

Timeline of the Last Billion Years

Overview: This is the graded part of the assignment. You did the first 3.6 billion years will as a group. Each one of you will be creating a timeline of the most recent billion years (1.0 meter).

Materials

- ◆register tape (1.0 meter)
- ◆Geologic time scale (separate handout)
- ◆meter stick / ruler
- ◆pencil and marking pen (like an ultra-fine point sharpie)
- ◆colored pencils

mya = millions of years ago
my = million years
bya = billions of years ago

Scaling the timeline

1.0 m = 1 billion years ; 1 centimeter = 10 million years; 1 millimeter = 1 million years

Individual Timeline Procedure

1. On your own, measure out a 1.0 m piece of wide register tape. Put your name and period on the back.
2. Label the **right** end of your register tape as PRESENT DAY. Label this vertically.
3. Add two 1 cm bars to the bottom of your timeline.
4. Using the scale above, make a small mark at each 100 million years going back in time. This is the same scale.
5. Add the periods and eras to your timeline. Color each period and era. Avoid using similar colors near each other.
6. Add the events from the *Precambrian* reading to your timeline.

individual example		
-600 mya (ex)	example event label	
Proterozoic	1 cm	Cambrian
Precambrian	1 cm	Paleozoic

Geologic Time Scale

Era	Period	Time (approximate)
Cenozoic		Present - 65 mya
	Quaternary	Present - 1.6 mya
	Tertiary	1.6 mya - 65 mya
Mesozoic		65 mya - 250 mya
	Cretaceous	65 mya - 146 mya
	Jurassic	146 mya - 200 mya
	Triassic	200 mya - 250 mya
Paleozoic		250 mya - 540 mya
	Permian	250 mya - 300 mya
	Carboniferous	300 mya - 359 mya
	Devonian	359 mya - 416 mya
	Silurian	416 mya - 445 mya
	Ordovician	445 mya - 490 mya
	Cambrian	490 mya - 540 mya
Precambrian		540 mya - 4600 mya (4.6 bya)
	Proterozoic	540 mya - 2500 mya
	Archean	2500 mya - 3800 mya
	Hadean	3800 mya - 4600 mya

Evolution: Analyze and interpret the existence, diversity, extinction and change in life forms throughout the history of Earth

Highly Proficient (4)	Proficient (3)	Close to Proficient (2)	Developing (1)
Proficient, plus: <input type="checkbox"/> Timeline of human history is complete and final draft quality <input type="checkbox"/> Event and adaptation explanations are complete. <input type="checkbox"/> Product teaches us about the topic	<input type="checkbox"/> student understands the basic development of life on Earth <input type="checkbox"/> analysis questions are complete and most show thought. <input type="checkbox"/> Information is mostly correct <input type="checkbox"/> Timeline is Proficient quality	<input type="checkbox"/> Student has some knowledge of the development of life <input type="checkbox"/> Answers need more detail for higher level <input type="checkbox"/> Some information is incorrect <input type="checkbox"/> Work is incomplete	<input type="checkbox"/> no understanding is shown <input type="checkbox"/> questions are mostly incomplete.

Science and Engineering Practices: Modeling the history of the Earth

Highly Proficient (4)	Proficient (3)	Close to Proficient (2)	Developing (1)
Proficient, plus: <input type="checkbox"/> Billion year timeline is final draft quality <input type="checkbox"/> Labels are written neatly and easy to read. <input type="checkbox"/> Events are written neatly and are easy to read	<input type="checkbox"/> Timeline is complete, labeled and mostly correct <input type="checkbox"/> Timeline could be made neater and easier to use as a model.	<input type="checkbox"/> timeline is partially complete <input type="checkbox"/> labels are incorrect, messy or missing. <input type="checkbox"/> events are incorrect, messy or missing	<input type="checkbox"/> timeline is incomplete.