Volcanic Eruptions

A volcano is a landform, usually in the shape of a mountain, where molten rock erupts through the surface of the planet. Volcanoes open downward to a pool of molten rock, or magma, below the surface of the earth. Magma is a liquid rock inside a volcano, whereas lava is a liquid rock that flows out of a volcano. Lava temperatures can range from 1,300 ∘F to 2,200 ∘F.



The images below show lava flowing from a volcano.





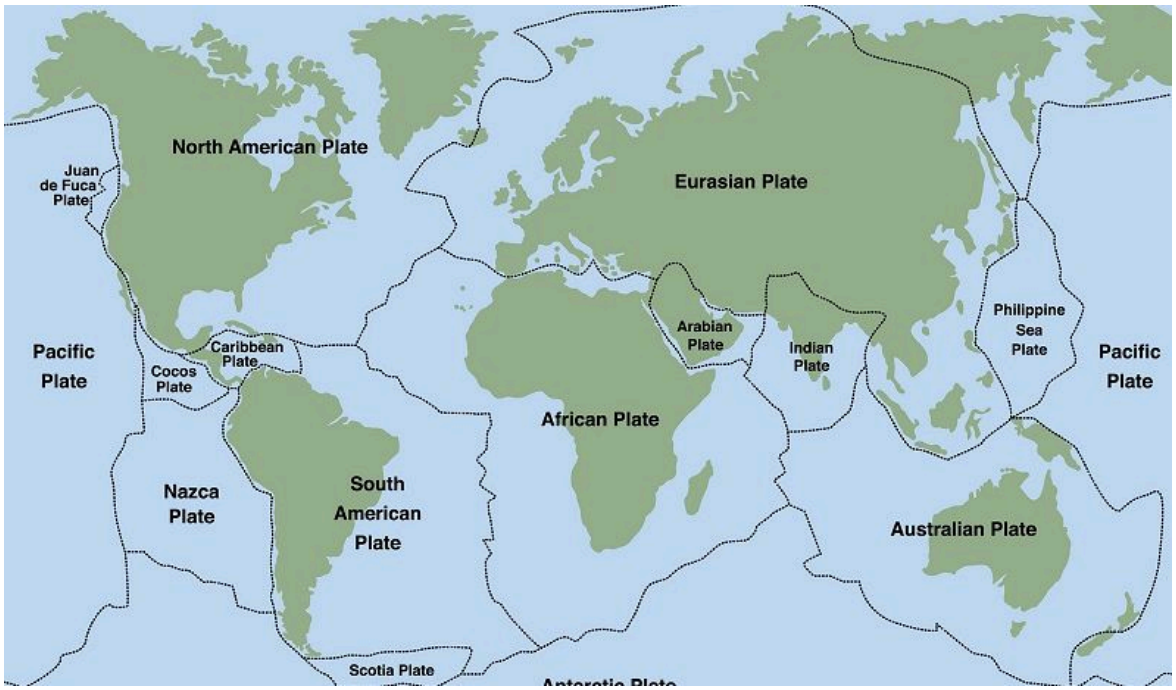






Why do volcanoes erupt?

The earth's outer layer, called crust, is made up of slabs called plates which fit together like a puzzle. These plates sometimes move around. When two plates collide, one section slides on top and one is pushed down. Magma is found between the outer crust layer and the second layer called the mantle. When the plates collide, magma is squeezed up between two plates. This causes the volcanic eruptions. The picture below shows the plates of the earth.



Now that you have learned a little more about volcanoes and their volcanic eruptions, you can make your own volcano!

Supplies:

- A volcano or bottle/cup to act as the volcano. You can create a volcano using paper mache.
- Red and yellow food coloring (optional)
- Vinegar
- Liquid dish soap
- Baking soda



Instructions:

1. Make sure you prepare your space inside to get messy, or go outside for the experiment.
2. If you are using a volcano, put the small container into the volcano. If you are using a bottle/cup, ignore this step.
3. Add two spoonfuls of baking soda
4. Add a spoonful of dish soap
5. Add 5 drops each of yellow and red food coloring

Now it is time for the eruption!

6. Add a spoonful of vinegar and watch the volcano erupt!

Questions to think about:

1. Does vinegar temperature affect how fast the volcano erupts? You can try testing warm vinegar and try testing cool vinegar and compare the differences in the eruptions.
2. What can be added to the “lava” to slow it down and make it more like real lava?
3. What combination of vinegar and baking soda makes the biggest eruption? Test different combinations.