

Permian Period -- for the province of Penn in the Ural mountains of Russia. Geologic conditions: continents rose; Appalachians formed; increasing glaciation and aridity. Plant life: decline of lycopods and horsetails. Animal life: many ancient animals died out; primitive mammal-like reptiles and modern insects arose.

MESOZOIC ERA (Age of Reptiles) -- Separated by a major nonconformity from the Paleozoic. Divided into three periods of geologic time:

Triassic Period -- from the Latin word *trias* meaning "three," referring to the natural threefold division of these rocks in Germany into the Bunter, the Muschelkalk, and the Keuper. Geologic conditions: continents exposed; widespread desert conditions; many land deposits. Plant life: gymnosperms dominant, declining toward end; extinction of seed forms. Animal life: first dinosaurs, pterosaurs and egg-laying mammals; extinction of primitive amphibians.

Jurassic Period -- for the Jura mountains between France and Switzerland. Geologic conditions: continents fairly high; shallow seas over some of Europe and western United States. Plant life: increase of dicotyledons; cycads and conifers common. Animal life: earliest known bird, archaeopteryx, with reptilian affinities. Sharks and modern fishes abundant. Specialization of the reptiles, including ichthyosaurs (fish lizards), plesiosaurs (marine lizards), teleosaurus (ancestral crocodiles), pterosaurs (flying reptiles); and a number of terrestrial herbivorous and carnivorous dinosaurs, such as diplodocus, stegosaurus, ceratosaurus, and allosaurus. Reptilian-like and egg-laying mammals, including insectivores and marsupials.

Cretaceous Period -- from the Latin word *creta* meaning "chalk"; refers to chalky limestones such as those exposed in the White Cliffs of Dover on the English Channel. Geologic conditions: Andes, Alps, Himalayas, Rockies formed late; earlier, inland seas and swamps; chalk, shale deposited. Plant life; first monocotyledons; first oak and maple forests; gymnosperms declined. Animal life: dinosaurs reached peak, became extinct; toothed birds became extinct; first modern birds; archaic mammals common.

CENOZOIC ERA (Age of Mammals) -- Separated by a major nonconformity from the Mesozoic. Divided into two periods of geologic time:

Tertiary Period -- Implying "third division," from an outdated system of dividing all of the earth's rocks into four groups. The Primary and Secondary divisions of this system have been abandoned, but the Tertiary and Quaternary divisions still persist. The Tertiary Period is further subdivided into five epochs: