

Fossils & the Geologic Time Clock

Name: _____ Date: _____

LEARNING OBJECTIVE

Students will build a 24-hour clock model to visualize the vast scale of geologic time.

MATERIALS NEEDED

- paper plate
- ruler
- protractor (optional)
- colored pencils
- pen or pencil

HANDS-ON ACTIVITY

1. On a paper plate, draw a clock face with 12 numbers evenly spaced (representing a 24-hour day, so each number = 2 hours), using a ruler to help space them evenly.
2. Using the fact that Earth is about 4.6 billion years old and this whole plate = all of Earth's history compressed into 24 hours, mark where these events fall: first life (around 4:00 AM), first land plants (around 10:00 PM), dinosaurs appear (around 11:00 PM) and go extinct (11:39 PM), and humans appear (11:59:56 PM, the very last seconds).
3. Color-code and label each event on your clock with a small dot and a line pointing to a label written around the edge.
4. Measure with your ruler the distance in inches between 'first life' and 'humans appear' on your clock, and compare it to the distance between 'dinosaurs appear' and 'humans appear'.

QUESTIONS

1. At approximately what 'time' on your 24-hour clock do humans first appear?

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2. Why is it useful to compress 4.6 billion years into a single 24-hour clock?

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3. Which distance was larger on your clock: first life to humans, or dinosaurs to humans? What does that tell you?
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4. **Based on your clock, about how many 'clock minutes' did dinosaurs exist on Earth (from about 11:00 PM to 11:39 PM)?**
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