Our Changing Earth

Number of Participants: 2  Approximate time: 30 minutes

Description: This event will require students to be knowledgeable in the following areas of earth science:

1. The Earth's Interior
2. Geologic & Fossil Timelines
3. Minerals and Their Identification
4. Formation of Igneous, Sedimentary, and Metamorphic Rocks
5. Folded & Block Mountains
6. Topographic Maps (graph a cross-section of a topographic map)
7. Volcanoes
8. Cave Formation
9. Formation of a Stream Valley
10. Erosion & Weathering

Competition:

1. Contestants will rotate through stations. Students will identify diagrams, and answer questions related to the topics above. Students will create a cross-section of a topographic map,
2. Students turn in answer sheets when finished. The time it takes to complete the activities will be recorded.
3. Participants may develop and bring to the competition a 1 page study sheet (9"x12" front and back) to aid them in answering questions.

The study sheet must be hand drawn and written. Students may "cut and paste" their own material onto the key. No copies of text or photos will be accepted.

Scoring: Number of correct answers and time to complete tests will be used to determine winners.

Primary Resource:

**Handouts available at Events Fair will include all necessary material from sources.**


Secondary Resources:

The Contour Connection

(Adapted from Ranger Rick’s NatureScope: GEOLOGY The Active Earth. ISBN 0-07-046711-8)

It takes a special map to really show the landscape. In this activity students learn more about "topo" maps by taking a look at one and creating a graph of a cross-section of the map.

The lines on the map are called contour lines. On this map the contour lines show how high above sea level the land is. (There are also maps with contour lines depicting areas, such as the seafloor, that are below sea level.) Each contour line represents a change in elevation of 20 feet (6 m). The number associated with each contour line represents the elevation of the Earth's surface where the line passes through. It is possible to show depressions on contour maps by putting hachure marks along them.

The Contour Connection map is an example of a topographic or contour map. Notice where the ground is gently sloping and where it is steep. (Where the distance between the contour lines is great, such as on the right-hand side of the map. The land is not very steep. However, where the contour lines are close together, such as on either side of the stream near the top of the map, the ground rises very quickly and the slope is steep.

A line AB will be drawn across a map. Students will need to transfer the elevations along the line to a piece of graph paper. They will then be asked to connect the elevations to show a cross-section of the land along line AB.