



Elephant Toothpaste

This is a kid-safe version of the popular Elephant's Toothpaste demonstration using common household materials. A child with a great adult helper can safely do this activity and the results are wonderful.

Materials Needed

16 oz empty plastic bottle (preferably with a narrow neck such as a water bottle)
1/2 cup 20-volume hydrogen peroxide (6%) (but type from grocery store works too)
Squirt of Dawn dish detergent
3-4 drops of food coloring
1 teaspoon yeast dissolved in approximately 2 tablespoons very warm water
Funnel
Tray with high sides

Procedure

1. Have one child help mix 1 teaspoon of yeast in a cup with 2 tablespoons of very warm water.
2. Stand the bottle up in the center of the tray. Put the funnel in the opening. Pour the peroxide through the funnel into the bottle. (food coloring should already be in the bottle)
3. Add the Dawn detergent to the peroxide in the bottle.
4. Pour the yeast mixture into the bottle and quickly remove the funnel.
5. The children can touch the bottle to feel any changes that take place.

How does it work?

The addition of the yeast is a catalyst, which makes the peroxide molecule release the oxygen atom faster. This oxygen added to the soap creates bubbles. The more bubbles there are the bottle, the higher they come up and eventually come out of the bottle.

Observations

The reaction creates foam that shoots up out of the bottle and pools in the pan. After a minute or so, it begins to come out in a moving stream that looks like toothpaste being squeezed out of a tube. The students can play with the foam as it is just soap and water with oxygen bubbles. The bottle will feel warm to the touch as this is an exothermic reaction.