



Project Exploration creates transformative learning opportunities for youth underrepresented in the sciences –particularly students of color and girls – by equipping them with the skills, practices, and mindset needed for a lifelong pursuit of learning. STEM@Home makes activities around science, technology, engineering, and math accessible and fun to do at home. This STEMbook activity, resources, and more are available at [www.projectexploration.org/stemathome](http://www.projectexploration.org/stemathome).

## In this activity, you will:

make observations about gummy bears, and draw conclusions. Conduct a basic experiment and test your hypothesis.

## Supplies Required:

- 5 Gummy bears
- 1c water
- 1c salt water
- 1c vinegar + water
- 1c baking soda + water
- Graphic organizer (page in your STEMkit!)

## Video

Learn about how gummy bears are made: <https://tinyurl.com/y6bcsdhh>

## Overview

The best thing about gummy bears is that they're squishy and gummy!

When you eat gummy bears, the **saliva** (spit) your mouth makes, and the acids in your stomach, break down the gummy bears. This process of you chewing, your **saliva** combining with the food you eat, and you swallowing the food down into your stomach where your body can break down foods into **nutrients** - or substances which give you energy and make you grow - is called digestion! The best type of energy for your body comes from fruits and vegetables!

We need you to be a scientist today! When scientists are in the lab, they **needed** make the **formula** - how much of each ingredient to add or take out - to make the right mixture that made the gummy bears **just right**—not too soft and not too hard. We want you to do the opposite! What liquids, besides your **saliva**, can break down gummy bears.

Follow the steps of the scientific method to find out!



## Instructions

1. Grab the graphic organizer from your STEMkit
2. **STEP 1 - Problem:** What do we want to solve? How do different liquids affect the gummy bears?
3. **STEP 2 - Hypothesis:** Make a prediction! Which substance do you think will have the greatest effect on the gummy bear and why? What will each bear look like in each substance?
4. **STEP 3 - Experiment:** Test it out and make observations! What do you see?
5. Fill one cup with 1c water, another cup with 1c water and 4 tbsp salt, one cup with 1/2c vinegar and 1/2c water, and the last cup with 1c water and 4 tbsp baking soda.
6. Place one gummy bear in each cup and watch.
7. Set a timer and draw the bears at every 30 second mark.
8. **STEP 4 - Analysis:** Based on your **observations** - what you saw - what do we now know? What bear dissolved the fastest? The slowest? Why do you think this happened?
9. **STEP 5 - Conclusion:** Was your hypothesis correct or incorrect?

## Additional Resources

1. How does saliva work? <https://tinyurl.com/y49tvxkb>
2. Learn about digestion with Dr. Binocs: <https://tinyurl.com/y7jcro86>

## Share It Out

**Share on social media:** Share the results of your experiment with your friends and family on social media! Explain the steps of the scientific method in a video! Use the hashtags:

#ScientificMethod  
#ProjectExploration  
#StemAtHome

**Share via PE's website:** Students who complete STEM@home activities and share what they learned with the PE team via our website will earn points which can be traded in for cash prizes at the Explore Store. Your project number is 103. Learn more at [www.projectexploration.org/explore-store](http://www.projectexploration.org/explore-store)



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