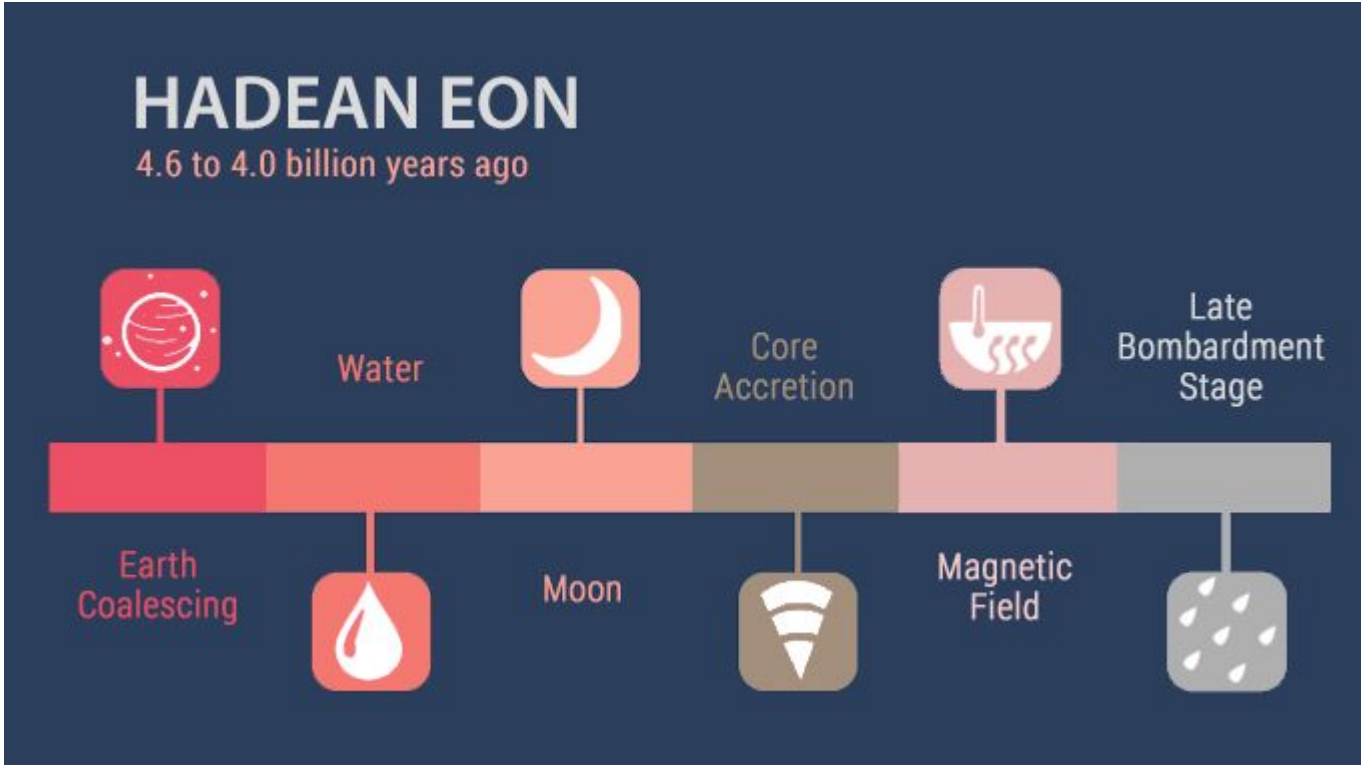
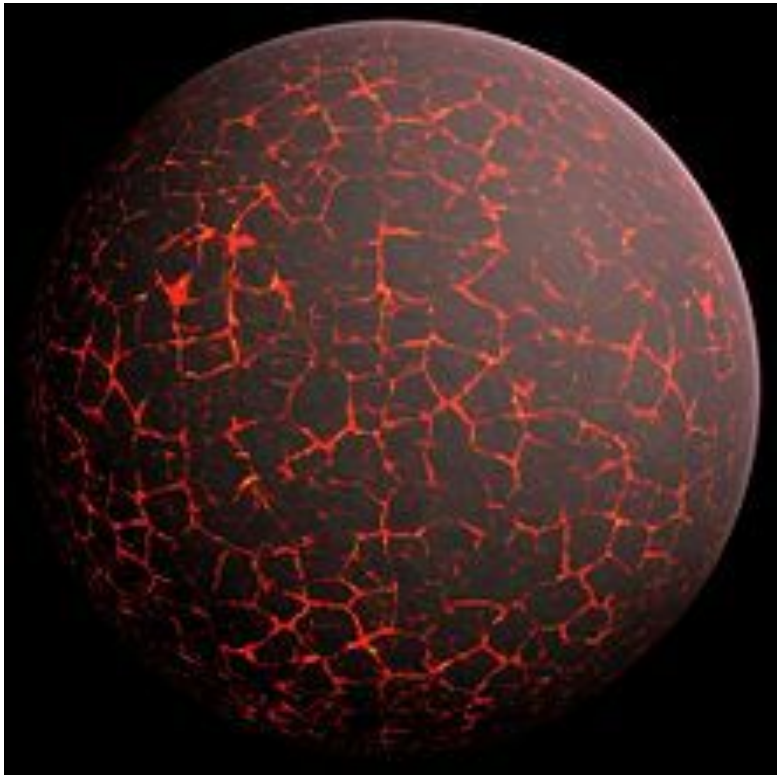
Precambrian Earth

Ms. Larsh


HADEAN EON
4.6 to 4.0 billion years ago
Earth Coalescing
Water
Moon
Core Accretion
Magnetic Field
Late Bombardment Stage

Hadean Eon

- Earth’s Mass & Gravity Increasing

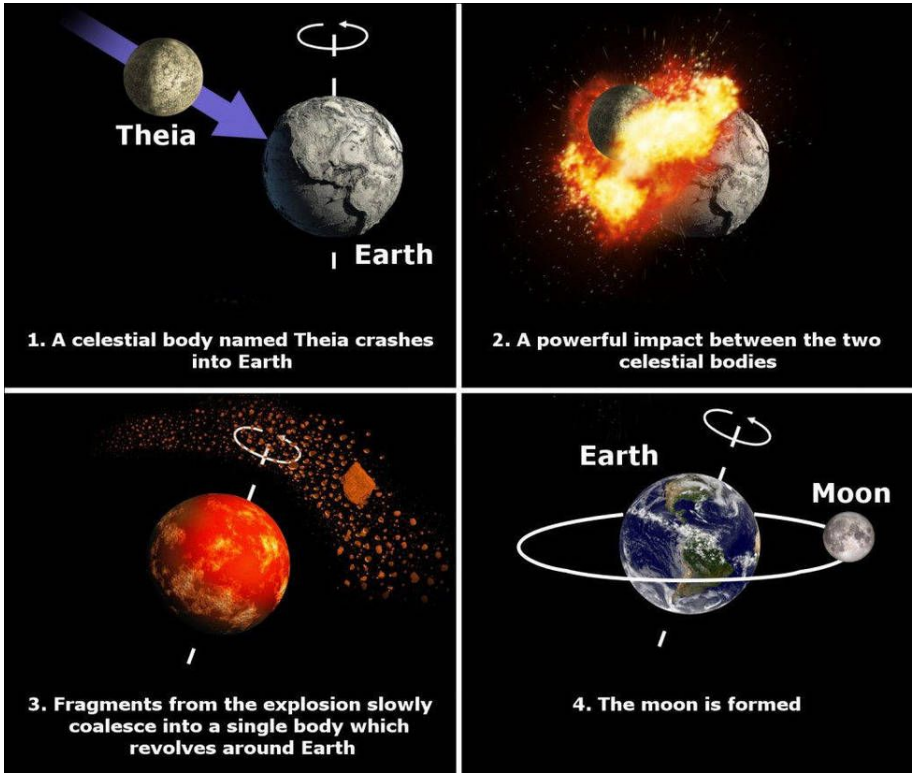


Hadean Eon

- Sources of Heat:
  - Gravitational Contraction
  - Radioactivity
  - Bombardment

