

Creating a Volcano Experiment ^[1]

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In this Volcano Experiment, you will learn how different substances react when they are mixed with each other.

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Volcano Experiment, Jinx!

Even though this experiment is called 'creating a volcano' it does not follow how real volcanoes are really formed. We will however, be mimicking the volcanic activity.

Materials

The materials for this volcano experiment are simple and can be found in your very own kitchen! The items you need are the following:

- Tablespoon
- Baking soda
- Vinegar
- Flour
- Warm water
- Plastic bottle
- Dishwashing soap
- Food dye
- Pan
- Salt
- Cooking oil
- Cup

Procedure

You must be excited to perform this volcano experiment. It is like witnessing a real volcano erupt right before your very eyes! But this version is much smaller! It is recommended that you perform this activity outdoors because it could get a little messy. Now, let's get started...

The first thing you have to do is make the volcano itself. Create the volcano by taking the cup and tablespoon for measuring the ingredients and mix together 6 cups of flour, 2 cups of salt,

2 cups of water and 4 tablespoons of cooking oil. Start moulding the mixture into a cone shape once the mixture is smooth and firm. Feel free to add more water into the mixture if the resulting material is not smooth enough. Place the soda bottle in the baking pan before you start forming your volcano. You will be moulding the cone shape around the bottle, allowing the mouth of the bottle to function as the mouth of your volcano.

Now that you are done with your volcano, it is time to add some fun to it! Fill the bottle halfway with warm water and a few drops of food dye, preferably red. Then, put about 6 drops of the dishwashing soap into the mixture, 2 tablespoons of baking soda and lastly, vinegar.

Congratulations, you just created an erupting volcano!

Discussion

Most probably your first question about the activity is "what makes it behave that way?" It is not just random mixing of substances and voila, you made it erupt. There is actually a deeper explanation to that.

In a nutshell, the primary explanation to the chemical reaction you have just witnessed is that mixing vinegar, which is acid, and baking soda, which is base, results in the formation of carbon dioxide gas, forcing the contents of the bottle out of the volcano.

When an acid and a base are mixed together, they react to neutralize each other resulting in production of salt and also in the process, produce carbon dioxide. In real volcanoes, carbon dioxide is also present when they erupt!

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Links

[1] <https://staging.explorable.com/en/creating-a-volcano-experiment>

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[3] <http://www.flickr.com/photos/span112/4226514133/>