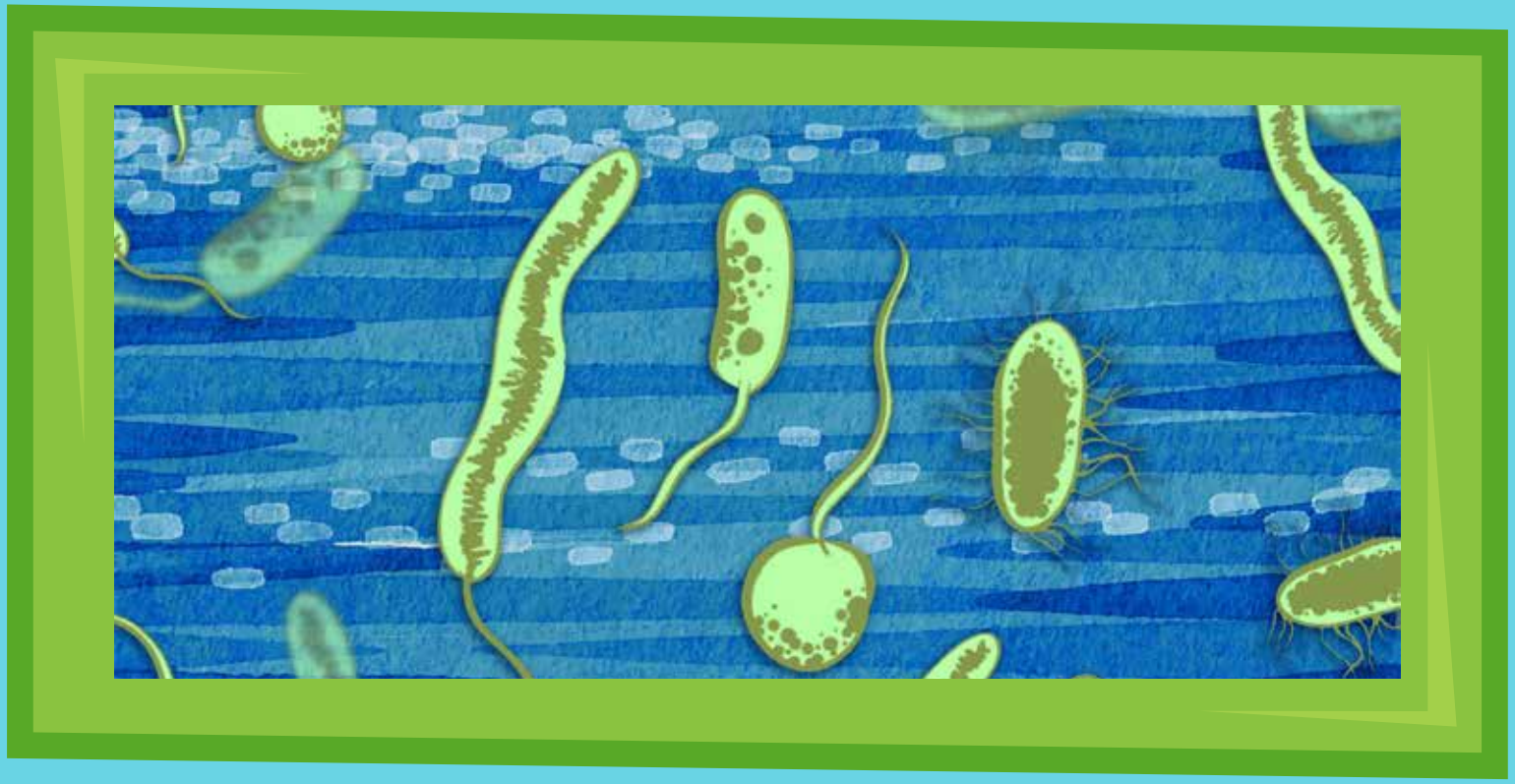
Cyanobacteria





Cyanobacteria are still found in oceans, freshwater, and even in extreme environments like hot springs. They continue to play a role in maintaining the balance of Earth's ecosystems.

PROTEROZOIC EOC: THE GREAT OXYGENATION EVENT





The Great Oxygenation Event was caused by the activity of cyanobacteria performing photosynthesis and releasing oxygen as a byproduct. It drastically changed Earth's atmosphere, shifting it from an atmosphere dominated by methane and carbon dioxide to one rich in oxygen.

