

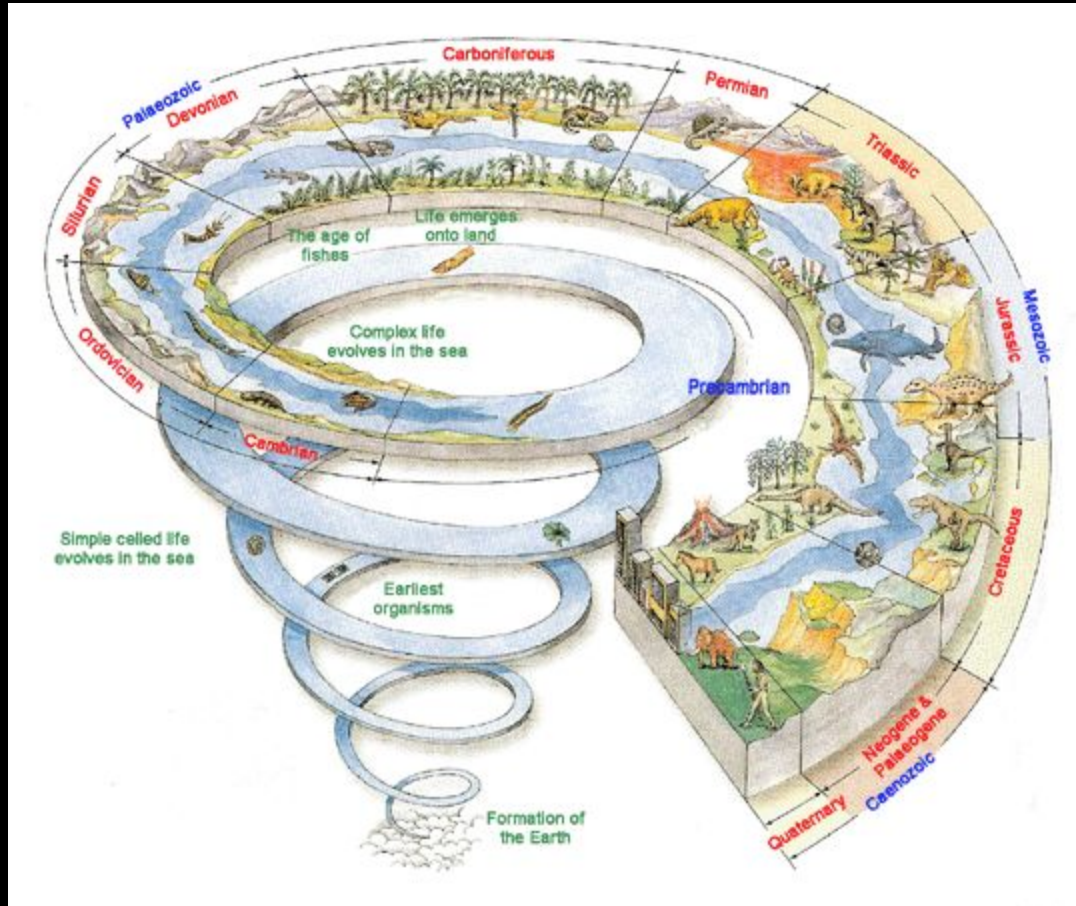
Geologic Time



Learning Objectives

- Describe Earth's early history
- Describe the characteristic forms of life in the Paleozoic, Mesozoic and Cenozoic eras

Geologic Time Scale



A record of life and events on Earth

Geologic Time Scale

EON	ERA	PERIOD	EPOCH	Ma		
Phanerozoic	Cenozoic	Quaternary	Holocene		0.01	
			Pleistocene		Late 0.8 Early 1.8	
		Tertiary	Neogene	Pliocene		Late 3.6 Early 5.3
				Miocene		Late 11.2 Middle 16.4 Early 23.7
				Oligocene		Late 28.5 Early 33.7
				Eocene		Late 41.3 Middle 49.0 Early 54.8
				Paleocene		Late 61.0 Early 65.0
			Mesozoic	Cretaceous		Late 99.0 Early 144
				Jurassic		Late 159 Middle 180 Early 206
				Triassic		Late 227 Middle 242 Early 248
				Permian		Late 256 Early 290
				Pennsylvanian		323
		Mississippian		354		
		Devonian		Late 370 Middle 391 Early 417		
	Silurian			Late 423 Early 443		
	Paleozoic	Ordovician		Late 458 Middle 470 Early 490		
		Cambrian		D 500 C 512 B 520 A 543		
		Precambrian	Proterozoic	Late		900
				Middle		1600
				Early		2500
		Archean	Late		3000	
			Middle		3400	
	Early		3800?			