Hadean Eon

- “Theia” Collides with Earth

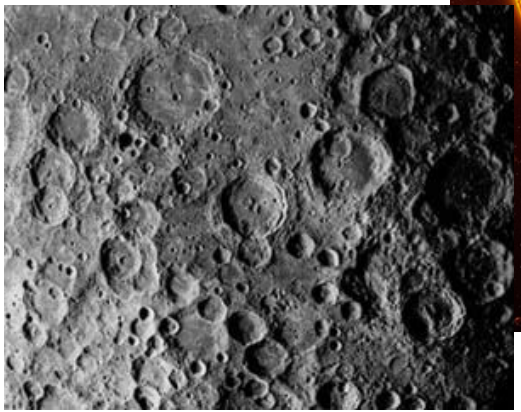


Hadean Eon

- Earth has a Moon

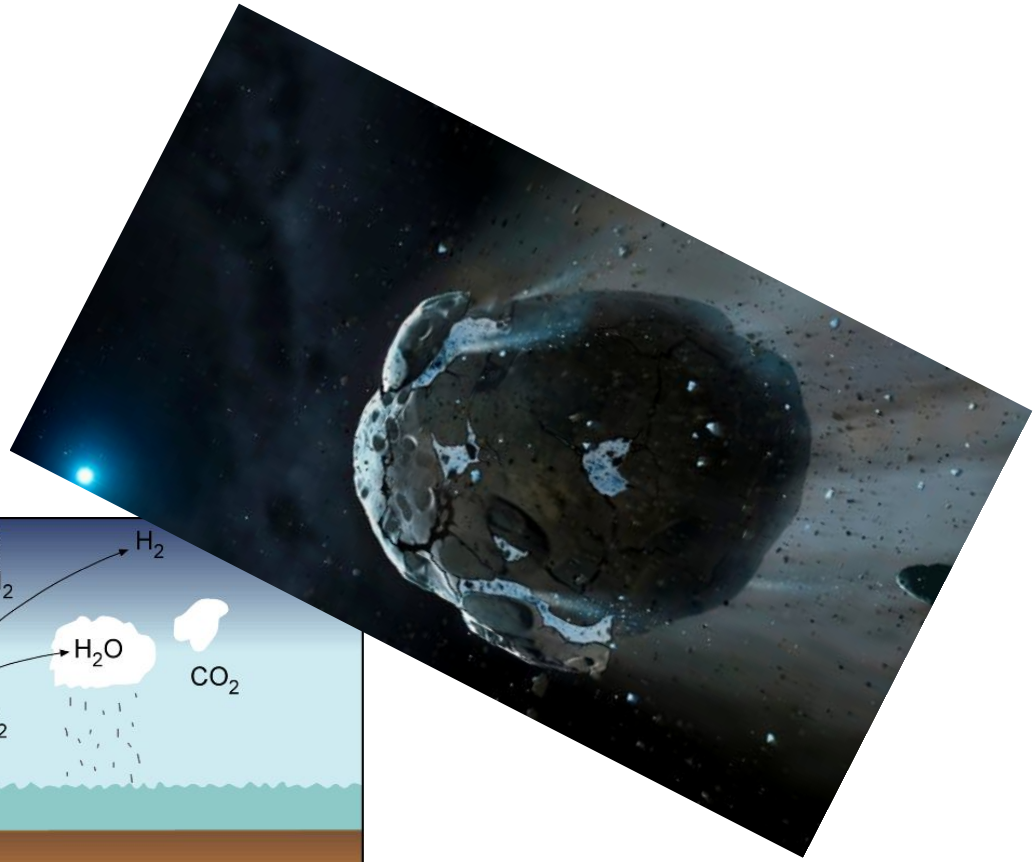
Hadean Eon

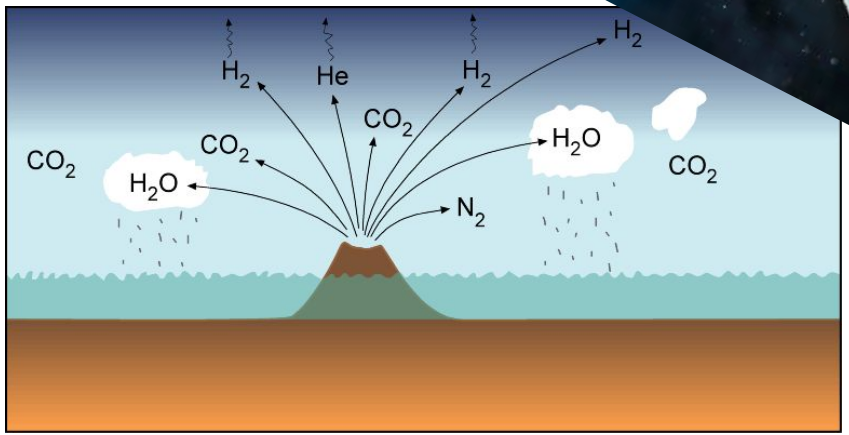
- “The Great Bombardment”