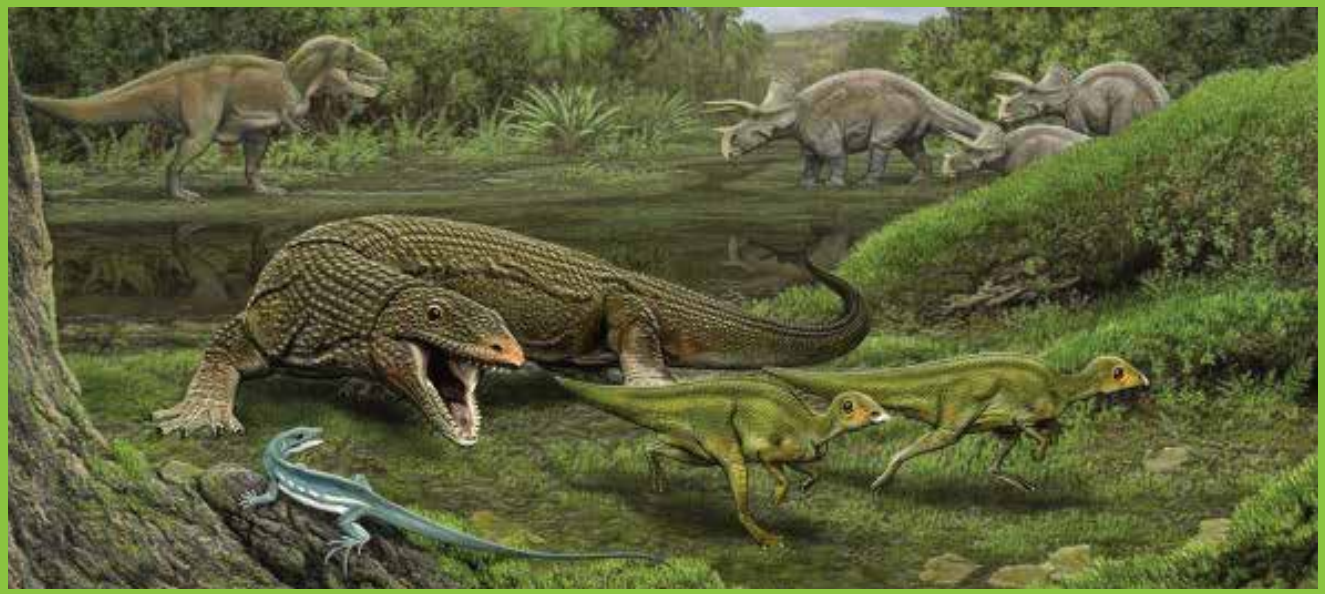
PHANEROZOIC ECO: PALEOZOIC ERA



The Paleozoic saw the rise of many major life forms, including the first fishes, amphibians, reptiles, and insects. Early life was primarily marine, but over time, land plants and animals began to evolve and colonise the terrestrial environment.



Mesozoic era





The Mesozoic era saw the rise of both terrestrial and marine reptiles, as well as the first birds and flowering plants. It is also called the "Age of Dinosaurs" because it was dominated by dinosaurs.

Cycads







Cycads are ancient, seed-producing plants that were especially abundant during the Mesozoic era. These plants resembled modern-day palms but are actually more closely related to conifers.

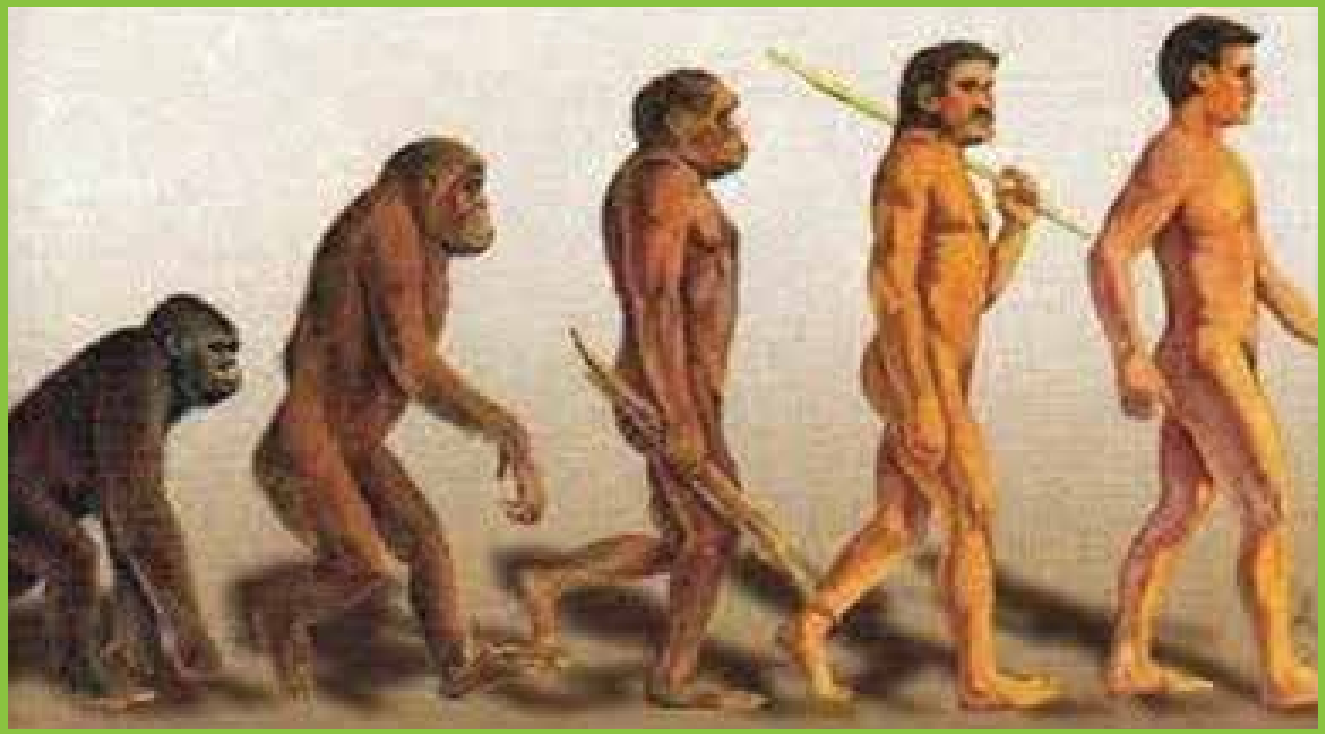
Cenozoic



The Cenozoic era saw significant climate changes, including the Ice Ages that began about 2.4 million years ago and led to the formation of large ice sheets in the northern hemisphere. This is also when South America got separated from Africa.



Homo sapiens





Homo sapiens, our species, first appeared around 3,00,000 years ago in Africa. Humans in the Cenozoic era were known for creating and using a variety of tools made from stone, bone, and wood.