Universal Leonardo

Build a Volcano

Strictly speaking, a volcano is any opening in the surface of the Earth that connects with a reservoir of molten rock and gases deep below. As the molten rock is pushed out of the volcano, usually under tremendous force and at a fearsome temperature, the distinctive conical mound of the volcano develops.

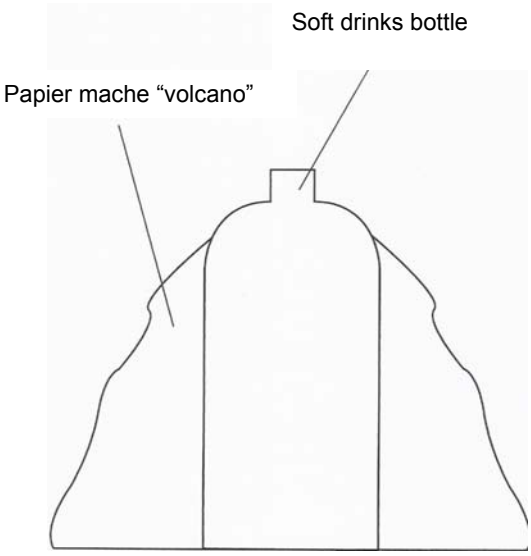
Our volcano is merely a simulation of one of nature's most impressive displays of violence and power and should pose relatively little danger to life. However, unless you're prepared to see your carpet and clothes sacrificed in the name of science, it's probably best to take the usual precautions. Don't say we didn't warn you.

You will need:

Lots of old newspaper and some wallpaper glue
A large plastic soft drinks bottle (cap removed, contents consumed)
Some warm water (never, ever use boiling water)
About ten drops of liquid detergent
Some red food colouring
Some baking soda (bicarbonate of soda)
A bottle of strong malt vinegar

Instructions:

1/ Tear the newspaper up into small strips, dip it in the glue and use the resulting papier mache to build up a volcano shape, starting at the base of the bottle and building up until you have created a cone. Leave to dry. (You can also paint your "volcano" if you'd like it to look a little more realistic.)



2/ Half fill the bottle with warm water and add as much red food colouring as you dare – assuming that YOU will be clearing up the mess afterwards.
3/ Add ten drops of liquid detergent.
4/ Pour in plenty of baking powder.
5/ Check that the area is clear and that anything of value (clothing, carpets, furniture, little brother, family pet, etc.) is protected.
6/ Pour in lots of vinegar and take cover as your volcano erupts, spewing out lots of red “lava” and making an unholy mess.
7/ Blame resulting mess on little brother…

Just in case you were wondering, it’s the rapid release of carbon dioxide that results from the reaction between the vinegar (acetic acid) and the baking powder (sodium bicarbonate) that produces the lava flow. Changing the quantities and/or strengths of these two components will have an effect on the amount of “lava” produced and the amount of force with which it is ejected from the bottle. Feel free to experiment.