



Activity “What Time Is It?”

Objective:

Through discussion and cooperative group work, students will be able to comprehend the immense time associated with Earth’s fossil history

Lesson Time:

15 minutes

Grade Level:

K – 5th

Standards Correlation:

Science Standards – 1, 3.1, 3.4, 4.1

Math Standards – 1, 2, 5

Materials:

Ruler with centimeters marked

2 pieces of string, each 5 meters long. One will be unmarked and other marked at the following intervals:

4.60 meters – Earth formed

57.0 centimeters – 1st invertebrates

50.5 centimeters – 1st vertebrates (fish)

40.8 centimeters – 1st amphibians

24.5 centimeters – 1st dinosaurs and mammals

14.4 centimeters – 1st flowering plants appear

6.50 centimeters – age of mammals

2.0 millimeters – early humans appear

Procedure

Engage: Ask students to imagine that each year equals a distance of 1 centimeter. How many kilometers would the Earth have existed for?

Explore: Show students the metric ruler with centimeters marked.

Explain: By using some simple calculations, show that this distance would equal 47,000 kilometers or roughly 1.2 trips around the Earth’s equator or 6 round trips from Los Angeles to New York City

Evaluate: Have 2 students hold the unmarked piece of string. Designate one student as the beginning of the Earth's existence and the student at the other end as the time now. Have students indicate where they think life first appeared in the fossil record. Then have them indicate where they think the dinosaurs appeared. Have 2 other students stretch out the marked string. Show them what occurred at each of the marked places.

Learning Outcomes: Students will have an appreciation for the immensity of time the Earth has existed. They will comprehend how insignificant an amount of time humans have populated the planet.