

Baking Soda Volcano



Get ready for an explosive adventure! A baking soda volcano is like a bubbly, fizzy potion that erupts with excitement, just like a real volcano, but with a whole lot more fun and no actual lava. We're about to create a fizzy eruption that will make your science-loving hearts go wild!

Materials

- 6 cups of flour
- 2 cups of salt
- 4 tablespoons cooking oil
- 2 tablespoons of baking soda
- 2 cups of warm water
- Red food coloring
- Vinegar
- Plastic bottle or can
- Dish or pan

Science Behind the Experiment

The baking soda volcano experiment demonstrates a simple chemical reaction between baking soda (sodium bicarbonate) and vinegar (acetic acid). When these substances combine, carbon dioxide gas is produced, creating a foamy eruption. This basic reaction mimics the gas-releasing process that occurs in real volcanic eruptions when molten rock (magma) rises to the surface, releasing dissolved gases like carbon dioxide, water vapor, and sulfur dioxide, resulting in explosive volcanic activity.

Step 1: Set up

Create a volcano shape by mixing the flour, salt, cooking oil, and warm water into a dough consistency. Mold this dough around the top of the plastic bottle/can, being careful not to cover the opening.

Step 2: Add water + food coloring

Fill the bottle 3/4 full with warm water and a few drops of red food coloring

Step 3: Add baking soda + vinegar

First, pour vinegar into the cup or bottle containing the baking soda. Then, pour the baking soda into the bottle/can. The vinegar and baking soda will have a chemical reaction.

Step 4: Make Compost

Watch as the vinegar and baking soda react. You should see a foamy eruption of gas and liquid coming out of the volcano.