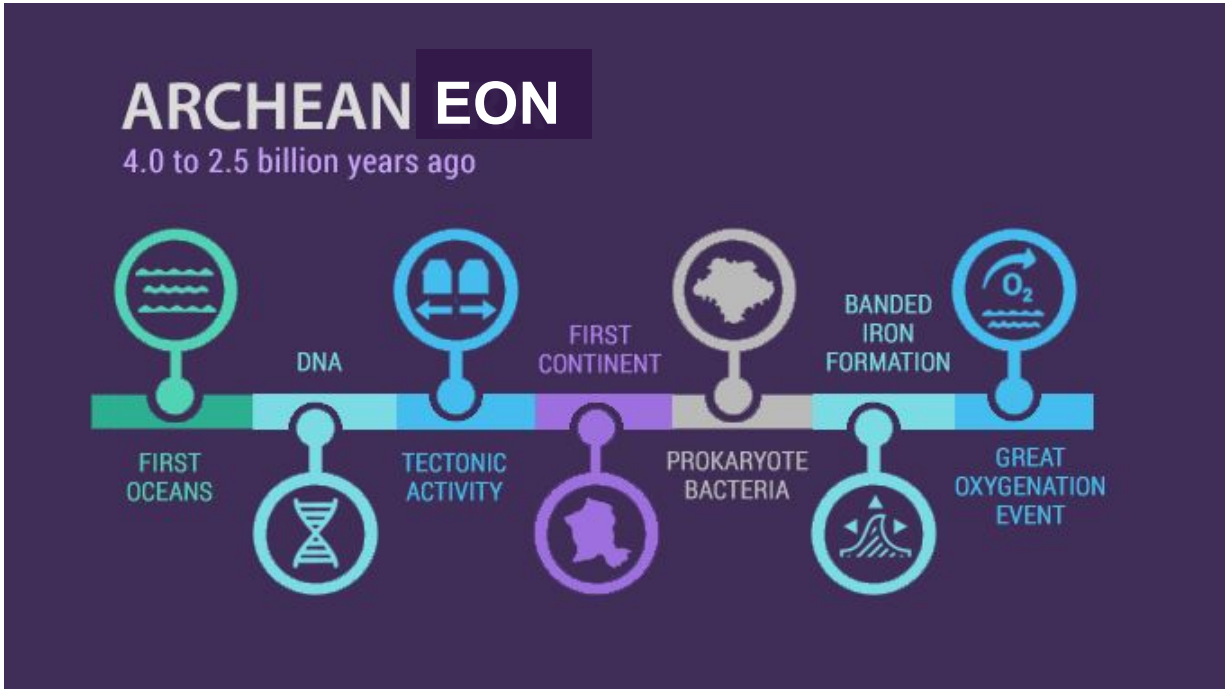


Hadean Eon

- Water on Earth





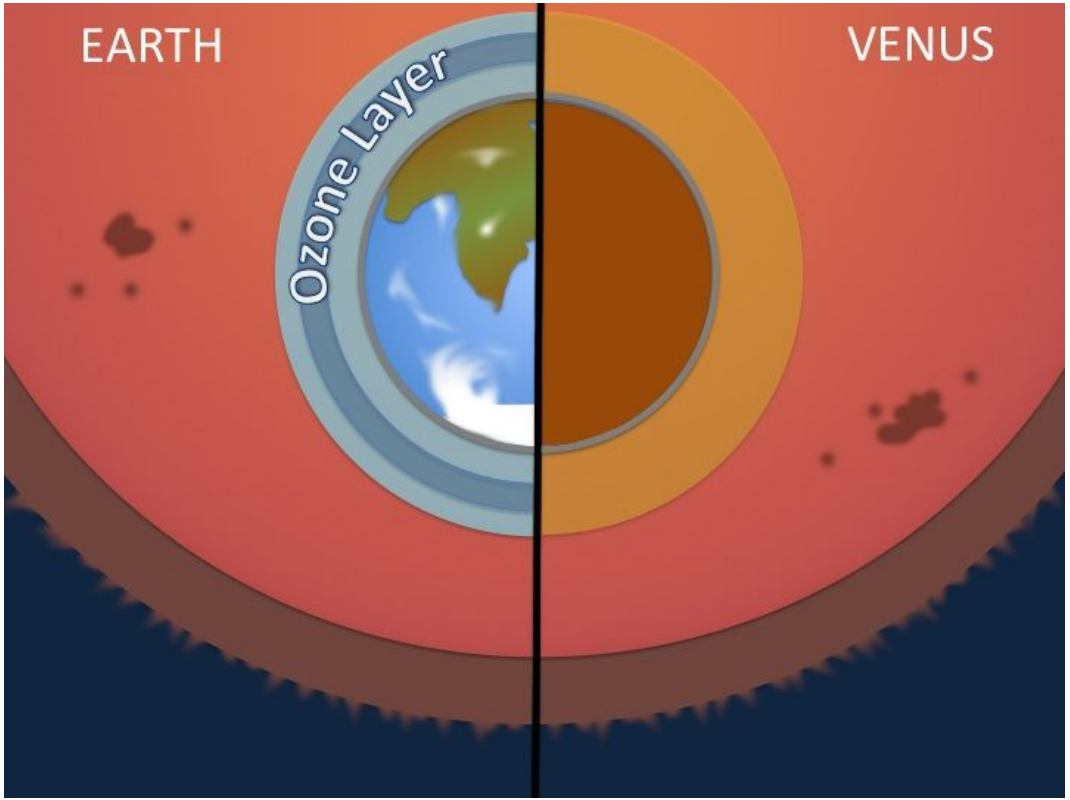

ARCHEAN EON
4.0 to 2.5 billion years ago
FIRST OCEANS
DNA
TECTONIC ACTIVITY
FIRST CONTINENT
PROKARYOTE BACTERIA
BANDED IRON FORMATION
O_2
GREAT OXYGENATION EVENT

Archean Eon

- Earth covered in water

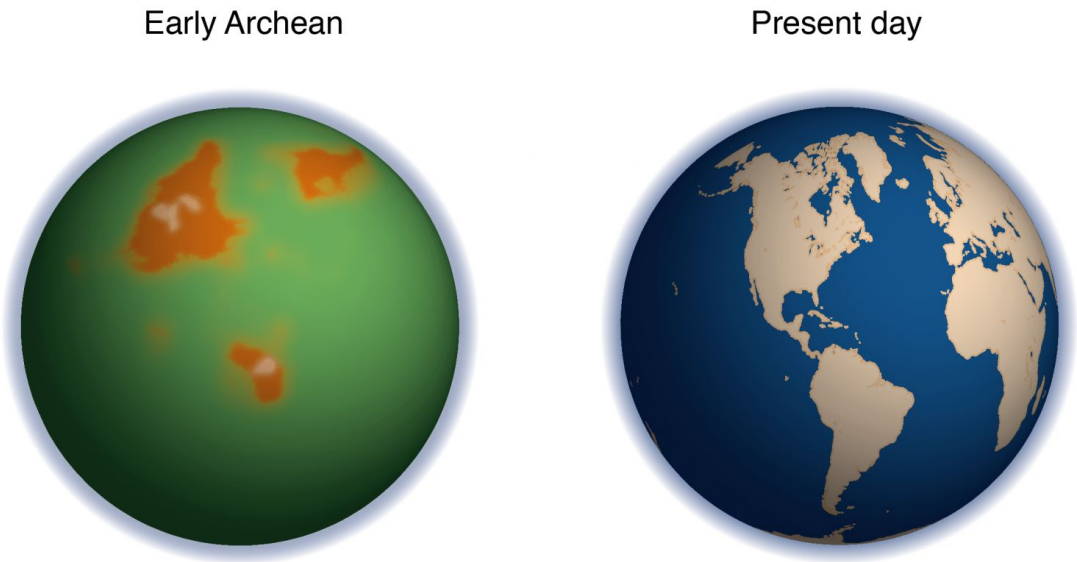
Archean Eon

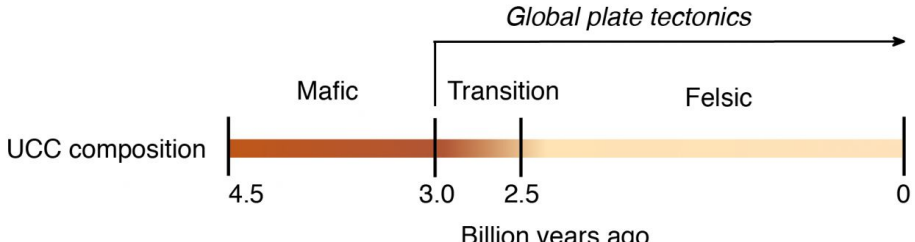
- Atmosphere cannot prevent harmful radiation



Archean Eon

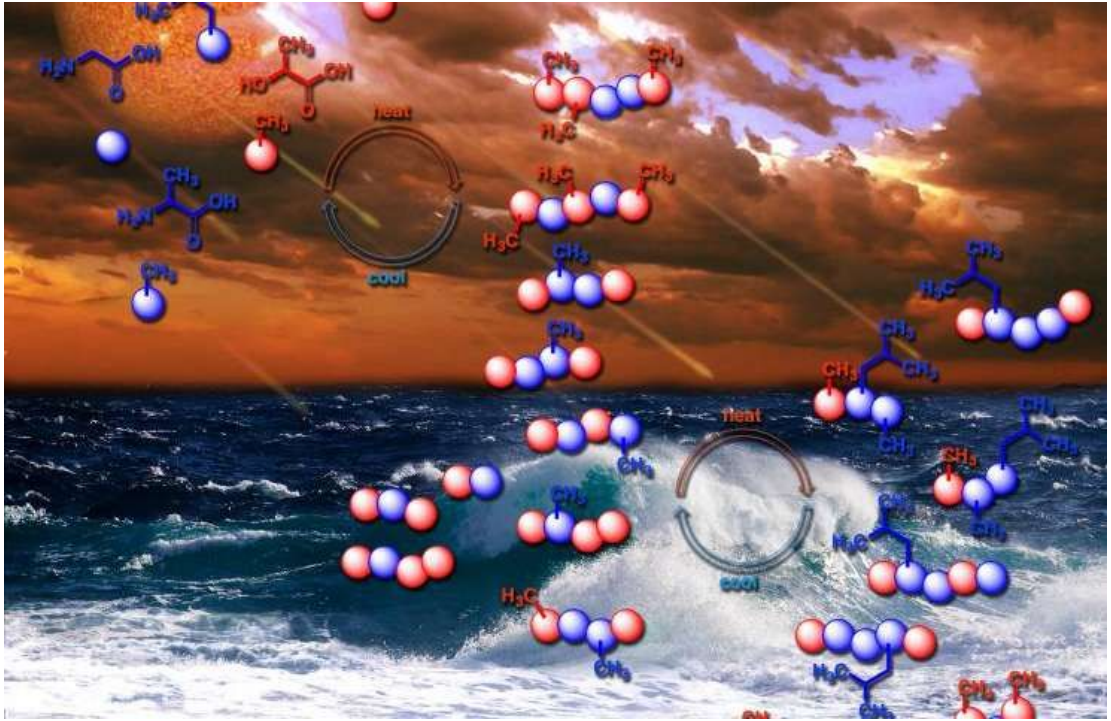
- Earth's first continents "micro continents"





