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Elephant’s Toothpaste

By Trisha Paul

Image by Joe Shlabotnik

Image by theimpulsivebuy
A more complex reagent breaks down into its more simple products.
Characteristics

* 1 Reagent -> 2 products

AB → A + B
When mixed with baking soda and soap, hydrogen peroxide is used to remove skunk odor.
When put on a cut, hydrogen peroxide acts as a cleaner and also slows the bleeding. It also causes additional damage to the tissue.
*Common Reactions*

*When reacted with some metals like silver, hydrogen peroxide produces a hot steam used to propel and launch certain rockets.*

[Image by purzen](https://creativecommons.org/licenses/by/4.0/deed.en)
Predict the products of a decomposition reaction of $\text{H}_2\text{O}_2$.

$\text{H}_2\text{O}_2 \rightarrow \text{H}_2 + \text{O}_2$
Decomposing $\text{H}_2\text{O}_2$

- How can we make $\text{H}_2\text{O}_2$ decompose?
- $\text{H}_2\text{O}_2$ is stable at room temperature.
What state of matter would the products be in? (solid, liquid, gas)
Decomposing H₂O₂

How could we make the products even more visible? (Hint: Think about bubbles.)
1) How can we decompose hydrogen peroxide?
2) What happens when hydrogen peroxide is decomposed?
3) How can we tell that hydrogen peroxide has been decomposed?
**Materials**

* Safety glasses
* Lab smock
* 1/2 cup 20-volume hydrogen peroxide (20-volume is 6% solution, purchased from a beauty supply store)
* Squirt of Dawn dish detergent
* 1 teaspoon yeast
* Approximately 2 tablespoons very warm water
* Empty plastic water bottle
* Foil cake pan
Safety

* Hydrogen peroxide is:
  * Corrosive - avoid skin contact
  * Do not ingest
  * Do not inhale

Temporary bleaching effects of skin contact with H\textsubscript{2}O\textsubscript{2}

Image by Olli Niemitalo

Image by Rfc1394
*The End!*