

Geologic Timeline

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

Overview: We will create a 4.6 meter timeline modeling Earth's history. The first 3.6 billion years will be done 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 (next page)
- ◆meter stick / ruler
- ◆pencil and marking pen (like an ultra-fine point sharpie)
- ◆colored pencils

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| <p>mya = millions of years ago my = million years bya = billions of years ago</p> |
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Scaling the timeline

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

Individual Timeline Procedure

1. On your own, measure out a 1.0 m piece of register tape. Put your name and period on the back.
2. Label the right end of your register tape as PRESENT DAY.
3. Using the scale above, **label** each 100 million years going back in time.
4. Look at the Geologic Time Scale on the next page. Notice the times for the periods and eras.
5. Measuring from the bottom of the register tape, draw a horizontal line 5 mm high for each era. Also, make another 5mm line above it to label the periods. See the example below.
6. Color and label the timeline. Use different colors for each era and period and try to use lighter colors or shade lightly. Label each era in the color using a marking pen (such as an ultra-fine point sharpie).
7. Add the events from the *Precambrian* reading to your individual and group timelines.

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|--------------------|-------------|------|---------------------|-----------|
| individual example | | | | |
| -600 mya (ex) | Proterozoic | 5 mm | example event label | |
| | Precambrian | 5 mm | | Cambrian |
| | | | | Paleozoic |

Geologic Time Scale

| Era | Period | Time (approximate) |
|--------------------|---------------|------------------------------|
| Cenozoic | | Present - 65 mya |
| | Quarternary | 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 |