**Geologic Time:**

**Unit 2: Earth’s History**

**Mini-Unit:** Geologic Time

**Goal 4**:The student will demonstrate the ability to use geologic dating principles to determine the sequence of events making up a core sample, rock column, or cross section

**Objectives – The student will be able to:**

* Create a geologic time scale (using eras, periods, and epochs) that shows the major geologic and biologic events, including human’s place in the time continuum
* Interpret the geologic history of an area using geologic maps, rock outcrops, and core samples
* Describe how progressive changes in fossil evidence can be used to document the evolution of life

**Textbook:** Unit 3, Chapter 9, pg. 210

Geologic History of Earth:

Determined by major changes in the Earth’s surface, climate, and types of organisms

Era: A unit of geologic time that contains two or more periods

Period: A unit of geologic time that is longer than an epoch but shorter than an era

Epoch: A unit of geologic time that is longer than an age but shorter than a period

|  |  |  |
| --- | --- | --- |
| Era | Period | Epoch |
| Epoch |
| Period | Epoch |
| Epoch |

Age of the Earth = 4.6 Billion Years Old

Precambrian Era: 4.6 Billion to 542 Million Years Ago

* 88% of the Earth’s History
* Very little is known because rock layers have been eroded and deformed by plate tectonics
* Period during which the atmosphere and as a result life originated

Paleozoic Era: 542 Million to 251 Million Years Ago

* Continents went from separate to Pangea during this time period
* Far richer in plant and animal life
* Vertebrates such as fish, reptiles, and amphibians developed
* 90% of marine and 70% of land life died at end of era

Mezozoic Era: 251 Million Years Ago to 65.5 Million Years Ago

* Continents began to drift apart
* Age of Reptiles including dinosaurs
* Mass extinction at end, possibly by an asteroid
* Flowering plants began to develop

Cenozoic Era: 65.5 Million Years Ago to Present

* Temperatures decreased
* Age of mammals
* Fossils of first humanoids began to develop