



Pre-historic Timeline - Defined from an Evolutionary Biology Perspective

Prehistory is a very generalized term that one could use to define events that took place **prior to the invention of writing**, which describes a very massive period of time. For better comprehension, the history of the earth as a whole is divided into **eons**, which are divided into **eras**, which themselves can be divided into **periods** and furthermore into **epochs**.

The history of the earth is divided into 4 eons.

Hadean - from the formation of the earth 4.6 billion years ago to 4 billion years ago

Archean - lasted until 2.5 billion years ago, the crust of the earth cooled down and the first single-celled lifeforms started to appear.

Proterozoic - from the end of the Archean until 541 million years ago and saw the rise of eukaryotes and even primitive multi-cellular life.

Phanerozoic - lasts until this day and is divided into time periods

These eons are further divided into eras:

EON	ERA	Date*	PERIOD
PHANEROZOIC	CENOZOIC	2.6	QUATERNARY
		23	NEOGENE
		66	PALAEOGENE
	MESOZOIC	145	CRETACEOUS
		201	JURASSIC
		252	TRIASSIC
		299	PERMIAN
	PALAEOZOIC	359	CARBONIFEROUS
		419	DEVONIAN
		444	SILURIAN
		485	ORDOVICIAN
		541	CAMBRIAN
PROTEROZOIC (part)	NEOPROTEROZOIC (part)		

Based on The Geologic Time Scale 2012 by F M Gradstein, J G Ogg, M Schmitz and G Ogg (2012), with additions, image from the British Geological Survey

The **Paleozoic** is assumed to have started with the Cambrian Explosion, which saw a massive increase in the diversity of multi-celled lifeforms. The **Paleozoic** was when there was a rise of arthropods, fish, amphibians, and reptiles (including the ancestors to mammals, the synapsids). Again, each of these periods is further divided into multiple epochs.

The **Mesozoic** is known as the age of the dinosaurs and well known for its 3 periods: the Triassic, the Jurassic, and the Cretaceous. The extinction of the non-avian dinosaurs 66 million years ago through a meteor impact signals the end of the Mesozoic and the start of the **Cenozoic**, the “Age of Mammals”.

These groupings are according to paleontologists’ distinctions due to their findings and their interpretation/understanding of such findings.

*Purpose of this document is to just present the concept of deep time and large periods of time. The actual divisions are not as significant.