

Grade Level: 5th Grade

Title of Lesson: Volcanoes

Unit Title: Landforms

Performance Standard(s) Covered:

S5E1: Students will identify surface features of the Earth caused by constructive and destructive processes.

Essential Question:

How do movements of the earth's crust change landforms?

Objective:

The goal of this lesson was to teach the kids how a volcano works. First, they need to have a good understanding about plates and the earth's crust in order to really understand how the volcano gets formed. It also helps them understand how a mountain forms from the cooled lava of the volcano.

Key Words and Terms:

Plates

Magma

Volcanoes

Crust

Mantle

Core

Secondary vent

Primary vent

Landforms

Learning Activity

Abstract (limit 100 characters):

This lesson provides the students with the knowledge of understanding how a volcano works and how it is a product of the earth's properties and movements. The students at this point have learned about landforms and how they are made. This lab helps them understand a volcano by physically showing them how it works. First, a presentation is made to give them a background on volcanoes as well as explain how their lab will work. They then break into groups and make their volcanoes with the given ingredients while filling out an observation chart for before, during, and after the eruption.

Materials Needed:

Newspaper

pie pan

safety goggles

plastic gloves

mini plastic bottle with lid

alka seltzer tablets

teaspoon

potting soil

red food coloring

maple syrup

Safety Concerns:

If the bottles are shaken too much it can cause too much pressure in the bottle, so monitor how much they shake it up. Also it can be very messy so be careful with the food coloring. It is best if you distribute it yourself.

Procedure:

1. Make a presentation explaining land forms and specifically volcanoes and if desired show a video to show them the process of an eruption.
2. Explain how they will make their own volcano.
3. Cover the workplace with newspaper, and place a pie pan on the paper.
4. Fill the water bottle 1/3 of the way with alka seltzer.
5. Add some potting soil to the water bottle. Put the lid on, and shake the bottle moderately.
6. Open the water bottle and add 10 drops of food coloring to the mixture.
7. Put the water bottle in the center of the pan. Add several handfuls of clean potting soil to the pan. Heap the soil against the bottle to model the sides of a volcano.
8. Add some maple syrup to the bottle. Observe what happens. It may take several moments for the “lava” to start flowing. While they observe have them write down observations before, during, and after the eruption.
9. Have them draw conclusions about what they saw.

Notes and Tips: How would you do this differently? What worked really well?

The kids went crazy shaking their bottles and one of them exploded so be sure to monitor how much they shake it.

References: If you got this lesson from another lesson online (which is ok!!) please link it here

My teacher gave me this idea!