Archean Eon

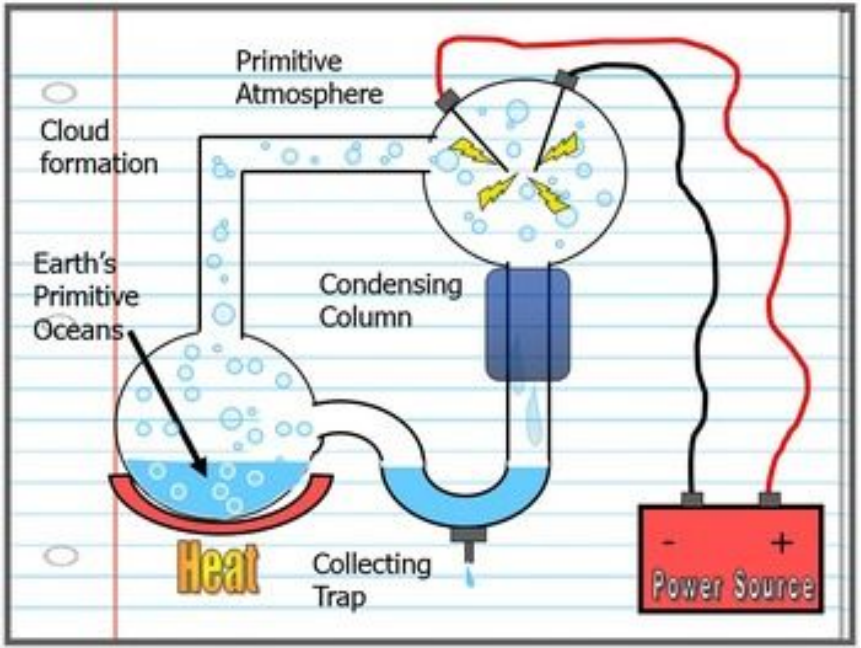
- Primordial Soup



Archean Eon

- Miller Urey Experiment

Methane+ ammonia+ hydrogen+ sparks = life



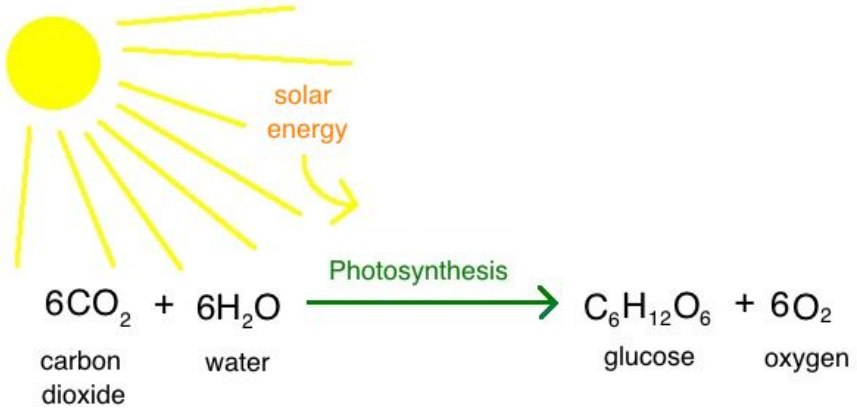
Archean Eon

- Archaebacteria

- Cyanobacteria

Archean Eon

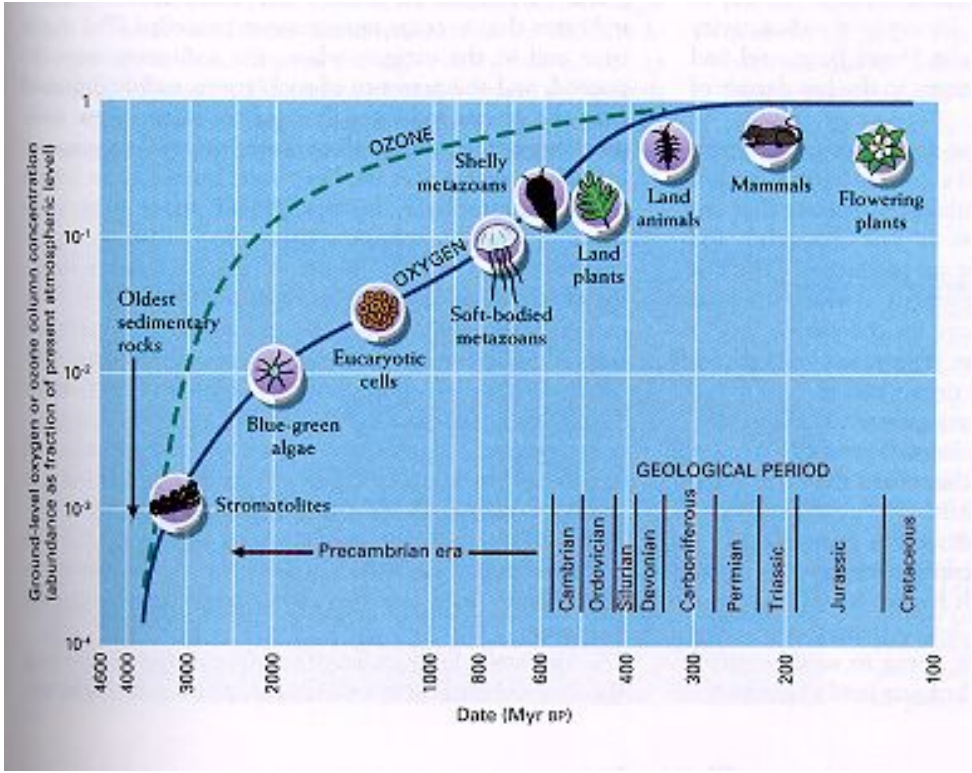
- Cyanobacteria can Photosynthesis!

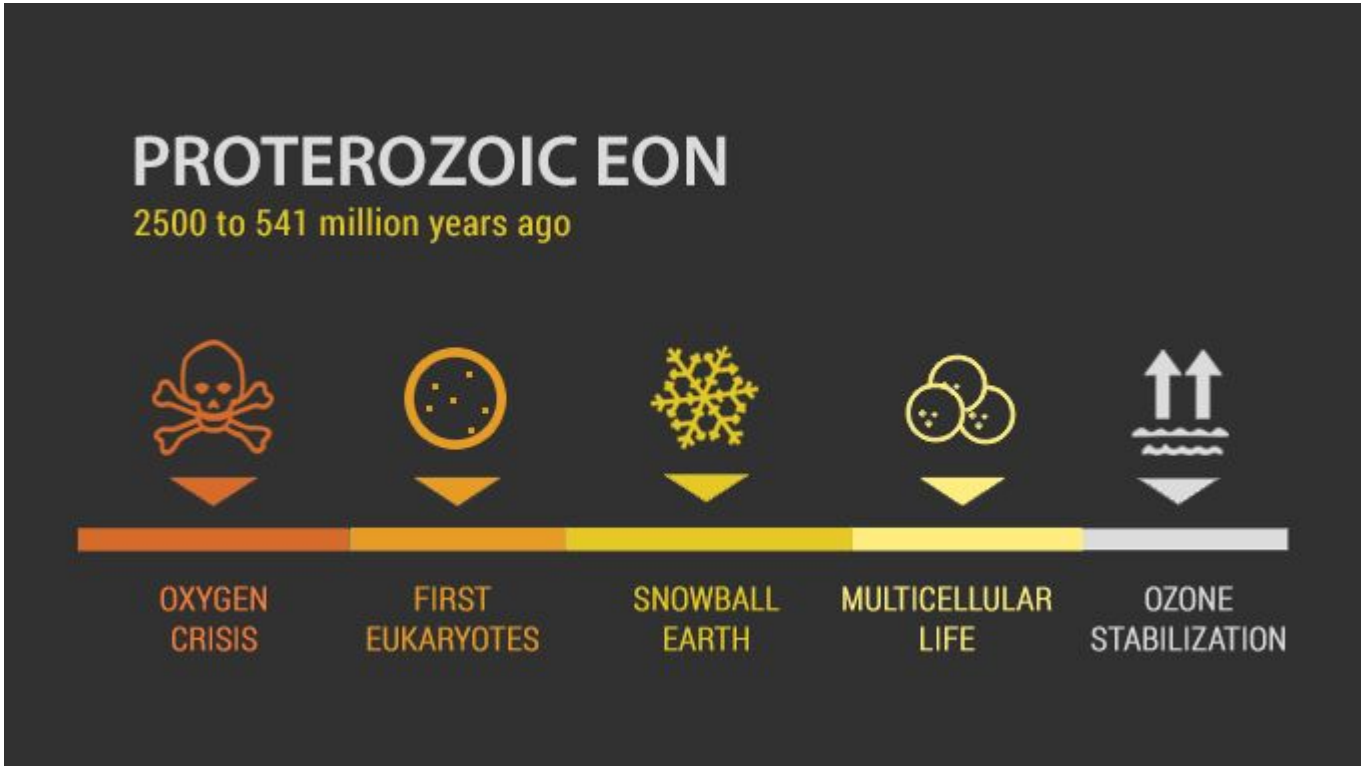


- Stromatolites

Archean Eon

- “The Great Oxygenation Event”

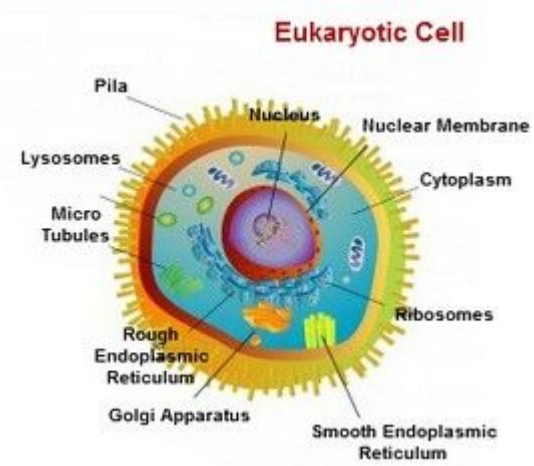



PROTEROZOIC EON
2500 to 541 million years ago
OXYGEN CRISIS
FIRST EUKARYOTES
SNOWBALL EARTH
MULTICELLULAR LIFE
OZONE STABILIZATION

Proterozoic Eon

- First Eukaryotic Cells

They have a Nucleus!

