AT-HOME SCIENCE ACTIVITIES

elephant toothpaste!

MATERIALS

16 oz empty soda bottle

1/2 c hydrogen peroxide

1 squirt liquid dish soap

4-5 drops food coloring

1 tsp yeast

2 tbs very warm water

funnel

tray

Today we're talking about elephants and catalysts. You already know what an elephant is, so we are going to learn about catalysts by making elephant toothpaste!

In science, a catalyst is something that causes or speeds up a chemical change. For example, the saliva in your mouth contains an enzyme that acts as a catalyst; when you are chewing food, the enzyme (catalyst) causes starches to break down into sugar. The catalyst itself never changed; it simply cause the other substances to start the chemical reaction.

In our experiment, you are going to use yeast to act as your catalyst.

Be sure to warn your caregiver before you begin—this experiment can be pretty messy! You'll need to set it up on a large tray so your chemical reaction doesn't overflow onto the table or the floor.

Place your empty bottle on the tray and use the funnel to add the hydrogen peroxide. Remove the funnel and then add 4-5 drops of food coloring and a squirt of dish soap. In a small, separate container, mix the yeast and warm water. Now, use your funnel to add the yeast mixture to the soda bottle—but do it quickly and be prepared to pull the funnel out and stand back!

In this demonstration, the enzymes in the yeast act as a catalyst and cause the hydrogen peroxide (H_2O_2) to break down to water (H_2O) and oxygen (O_2). The newly created "water" and soap mix together and the oxygen fills the suds to cause the colored soap to spurt out of the bottle.

#MuseumFromHome

Voila! Elephant toothpaste!