

Name _____ Date _____ Class _____

Deep Time: How Old is the Earth? Part Three

Geological Time Scale

1. Choose 5-10 significant Earth events and complete the chart below. Make sure the events represent all categories (geologic, life, and other). You will share your selections and description of the eon/era with the class.

Significant Earth Event	Category of event (geologic, life, other)	Year(s)	Scale measurement

2. Construct a brief (less than three sentence) description of your eon/era. (This will be shared with the class.)

3. Use a piece of scratch paper to calculate the distance along the class timeline that each event will fall. If the string is 4.6 meters long then:

- 1 meter = 1,000,000,000 or 1 billion years
- 1 cm = $\frac{1,000,000,000 \text{ years}}{10}$ = 10,000,000 or 10 million years
- 1 mm = $\frac{1,000,000,000 \text{ years}}{100}$ = 1,000,000 or one million years

Example: 250 million years ago, Permian Extinction - 95% of marine and 70% of terrestrial species go extinct

$$\frac{250,000,000 \text{ million years}}{10,000,000 \text{ million year/cm}} = 25 \text{ centimeters}$$

Geologic Time Scale Chart

Eon	Era	Period	Epoch	m.y.
Phanerozoic	Cenozoic	Quaternary	Holocene	1.5 23 65 250
			Pleistocene	
		Neogene	Pliocene	
			Miocene	
			Oligocene	
		Paleogene	Eocene	
			Paleocene	
			Mesozoic	
		Jurassic		
	Triassic			
	Paleozoic	Carboniferous	Permian	540
			Pennsylvanian	
			Mississippian	
		Devonian		
		Silurian		
		Ordovician		
		Cambrian		
		Precambrian	Proterozoic	
	Archean		3800	
Hadean			4600	

Personal Time Scale, Part Two

1. Look back at the significant life events you identified on page 1 and how they fall along the vertical time line. Can you organize those events similar to how the geologic time scale is organized?
 - Give each “era” a name which characterizes your life events.
 - Divide each era into two or more periods if necessary and provide a description for each.

Note: Choose events you are comfortable sharing with other people.

Era	Period	Description

2. What characteristics and/or events determined the differences between eras and periods in your personal time scale?

3. How does that compare to how eras and periods are differentiated on the geologic time scale?