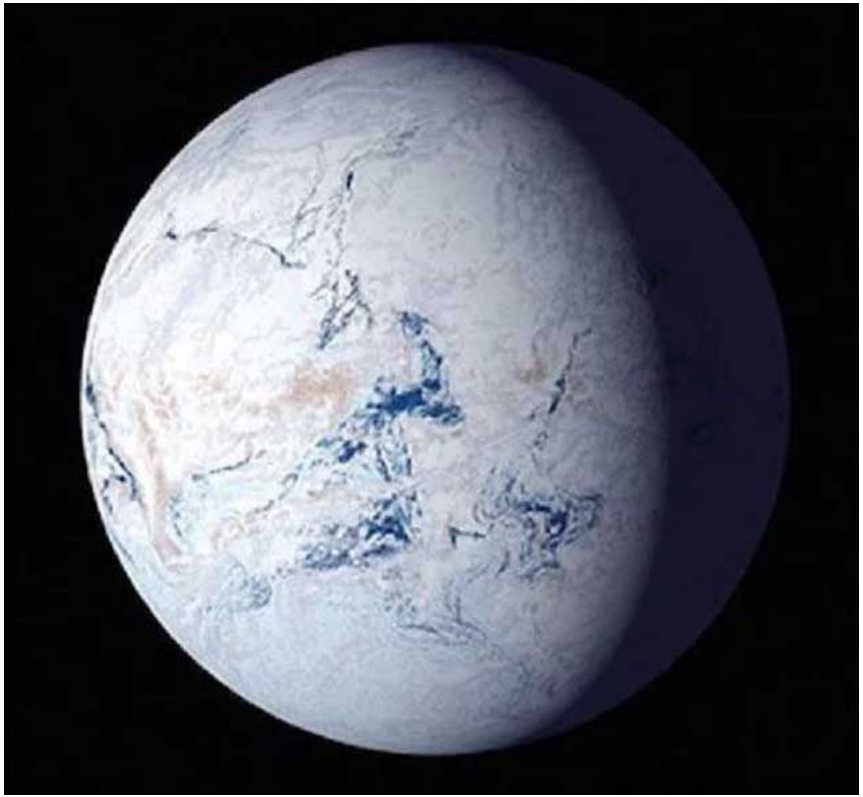


Proterozoic Eon

- First supercontinent “Rodinia”

