

HISTORY OF BIOLOGICAL EVOLUTION

A Chronological Reference of Life on Earth

4.5 Billion Years Ago Formation of Earth

The planet cools, allowing for the formation of crust and liquid water.

3.8 Billion Years Ago First Life Forms

Emergence of simple prokaryotic cells (Archaea and Bacteria).

2.4 Billion Years Ago The Great Oxidation Event

Cyanobacteria begin producing oxygen via photosynthesis, altering the atmosphere.

541 Million Years Ago Cambrian Explosion

Rapid diversification of animal phyla; emergence of hard-shelled organisms.

475 Million Years Ago Land Colonization

Primitive plants and fungi begin to move from water to terrestrial environments.

375 Million Years Ago Tiktaalik

Emergence of lobe-finned fish with limb-like structures, the bridge to tetrapods.

230 Million Years Ago Age of Dinosaurs

Dinosaurs become the dominant terrestrial vertebrates; first small mammals appear.

130 Million Years Ago Angiosperms

Evolution of flowering plants, leading to symbiotic relationships with insects.

66 Million Years Ago K-Pg Extinction

Mass extinction of dinosaurs; provides ecological niches for mammalian radiation.

6 Million Years Ago Hominid Divergence

The evolutionary split between the lineages of humans and chimpanzees.

300,000 Years Ago Homo Sapiens

Emergence of anatomically modern humans in Africa.