

Geologic Time Scale Lab

Objective:

To construct a time line for the appearance of organisms on the Geologic Time Scale.

Time:

This lab will take approximately 30 minutes to 1 hour to complete.

Materials:

- 5 meters of adding machine tape
- Meter stick
- Metric ruler
- Markers

Procedure:

1. Measure out 5 meters of adding machine tape and spread it out on the floor. Use adhesive tape to hold it down.
2. Use the following time scale:
 - 1 meter = 1 billion years
 - 10 centimeters = 100 million years
 - 1 centimeter = 10 million years
 - 1 millimeter = 1 million years
3. At the end of the tape draw a line and label it "present."
4. Measure to find the spot on the tape where 4.6 billion years ago would be and label this "Earth's beginning."
5. Now plot each of the following events on your time line:

• Earliest evidence of life	3.5 billion years ago
• Mesozoic Era begins	245 million years ago
• First land plants	400 million years ago
• Insects and amphibians on land	370 million years ago

- Age of reptiles 225 million years ago
- Dinosaurs become extinct 66 million years ago
- End of the Cretaceous period 65 million years ago
- Age of mammals 65 million years ago
- Humans appear 200,000 years ago
- Recorded history 6,000 years ago

6. Add pictures to your timeline of the various life forms at each time.

Analysis:

1. Recorded history represents what percentage of geologic time?
2. Why is it important for scientists to study the history of Earth? How does that history relate to AP Environmental Science?
3. During what time frame has species extinctions caused by humans been the highest?

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Analysis:

1. Recorded history represents what percentage of geologic time?

Approximately .00028%

2. Why is it important for scientists to study the history of Earth? How does that history relate to AP Environmental Science?

Answers will vary, but possible answers are to learn more about evolution, to know when mass extinctions happened, etc.

This is related to AP Environmental Science because we need to know what has happened in the past so we can put our current studies into context.

3. During what time frame has species extinctions caused by humans been the highest?

During recent times