

Geological Time Scale

Era	Period	Epoch	mya	Characteristic Life
Cenozoic	Quaternary	Holocene (Recent)	0.01	Culmination of mountain building Followed by erosion and moderate, short-lived invasions of continental margins by the seas. Rise of modern plants, animals, and man. Evolution of humans during the last 5-8 million years. Transition from archaic mammals to modern orders and eventually families. Early warming trends were reversed by the middle of the period to cooler and finally to glacial conditions.
		Pleistocene	1.8	
	Tertiary	Pliocene	5.3	
		Miocene	23.7	
		Oligocene	36.6	
		Eocene	57.8	
		Paleocene	66.4	
Mesozoic	Cretaceous		144	Extensive mountain building at the end, climate cooled worldwide. Extinction of archaic birds and many reptiles by the end of this period.
	Jurassic		208	First reptilian birds. Reptilian diversity was high in all habitats. Climate was warm and stable with little seasonal variation.
	Triassic		245	Earliest dinosaurs, flying reptiles, marine reptiles. Primitive mammals appeared. Continents were high with few shallow seas. Climate warm.
Paleozoic	Permian		286	Rise of primitive reptiles. Extinction of the trilobites. Climate was cold at the beginning but warmed progressively. Widespread extinctions at the end of this period.
	Pennsylvanian		330	Earliest know insects, large arthropods. Climate generally warm and humid. Extensive coal producing swamps. Many specialized amphibians and the first appearance of reptiles.
	Mississippian		360	Extinction of some fish lineages expansion of others. Beginning of large coal production swamps. Extensive radiation of amphibians.
	Devonian		408	Explosion of fish and disappearance of many jawless varieties. First winged insects and tetrapods. Land was higher climate cooler.
	Silurian		438	Earliest know land animals. Primitive plants. Rise of fishes. Abundant trilobites.
	Ordovician		505	Earliest know vertebrates. Primitive plants. Trilobites and cephalopods abundant.
	Cambrian		550-590	Extensive shallow seas. Brachiopods and trilobites common.
Precambrian	Proterozoic		2,500	Primitive water dwelling plants and animals. Changes in the lithosphere produced major land masses and shallow seas.
	Archean		4,600	Oldest know life (mostly indirect evidence). Formation of the earth and slow development of the lithosphere, hydrosphere and atmosphere. Development of life in the hydrosphere.

Adapted from Pough, F. H. 1996. Vertebrate life, 4th ed. Prentice Hall. Upper Saddle River, NJ.