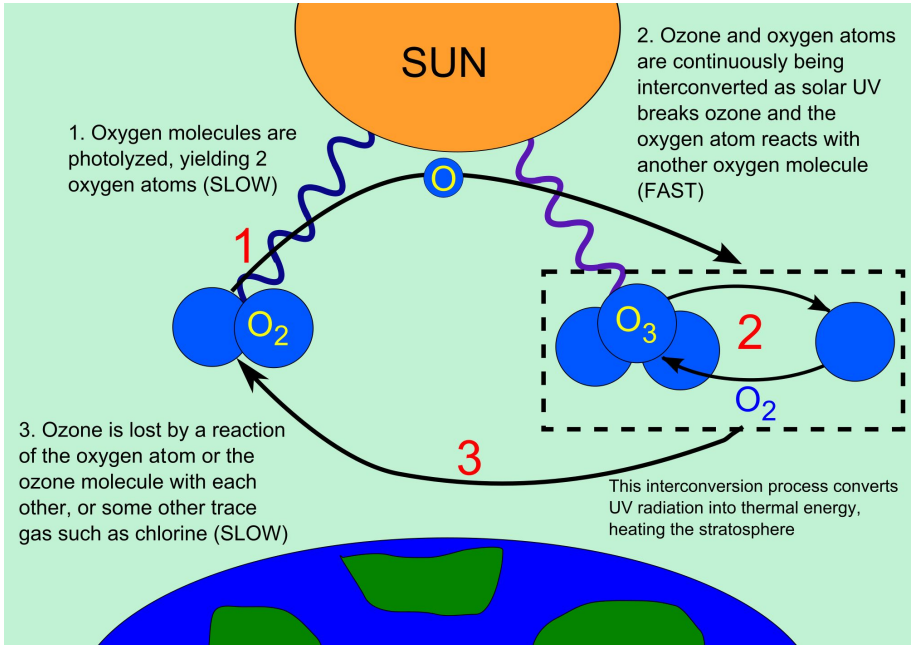
Proterozoic Eon

- Snowball Earth



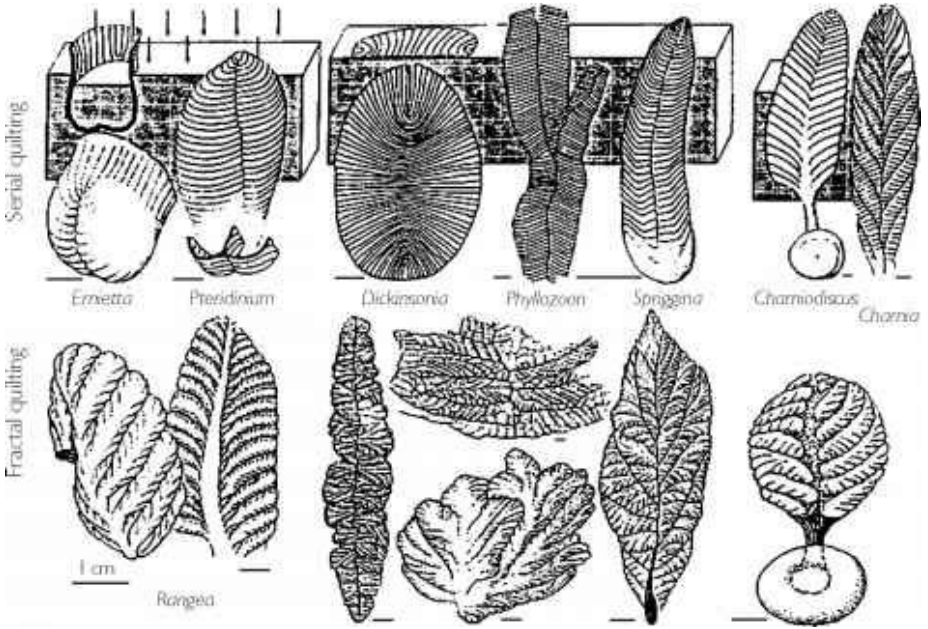
Proterozoic Eon

- Ozone Layer forms

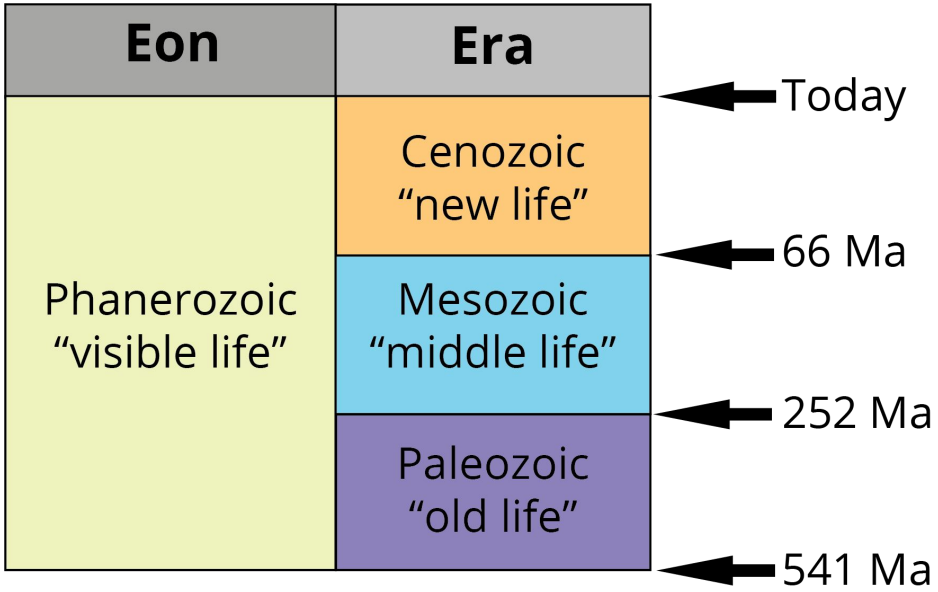


Proterozoic Eon

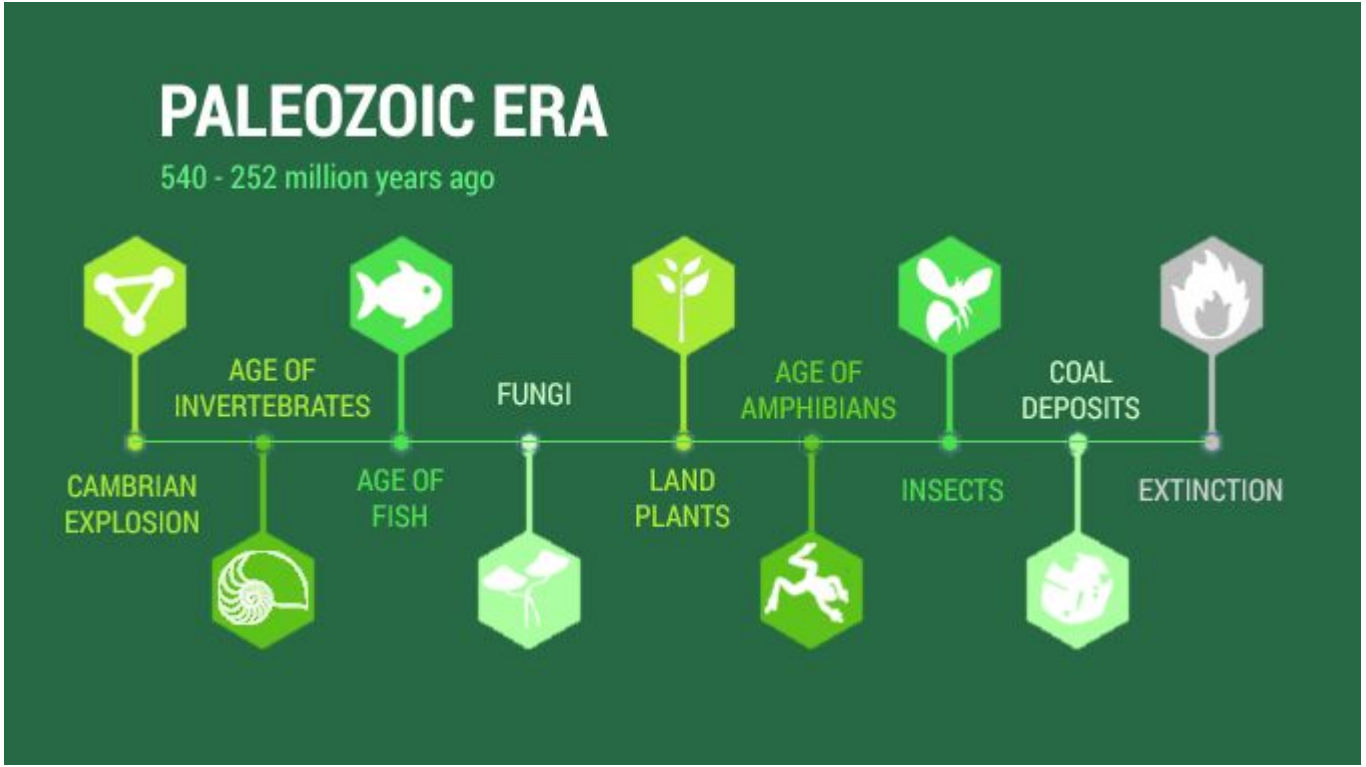
- The Ediacaran Fauna
- Earliest known complex multicellular organisms



Phanerozoic Eon

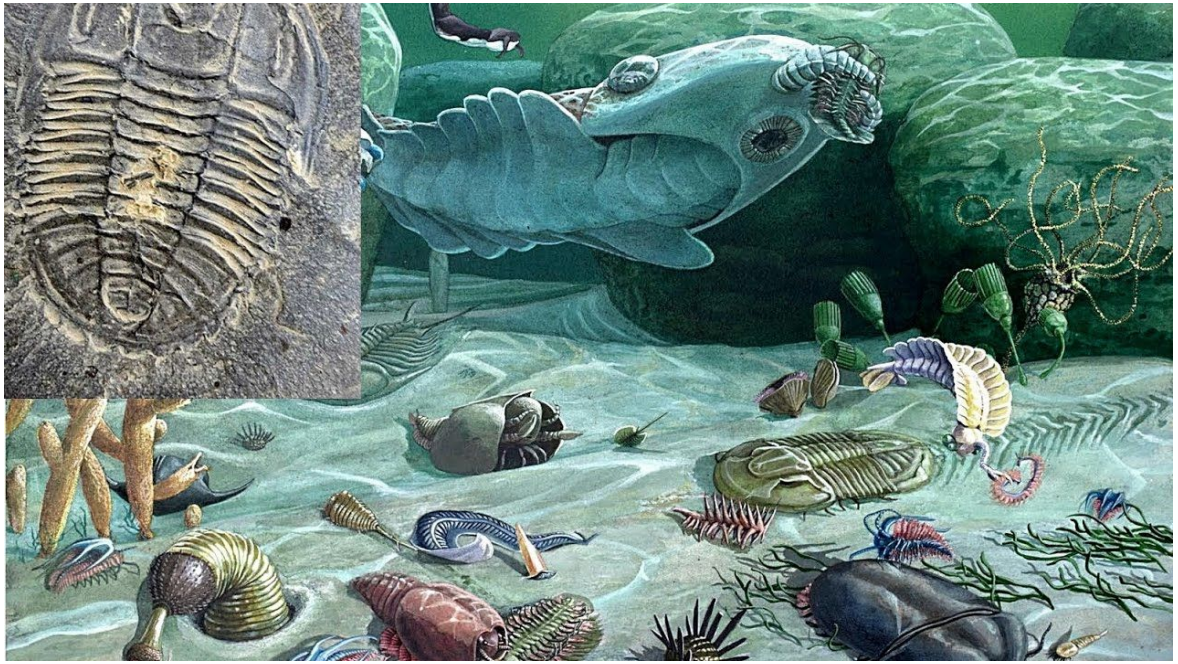


- Multicellular Life Begins on Earth


PALEOZOIC ERA
540 - 252 million years ago
CAMBRIAN EXPLOSION
AGE OF INVERTEBRATES
AGE OF FISH
FUNGI
LAND PLANTS
AGE OF AMPHIBIANS
INSECTS
COAL DEPOSITS
EXTINCTION

Paleozoic Era

- The Cambrian Explosion!

