

years, however, geologic time units are arbitrary and of unequal duration; the geologist cannot be positive about the exact amount of time involved in each unit. The time scale does, however, provide a standard by which he can discuss the age of the rocks and the fossils they contain."

-- William H. Matthews III., *Fossils* (New York: Barnes & Noble, Inc., 1962), pp. 30-32.

The geologic time scale is divided by a number of time units, classified as follows:

<u>TIME SCALE CATEGORIES</u>	<u>ROCK SCALE EQUIVALENTS</u>
Era	Group
Period	System
Epoch	Series
Age	Stage

"...it has been possible to determine the sequence in which the various strata of the earth's surface have been laid down, from very ancient rocks right up to those of very recent origin. Particular strata are identifiable not only by the fossils which they contain. Thus it has been possible to divide geological time into a series of eras, the sequence of which is undoubted. The first two eras, the Archeozoic and the Proterozoic, are not of great interest for the present discussion, because the rocks deposited in these eras contain very few fossils, and those are generally of doubtful character. During the Paleozoic Era, fossils were deposited in great abundance, but only archaic types were present. At first, only invertebrates were represented, but fishes, amphibians, and finally reptiles made their appearance during the Paleozoic Era. The next great era was the Mesozoic, or Age of Reptiles, during which birds and small mammals also arose. Finally, the Cenozoic Era, which is still in progress, has been marked by the rise to dominance of the mammals and man." (Edward O. Dodson)

THE GEOLOGIC TIME SCALE

The names and meaning of the units of the geologic time scale are given below, beginning at the bottom of the geologic column:

ARCHEOZOIC ERA (Archean era) -- Oldest known rocks. Highly metamorphosed equivalents of all types of sedimentary and igneous rocks; but predominance of the latter. No fossils. Divided into:

Keewatin Period -- Preponderance of metamorphosed basaltic (basic) lava flows and tuffs with some metamorphosed sediments.

Laurentian Period -- Preponderance of granitic (acid) gneisses and schists in the form of batholiths intruding the Keewatin.