**Geologic time**- Earth’s history is divided into time units that make up the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Time units on the scale are based on\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Example:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, a type of index fossils that live during specific periods of time.



 When did they appear?



 When did they go extinct?

Geologic time is divided into \_\_\_\_\_major subdivisions:

**Eons** - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Eras** - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Periods** - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Epochs** - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The fossil record indicates that species have \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_ over time.

Charles Darwin is responsible for proposing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ explains how continents moving throughout time have influenced the environments of past organisms.

**Mass Extinction** - periods in Earth's history when abnormally \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ simultaneously or within a limited time frame.

* + The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is marked by a Mass Extinction.
	+ The most severe occurred at the end of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Era when 96% of all species perished.



**Major Events of the Geologic Time Scale**

|  |
| --- |
| **Precambrian Time** **4 billion - 540 million years ago*** Very \_\_\_\_\_\_ fossils remain from this time.
	+ Many Precambrian rocks were deeply buried, causing the fossils in them to be changed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Most Precambrian organisms lacked \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
	+ Cyanobacteria are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, one of the earliest life forms to appear.
 |
| **Paleozoic Era****540 - 245 million years ago*** + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with shells evolved in the warm, shallow seas.
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ evolved to survive in water and on land.
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ evolved from amphibians to survive farther from water.
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ caused mountains to form as \_\_\_\_\_\_\_\_\_\_\_\_ comes together.
	+ Most marine species became extinct at the end of the Paleozoic Era.
	+ **Mass Extinction = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
 |
| **Mesozoic Era****245 - 65 million years ago*** + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ separated into continents and the climate became \_\_\_\_\_\_\_\_.
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ dominate.
	+ \_\_\_\_\_\_\_\_\_\_\_ appear during the Jurassic Period.
	+ Small, mouse-like \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_appear in the Triassic Period.
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ appeared during the Cretaceous period.
	+ Due to extreme climate change from volcanic activity and meteors, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_die off.
	+ **Mass Extinction = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
 |
| **The Cenozoic Era** **65 million years ago - present day*** + Many \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ranges formed.
	+ Colder climates; 3 Major \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ occur during this Era.
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ continued to evolve.
	+ Many species became \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as the continents continued to separate.
	+ Fossils of *homo sapiens* (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) show their appearance about 400,000 years ago.
 |