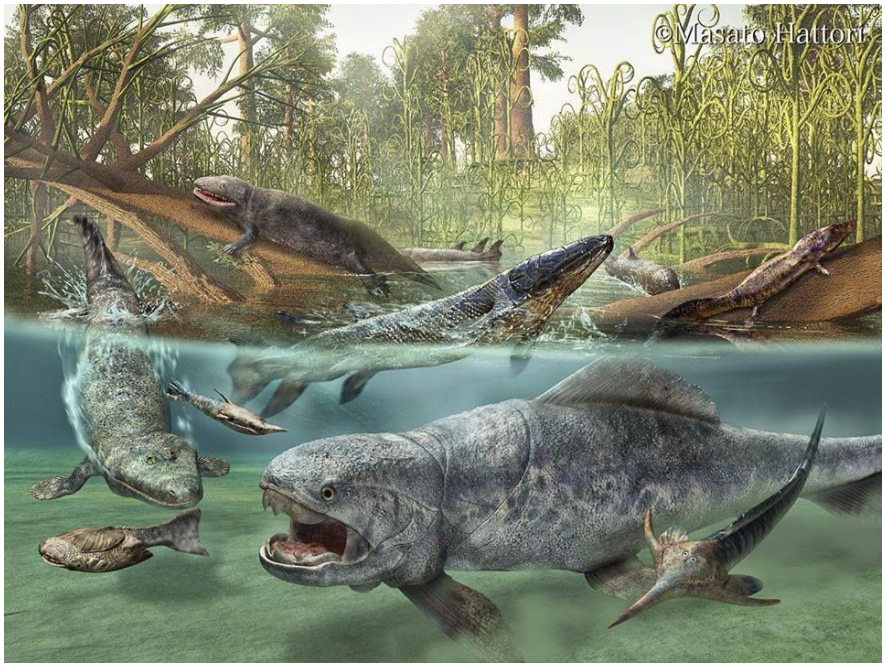


Paleozoic Era

- The Great Ordovician Biodiversification Event

Paleozoic Era

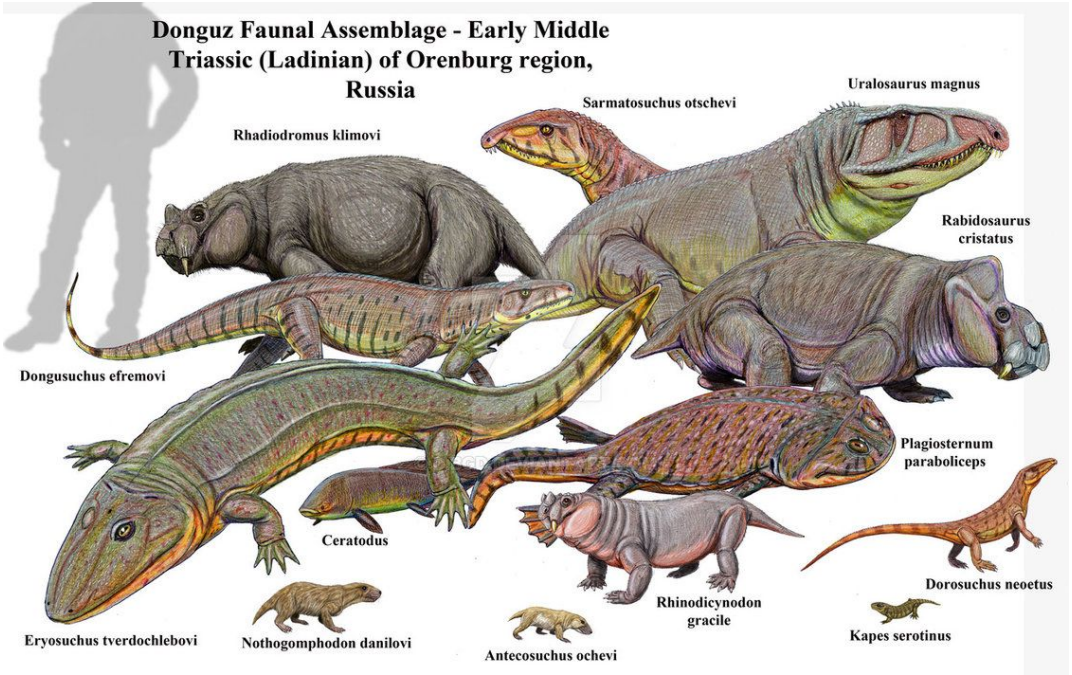
- The First:
  - Fish
  - Land Plants
  - Amphibians
  - Insects



MESOZOIC ERA
252 to 66 million years ago
AGE OF REPTILES
PANGEA
AGE OF CONIFERS
AGE OF DINOSAURS
BIRDS
SMALL MAMMALS
FLOWERING PLANTS

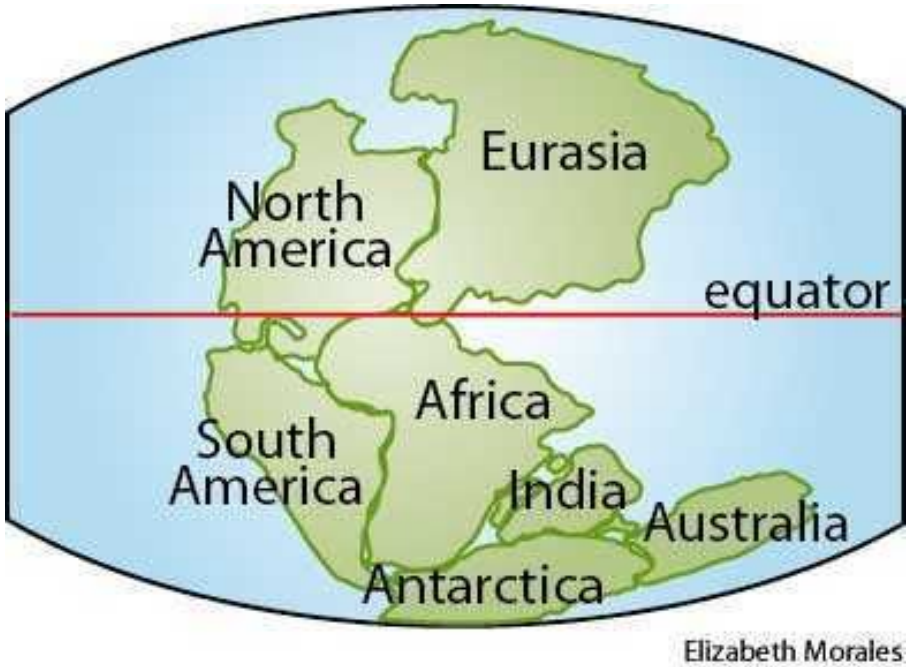
Mesozoic Era

- The “Age of Reptiles”



