MUSEUM OF THE ROCKIES

touch history

Sequencing Time

Adapted from *Sequencing Time* Activity from
www.ucmp.berkeley.edu/fosrec/ScotchmoorTime.html

Grade Level: 2 (Relative Time) -8 (all) Preparation Time: 5-10 minutes Activity Duration: 10 minutes-1 hour

Concepts Addressed

- Relative time is the order of major events that have occurred during Earth's natural history.
- Absolute geologic time assigns numbers to major events that have occurred during Earth's natural history.

Objectives

The student will:

- Place events in sequence and assign relative times to each event.
- Gain an understanding of relative and numerical time.
- Become familiar with the methods used by scientists to develop the Geologic Time Scale.

Materials Included

- Events in Your Life worksheet (one per student)
- Your Personal Timeline sheet (one per student)

Background

The concept of geologic or deep time is difficult for our brains to comprehend—especially as young children. This activity attempts to make accessible to students (and educators) at least the concept of relative time (the order in which certain events happened) by putting it into a relevant context—events that happened in our own lives. Older students can continue further into this activity and explore the ideas of absolute time (putting dates with events from the past) and groupings of time.

Explore this link for additional information on the topics covered in this lesson:
http://evolution.berkeley.edu/evosite/evo101/IIEAddingtime.shtml

Procedure

Sequencing Time—Relative Time

Instruct the students as follows:

1. Look at the events listed on the sheet entitled *Events in Your Life*. Arrange these events in order, by placing the number 1 in front of the event that occurred first in your life, a number 2 for the second, etc.
2. On the worksheet entitled *Your Personal Timeline*, you will be writing these events in order in the third column, Sequential Time, but you will be writing them so that the most recent event is at the top of the list and the event that occurred first is at the bottom of the list. (Students do not need to write out the entire event. For example: "When you learned to walk" could be written simply as "Learned to Walk".)
3. Your completed list is now similar to what a geologist might refer to as a Sequential Time Line.
    a. You can use your own sequential time line to describe events in your life. For instance, I learned to ride my bike after I learned to walk but before I started second grade. Have the students describe events in their lives in a similar way.
    b. Now, using sequential time, how could you describe when *Tyrannosaurus rex* roamed the earth?

Sequencing Time—Absolute Time

1. Return to your time line worksheet. In the middle column entitled, Numerical Time, place a zero by today's date. Then think of the number of years ago each event happened. Write these numbers in the column in front of each event. If you can't remember exactly, try to guess and round off to the nearest whole year. These numbers are the numerical ages of the event and make up a numerical time line.
2. Now you can use both the sequential and the numerical information to describe events in your life. Using both of these, describe when you started kindergarten. An example might be: I started kindergarten four years ago, after I learned to walk but before I lost my first tooth.

Sequencing Time—Divisions of Time

1. Now you are going to divide the events into two time intervals. Draw a horizontal line above the last event that happened before you started kindergarten. Now every event above the line took place after you started kindergarten and every event below the line took place before you started kindergarten. In the first column entitled Time Interval, write the word “Preschoolian” below the line and the word “Schoolian” above the line. This worksheet now resembles a complete time line for the events in your life. They are in the proper sequence. They have been given a date in time. And they have been grouped into two major event groups.
2. See if you can describe a single event using the information in all three columns. An example: I started Kindergarten at the beginning of Schoolian time, four years ago...
3. Think of another event which has occurred in your life. For example, the first time that you tasted pizza. You probably cannot remember the exact year when that occurred, but you probably can place it between two events which you can remember. Therefore, you would know its relative time. How could you give it a numerical time?

4. This activity provides a good introduction to the Geologic Time Scale which has been arranged (and developed) in a similar manner. If it is used by older students, it is possible to change the Events and to divide them into three time intervals, such as “Preschoolian”, “Gradeschoolian”, and “Postgradeschoolian”.

Extensions

1. Compare the Personal Time Line to the actual Geologic Time Scale to note similarities and differences.
2. Draw a comparison to the correlation of rock layers and the fossils they contain to a relative time scale. Consider an introduction to the importance of index fossils.
3. Follow this activity with actual events that occurred in Geologic History and/or the development of Time Lines.
4. Follow this activity with *What Came First?* http://www.ucmp.berkeley.edu/fosrec/ScotchmoorFirst.html

Events in Your Life

Adapted from *Sequencing Time* Activity from
www.ucmp.berkeley.edu/fosrec/ScotchmoorTime.html

Name _____

_____ When you started second grade.

_____ When you were born.

_____ When you started kindergarten.

_____ When you learned to ride a bike.

_____ When you learned to walk.

_____ When you learned to read.

_____ When you lost your first tooth.

_____ Today's date.