

Elephant Toothpaste



SAFETY NOTICE!

This experiment requires the use of chemicals and should only be conducted with an adult present.

The mixture of yeast and hydrogen peroxide causes a heating reaction – children are not allowed to touch the foam until the experiment has cooled. All participants must keep their gloves on the entire time and wear safety goggles.

MATERIALS

measuring spoons/cups
empty water bottle
popsicle sticks
small bowl
tray or pan
gloves

hydrogen peroxide (3-6%)
dry yeast powder
dish soap
warm water
food coloring
safety goggles



INSTRUCTIONS

Step 1: Set up empty bottle in the center of the tray. This is a fun, messy experiment so you need the tray to catch the foamy mess!

Step 2: Add a few squirts of dish soap into the bottom of the bottle.

Step 3: Add 1/2 cup (4oz) of hydrogen peroxide and gently swirl together. Add food coloring drips down the sides of the bottle for striped "toothpaste" or swirl together for solid color.

Step 4: In a separate bowl, mix 1 tbsp of dry yeast with 1/2 cup of warm water. Stir until dissolved.

Step 5: Pour the yeast mixture carefully into the bottle. Give it a quick swirl and the step back! The more potent the hydrogen peroxide, the bigger the foam!

THE SCIENCE BEHIND IT!

Hydrogen Peroxide is a solution that is chemically very similar to water, but with one additional oxygen atom. When yeast is added, it acts like a *catalyst* that causes oxygen to be rapidly released. The dish soap traps the released oxygen in the form of bubbly foam. The reaction is *exothermic*, which is why the foam and bottle are hot after the experiment is conducted.

