ELEPHANT’S TOOTHPASTE – KID VERSION

A kid-safe version of the classic Elephant’s 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
• 16 oz. empty plastic soda bottle (preferably with a narrow neck such as those made by Coca-Cola)
• 1/2 cup 20-volume hydrogen peroxide (20-volume is 6% solution, purchased from a beauty supply store)
• Squirt of Dawn dish detergent
• 3-4 drops of food coloring
• 1 teaspoon yeast dissolved in approximately 2 tablespoons very warm water
• Funnel
• Foil cake pan with 2-inch sides
• Safety glasses
• Lab smock
EXPERIMENT
1. Have students put on their safety glasses and lab smock. Each student should have in front of them a cake pan, plastic bottle, Dawn in small cup, food coloring, 1/2 cup peroxide, and the dissolved yeast mixture.
2. Stand the bottle up in the center of the cake pan. Put the funnel in the opening. Add 3-4 drops of food coloring to the peroxide and pour the peroxide through the funnel into the bottle. Show a water molecule diagram and a peroxide molecule diagram, pointing to the extra oxygen that will be set free in the reaction.
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 students can touch the bottle to feel any changes that take place.

HOW DOES IT WORK?
Talk about the addition of the yeast as a catalyst, which makes the peroxide molecule release the oxygen atom faster. The teacher who submitted this experiment claims to have done this with hundreds of students from kindergarten through fifth grade and some adults who all loved the experiment. It is very easy and safe to do again at home using regular hydrogen peroxide from the drugstore.

ADDITIONAL INFORMATION
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.
COMMENTS

I did this with my K-2 science class. I used 40-volume hair developer (12% H2O2) from a beauty supply store. The first time we tried the experiment nothing happened! In a panic, I added more yeast (not dissolved) directly into the bottle and only then the reaction took place. We tried again with a second bottle. This time, after adding the H2O2, food coloring, and soap, we added the yeast WITHOUT water, placed a hand over the bottle opening, gave it a quick swirl, and PRESTO—blue toothpaste, followed by cheering/screaming 5, 6, and 7 year-olds.