EONS

ERAS

PERIODS

EPOCHS

Because the Earth is so old, a geologic time scale is used to show Earth's history.

Precambrian Earth

Asteroids and
meteors bombard
the surface

shallow seas form

bacteria-like
organisms
appear



Hot gases from
volcanos

Paleozoic Era:

544-245 mya



Diverse life appears and evolves

Cambrian Explosion



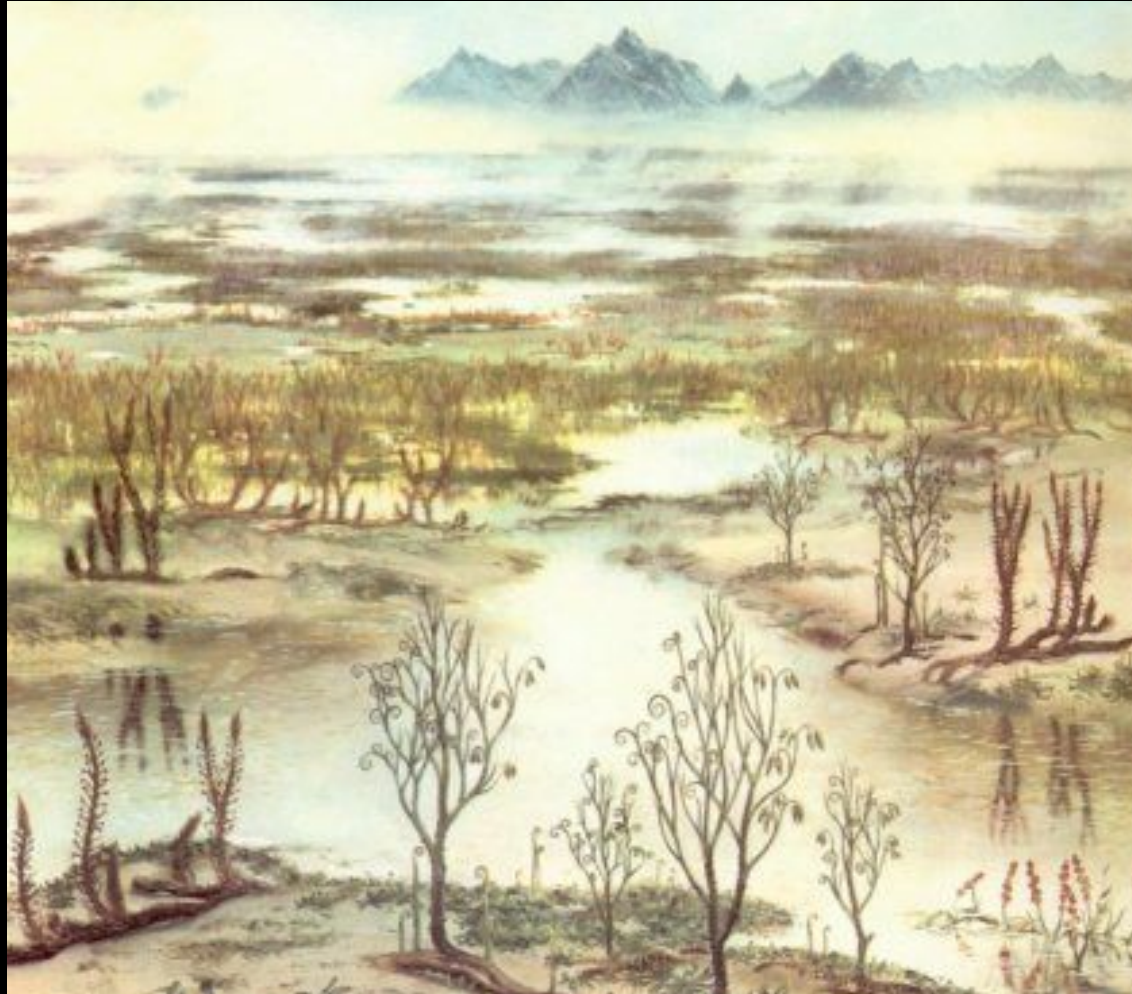
Many different invertebrate critters evolve

