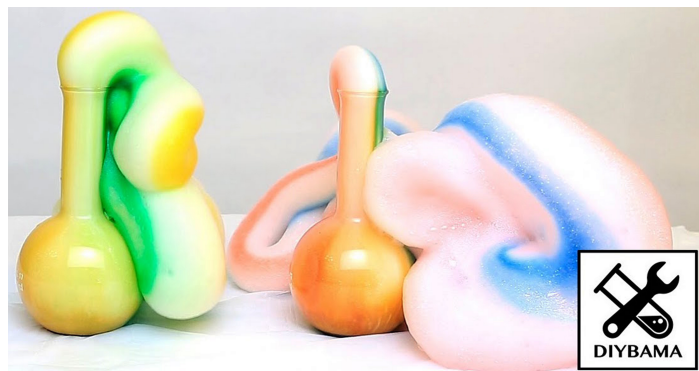


# Elephant toothpaste, method 1

## Materials

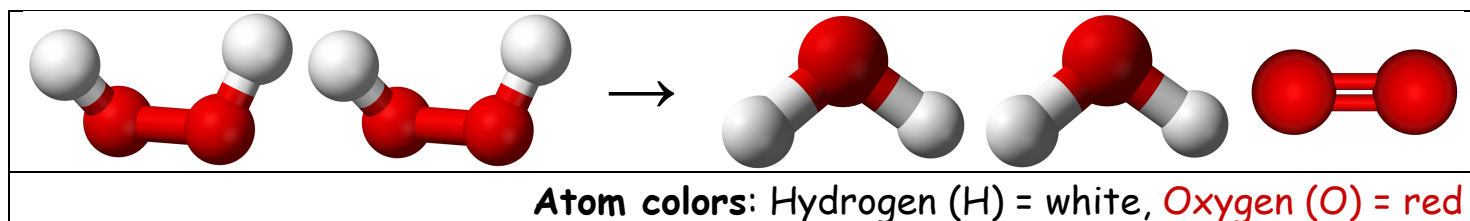
- 3% hydrogen peroxide ( $\text{H}_2\text{O}_2$ ), 15 mL
- Yeast, 15 mL (1 tablespoon (tbsp.))
- Warm water ( $\text{H}_2\text{O}$ ), 45 mL (3 tbsp.)
- Liquid dish soap
- Food coloring



## Procedure

- $\text{H}_2\text{O}_2$ : Pour 150 mL hydrogen peroxide into the bottle.
- Dish soap: Add (up to) 75 mL
- Food coloring
  - If you want to make your foam a single color, add a few drops of food coloring directly into the hydrogen peroxide
  - If you want to give your foam stripes like some toothpastes, put the drops along the inside rim of the bottle's mouth, but do not mix.
- Yeast: mix 15 mL (1 tablespoon) of yeast and 45 mL (3 tablespoons) of warm water. Stir for about 30 seconds.
- Pour the yeast mixture into the bottle then quickly step back..

## Chemical reaction



- Yeast catalyzes the decomposition of hydrogen peroxide ( $\text{H}_2\text{O}_2$ ) into water ( $\text{H}_2\text{O}$ ) and oxygen gas ( $\text{O}_2$ )
- The dish soap captures the oxygen ( $\text{O}_2$ ) that is released, making foam
- The reaction is exothermic (produces heat)

## References

- [scientificamerican.com/article/make-elephant-toothpaste](http://scientificamerican.com/article/make-elephant-toothpaste)
- [thoughtco.com/kid-friendly-elephant-toothpaste-demo-604164](http://thoughtco.com/kid-friendly-elephant-toothpaste-demo-604164)