INV. 3 ACTIVITY—WAYS TO MAKE TOPO MAPS

Focus Question: What are other ways to create a topographic map?

In class we developed topographic maps from our foam mountain sets. Explore a different way to create a topographic map.

Materials:

- Clear, plastic hinged "to-go" or produce container
- Tracing paper
- Clay or playdough
- Ruler
- Toothpick

Instructions:

1. Wash and dry the plastic container.
2. Use the clay or playdough to create a mountain in the bottom of the container. Make sure there are steeper slopes and not-so-steep slopes on your mountain.
3. Use the ruler to measure the elevation levels of your mountain. Stand the ruler up vertically on the bottom of the container next to one side of your mountain.
4. Use the toothpick to poke small holes in the mountain at specific elevations until you reach the top. For example, poke a hole every ¼" or 5 mm depending on the markings on your ruler.
5. Repeat this process on the other three sides of the mountain (4 sides).
6. Connect the markings by poking holes to connect the marks at equal elevations.
7. Close the lid of the container.
8. Put the tracing paper on top of the lid.
9. Trace the elevation markings (contour lines) you made with the toothpick.
    - Does the topographic map look similar to the ones you made with the foam mountain in class?
    - Do the slopes of your mountain match the contours on your map?

INV. 3 ACTIVITY—WRITE ABOUT A FICTIONAL PLACE

Language Extension about Landforms

Create a fictional place and write a story about it. Include descriptions of the scenery in your story such as mountains or valleys. Draw pictures of your fictional place, then draw a topographical map that shows the contour of your fictional place?

Have a family member draw a picture of your fictional place from your topographic map. Does it look like you what you created for your story?

INV. 3 ACTIVITY—VOLCANO FORMATION

Focus Question: What are the different types of volcanoes and how do they form?

Discover the three types of volcanoes and how they are different.

Instructions:

1. Go to the FOSS website (www.FOSSweb.com) and login with your student credentials. (If your school/district has its own unique web URL for accessing FOSSweb, please be sure to use that URL instead.)
2. Navigate to the **Soils, Rocks, and Landforms** resources by clicking on the image for the module.
3. Click on the "Geology Lab: Volcanoes" multimedia under "Online Activities."
4. Click on the different types of volcanoes to find out about each type.
5. Draw pictures of each type in your notebook and record characteristics of each type.
6. Do an Internet search of each type of volcano to find out more information. Add the new information to your notebook.
7. Do an Internet search on local volcanoes. Are there any volcanoes near you? If so, what type are they?

INV. 3 ACTIVITY—BUILDING FOR EARTHQUAKES

Focus Question: How can you reinforce a building to make it better able to withstand the shaking during an earthquake?

Earthquakes can change an area in a matter of seconds or minutes. Buildings can be broken apart and rocks and boulders can be sent downhill causing more destruction. How can we build buildings so that they can withstand the shaking during an earthquake?

Materials:

1 Shallow cardboard box (like the one canned goods come in)

1 Sheet of flat cardboard that will fit completely into the box with 1" clearance on all sides (the sheet of cardboard should be smaller than the inside of the box)

- Marbles
- Toothpicks
- Marshmallows

Instructions:

1. Create a 3–4 story building using the toothpicks and marshmallows.
2. Place your building on the flat piece of cardboard.
3. Put the marbles in the box.
4. Place the cardboard sheet on top of the marbles.
5. Shake the box back and forth.
6. Observe what happens to your building. Did it move? Did it fall apart? Did it fall down or over?
7. Draw your building in your science notebook and record what happened during your "earthquake."
8. Rebuild your building and try to build it stronger so that the damage during an earthquake will be less. Record your new building design in your notebook.
9. Create a new earthquake. Record what happened to your building.
10. Was the earthquake damage less than before? If so, why do you think that is the case?

INV. 3 ACTIVITY—EARTH'S SURFACE MEDIA

Online Resources on FOSSweb (Must log in to FOSSweb with a username and password)

Use these online resources to help review content from Investigation 3 of Soils, Rocks, and Landforms. The **tutorials and virtual investigations** provide interactive resources that review concepts from the FOSS active investigations. The virtual investigations often mimic the active investigations that were done in class.

For the articles in *FOSS Science Resources*, access the **interactive eBook** and make sure to click on the interactive links within the readings. Take notes on what you learn from the online resources and respond to the questions from the articles in your science notebook.

All online resources can be accessed when your child logs into his/her teacher's Class Page on FOSSweb.

Investigation 3 Digital Resources:

Online activities

- Topographer
- Geology Lab resources (5 resources)

Media Library

Streaming Videos

- *Volcanoes*
- *Mount St Helens Impact*
- *All about Earthquakes*

FOSS eBook Readings

- Topographic Maps
- The Story of Mount Shasta
- It Happened so Fast!