First Vertebrates



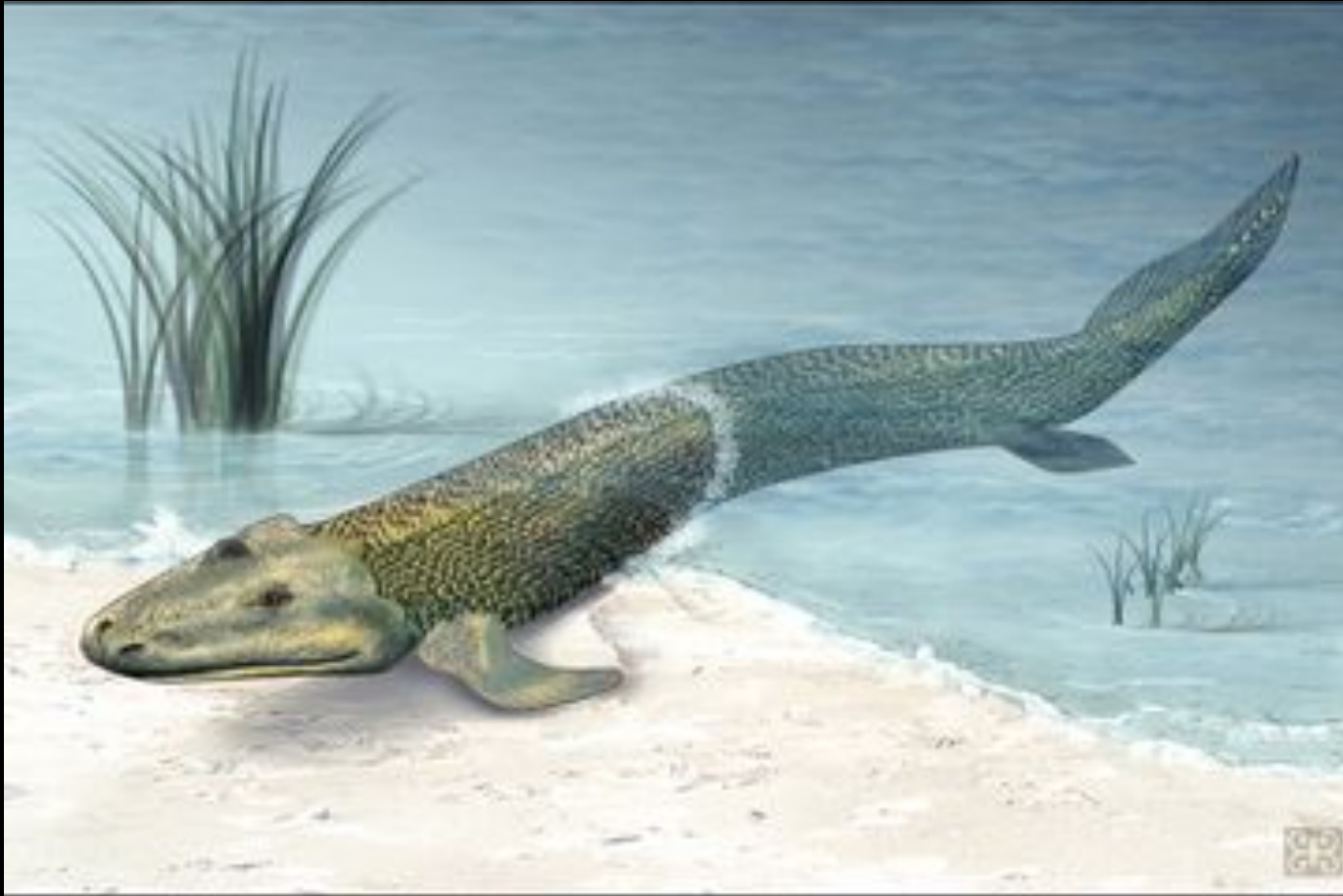
Ordovician Period: Jawless fish appear

Silurian Period



Life reaches land, plants become abundant

Devonian Period



Animals invade the land, amphibians evolve

Permian Era



Pangaea supercontinent is formed

First Mass Extinction



First mass extinction marks the end of the Paleozoic Era

The Mesozoic Era:

