

# Franken-Worms!

Exploring Chemical Reactions with Gummy Worms!



Ready to *worm* our way into the world of spooky science? For Halloween, we're using chemical reactions to bring gummy worms to life!

**Chemical Reactions** are when two substances react and change each other. This change happens on a molecular level, so it can be really hard to see. But they sometimes leave clues that a reaction happened.

When a chemical reaction happens, there may be a change of color, smell, shape or type of matter, and it may even produce heat or light!

Follow along with our video and discover other activities at:

<https://theleonardo.org/leo-at-home>

Which of these are chemical reactions?



Lighting a Candle



Baking a Cake



A Nail Rusting

These are all examples of chemical reactions! Candles combine oxygen, wax, and a wick to produce fire and smoke. Baking uses heat to transform a bowl of wet ingredients into a fluffy cake. Rusting occurs when iron mixes with oxygen.

In this experiment, we'll create a chemical reaction that causes our gummy worms to wiggle and squirm!

## Chemistry can be a Blast!

Be careful when working with vinegar and baking soda. In small quantities, it forms a small amount of bubbles. But mix too much together, and you'll have a bubble mess!

Many classroom science volcanoes use large combinations of vinegar and baking soda to get their mountains to erupt in bubbly lava.

## Materials

- Gummy worms
- Baking soda
- A cup full of vinegar
- A cup of warm water

## Directions

1. Have an adult help cut the gummy worms into fourths long ways (this helps make them thin enough to move).
2. Pour around 3 tbsp of baking soda into a glass of warm water. If the water doesn't look cloudy, add more baking soda.
3. Soak the sliced gummy worms in the baking soda solution for 30 minutes.
4. Pull out the gummy worms and drop them in a glass of vinegar.
5. Watch the chemical reaction happen!

**What's the Science?** Did you see signs of a chemical reaction? Once dropped in the vinegar, bubbles should appear on the worms! We created a chemical reaction! Scientist would write this chemical reaction in an equation like this:



The vinegar and baking soda on the left are the ingredients or the reactants. The three on the right are what is made or the products. In this reaction, the products are sodium acetate, water, and carbon dioxide. Can you guess which one of these products would make the bubbles?

Bubbles are full of gas and carbon dioxide is a gas! You might know it as the gas we breath out. The baking soda and vinegar form the carbon dioxide bubbles on the worms and the bubbles cause the worms to jiggle, float, and lift in the glass!

Share with the Leo community!

How were your Frank-worms? Did you know any other chemical reactions around your home? Share your discoveries on social media with:

#leoathome and #museumathome

