Name _____
Class _____ Lab _____
Date _____

LAB: MAKING A GEOLOGIC TIME SCALE

Objective: to create a visual with relative Earth History for personal and school viewing.

PART 1

1. Get a piece of adding machine tape about 5 m long.
2. Measure 10cm from the end of the tape towards the center and draw a vertical line and mark that *"Present"* as in year 2000.
3. Starting at this line, mark off vertical lines on your tape in 1 m intervals.
4. Starting from the "Present line" mark in pencil *"1 billion years ago", "2 billion years ago"...*etc.
   a) Each 1m (_____cm) equals 1 billion years.

   b) Each cm is equal to _____ years.

   c) Each mm is equal to _____ years.

5. Using the Geologic Eras, Periods, and Epochs Table below. Find the oldest event that is listed. (4.6 billion – origin of the Earth).
6. Measure from the *"Present"* line 460cm and draw a vertical line. Label this line *"Origin of the Earth".*
7. Plot each of the points in the table and mark neatly and clearly on your timeline.
8. a. Using a black marker, mark on the full length of the edge of paper the length of time for the Precambrian Eon. Divide approximately where the Archean and Proterozic subdivisions of this eon are.
   b. Using a purple marker, mark on the full length of the edge of paper the length of time for the Pharenerozoic Eon.

10. Each eon is broken down into eras.
    a. Mark a continuous line touching the length of black or purple the eras for each eon. Make sure to use the appropriate date and location for each era.
Use the following color sequence:
    first era in the eon – orange
    second era in the eon – pink
    third era in the eon – yellow

11. Locate and label the list of events below at the appropriate time location on the time line paper. Make sure to calculate the lengths carefully. Time lines will be taped on the walls outside on the hall wall to make comparisons.

Questions

1. Which eon represents the most time? _____.

2. Using your ESRT, why did scientists choose to make a separation between these two eons?

3. Why in the Cenzoic Era are there more periods and epochs than in any other section era?

4. Why have scientists put actual names with –ocene suffixes on the Cenozoic epochs?

5. How does the layout of the table in your ESRT following the Law of superposition?

6. Compare the length of time humans have been on this earth compared to trilobites.

Part 2

This is a very visible part of your work. It is a class project. Your class will be in competition with other class members. Your goal is to make your time period, the most accurate, most colorful, most detailed and must picturesque.

A time period will be assigned to your group. Prepare a chapter on your time period on the paper provided. The book will be bound as a class project.

The following items below:

1. Time in actual years stated near the beginning of the chapter.

2. At least 3 organisms drawn and explained in the chapter
    a. identify required habitat, temperature, vegetation, climate, trophic level
    b. length of time existed

3. Any item on the ESRT under geologic events that might be important to your time period.

4. Location of the continents if possible.