245 – 66 mya



Age of the Dinosaurs

Triassic Period



Plants and animals that survived the mass extinction include insects, fish, reptiles, mammals and cone bearing trees

Jurassic Period



Dinosaurs become the dominant animal

Cretaceous Period



Flying reptiles and birds compete for places in the sky

Mass Extinction #2



End of the 65 million year dinosaur age

Cenozoic Era

66 mya - present



Age of the mammals

Tertiary Period



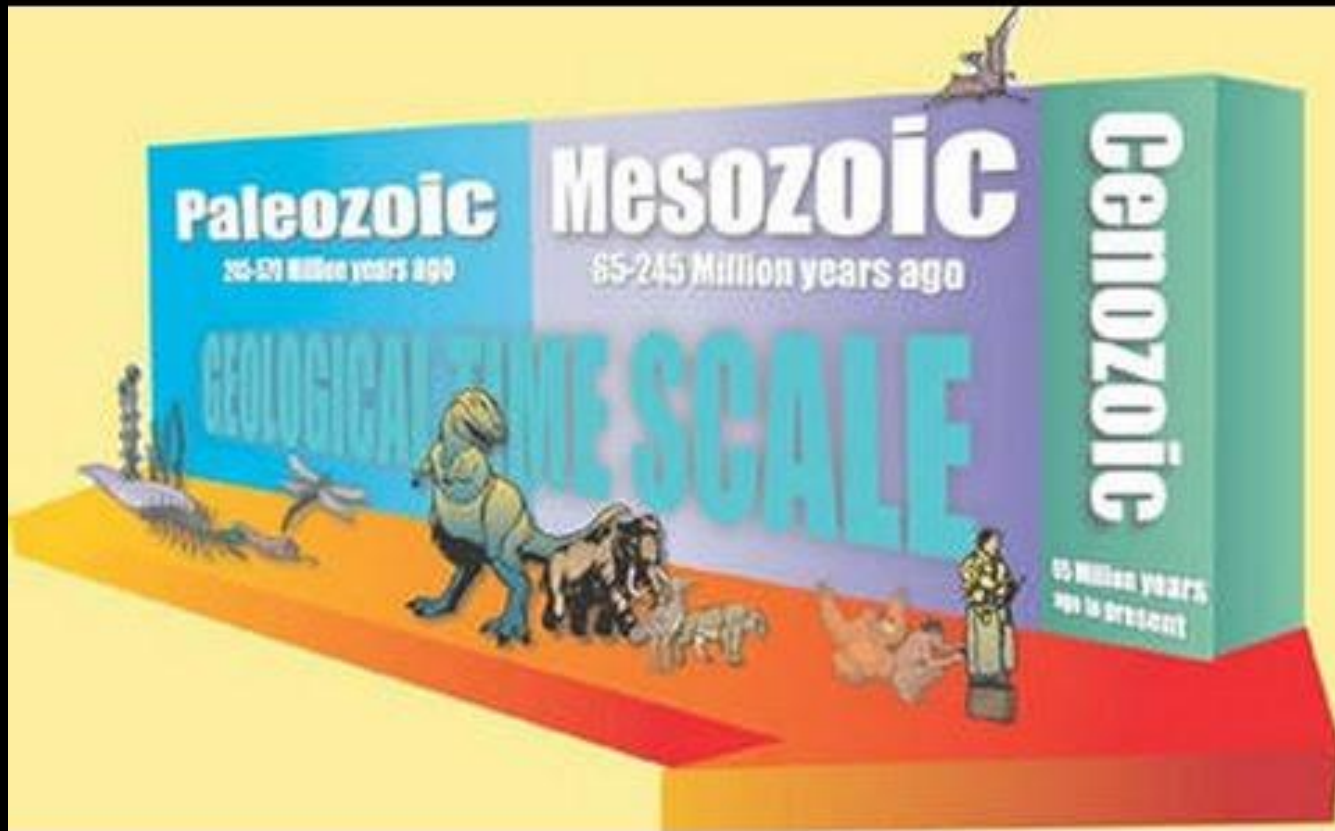
Warm climates, evolving marine animals,
and flowering plants

Quaternary Period



Changing environment, large mammals,
ice ages, and homo sapiens

YouTube Geologic Time Scale



Stop Here