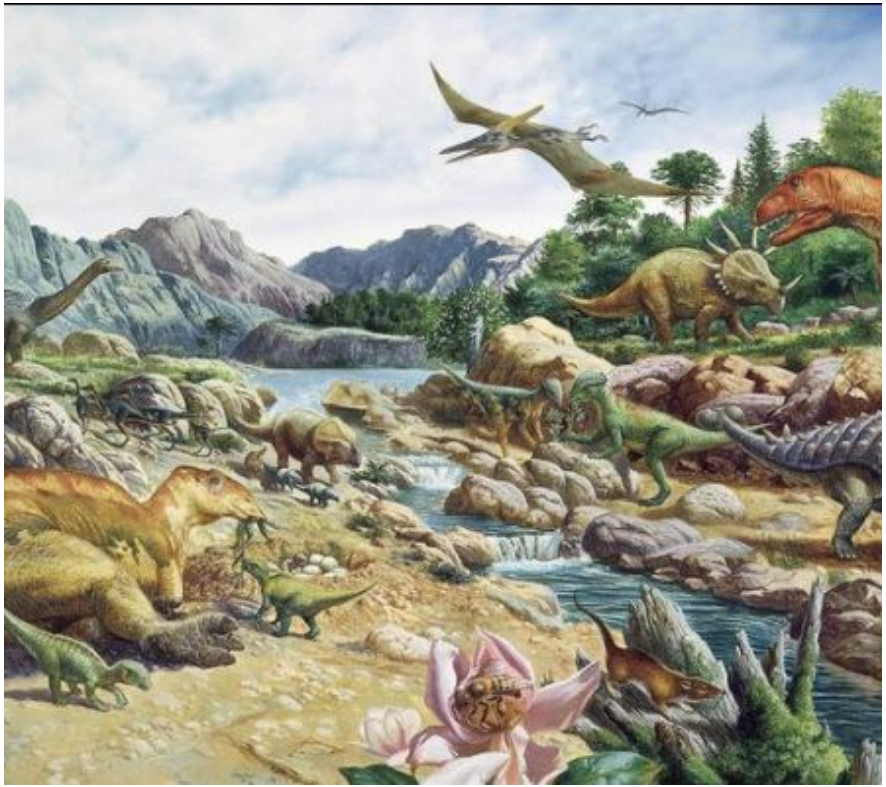
Mesozoic Era

- Pangaea

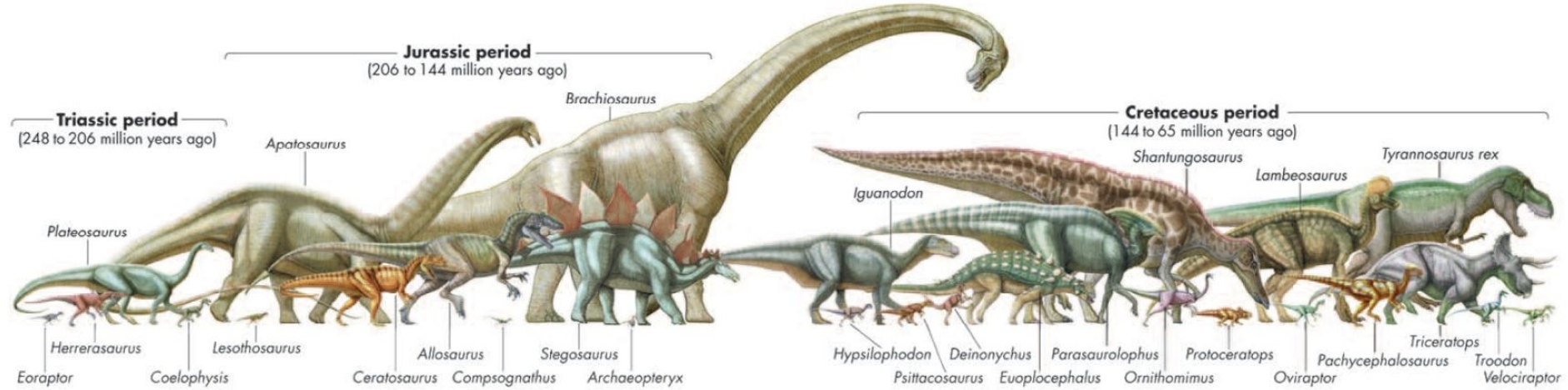


Mesozoic Era

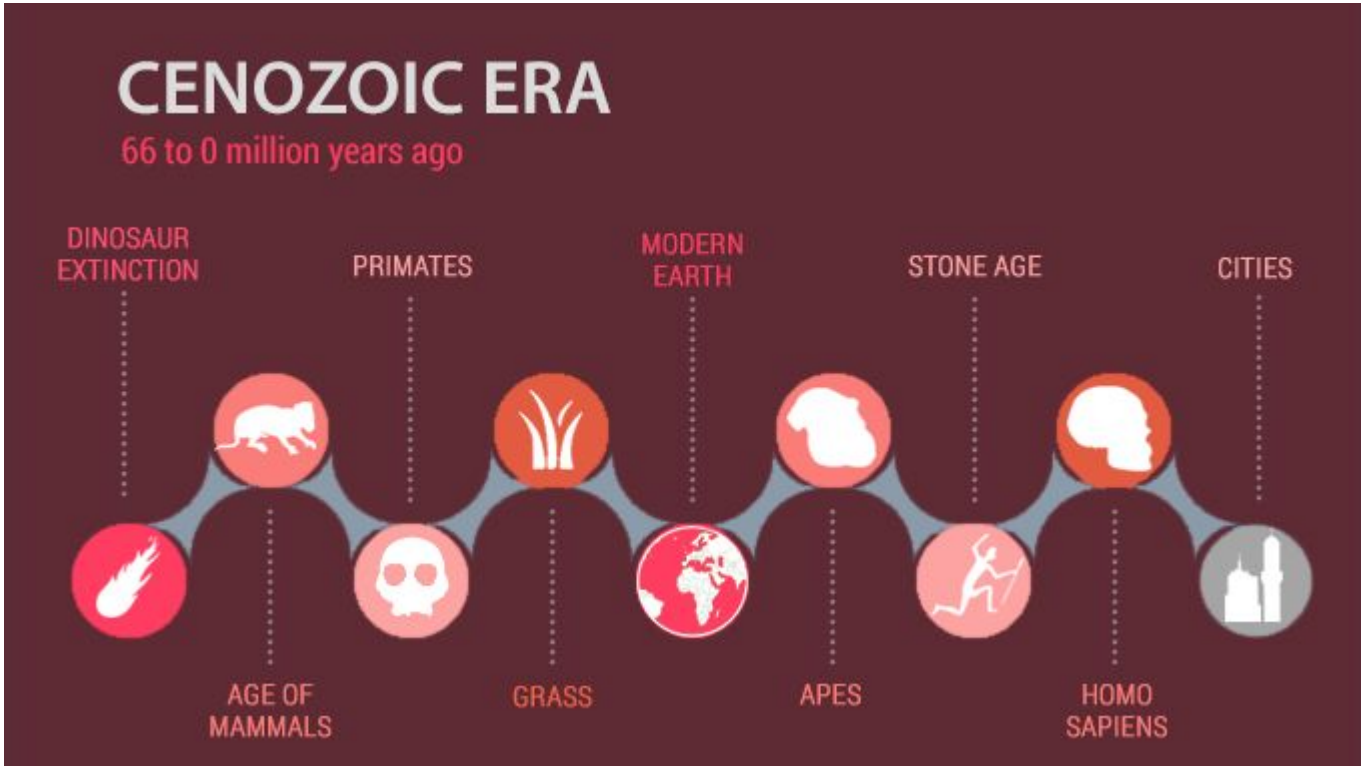
- The First
  - Conifers
  - Small Mammals
  - Birds
  - Flowering Plants



Mesozoic Era



- The Dinosaurs

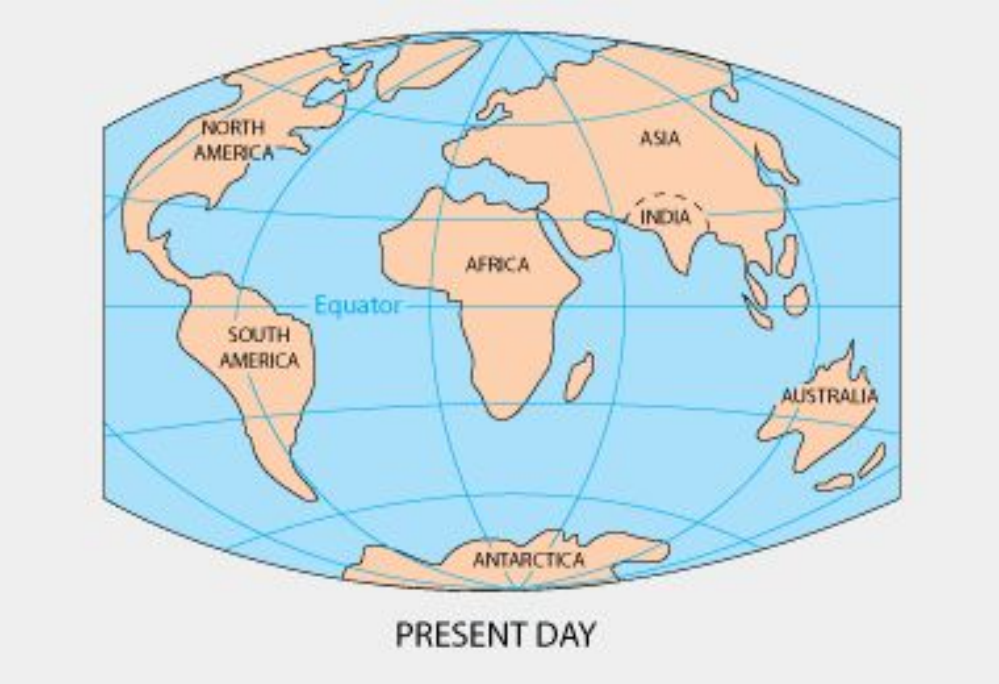

CENOZOIC ERA
66 to 0 million years ago
DINOSAUR EXTINCTION
AGE OF MAMMALS
PRIMATES
GRASS
MODERN EARTH
APES
STONE AGE
HOMO SAPIENS
CITIES

Cenozoic Era

- The “Age of Mammals”

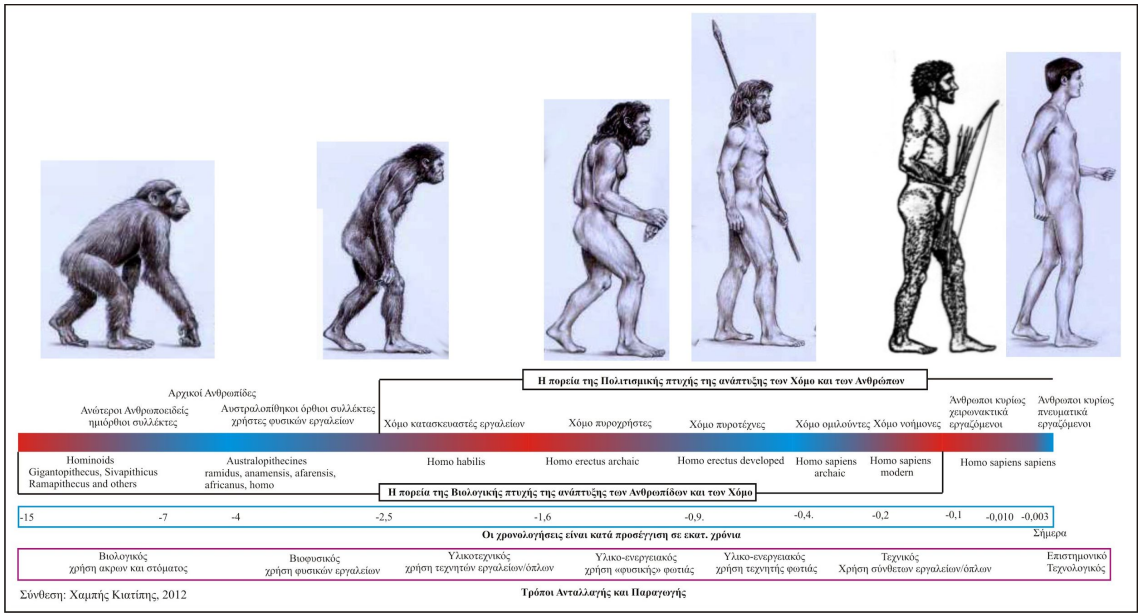
Proterozoic Eon

- Modern Earth



Proterozoic Eon

- Ice Ages

Proterozoic Eon

- Primates to Homo sapiens