



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:

learn about polymers while making fruit snacks!



## Supplies Required:

- Fruit Juice
- Unflavored gelatin
- Honey
- Sugar
- Bowl
- Knife
- Silicone mold or cookie cutters

## Video

Learn how to make your own fruit snacks: <https://tinyurl.com/ybsxbsmp>

## Overview

Did you know that fruit snacks are made of polymers? They're made with gelatin, which consists of nature's most common polymer, protein. A polymer is a compound formed of many molecules strung into long chains. Each of these molecules is called a Monomer (mono meaning one). When they strung together into a chain they become a Polymer (poly meaning many). Polymers take up different physical characteristics depending on what molecules they are made of, and how they link together. They can be gummy, stretchy, hard, clear, cloudy, etc. Think of all the plastics you see in your daily life—they are made of polymers! Polymers like DNA are critical to the human body and the world around us. Gelatin proteins form a triple helix (spiral) polymer chain which allows the food to gel once the molecules in the juice interspersed within the gelatin helix. Picture it getting bigger like a slinky you've stuffed with tennis balls.



## Instructions

1. Adult assistance is needed!
2. Combine 1 cup of juice, 2 1/2 tablespoons of gelatin, and 2 tablespoons of honey or sugar in a saucepan.
3. Have an adult heat your mixture over medium on the stove, mixing constantly and heating for no more than 2 minutes.
4. Remove from heat and pour in molds, using a dropper if the molds are small. If you don't have molds, use a pan and a cookie cutter.
5. Allow fruit snacks to set in the refrigerator for about 2 hours.
6. Carefully pop out of the molds and enjoy your polymer treat!

## Additional Resources

1. Learn about different states of matter with popsicles: <https://tinyurl.com/y2nonk7m>
2. More edible polymers--fruit roll ups: <https://tinyurl.com/ydx3b9z7>

## Share It Out

**Share on social media:** Can you make a video comparing your fruit snacks with a store bought one (compare color, taste, and texture)? Can you also make a video making one of the other healthy treats shared in the resource section? Share on social media using the hashtags:

#PolymerFruitSnacks  
#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 221. Learn more at [www.projectexploration.org/explore-store](http://www.projectexploration.org/explore-store)

### Join PE's character contest!

Design a STEM character who will lead kids through activities and be featured on our website and in our STEMbooks. Cash prizes will be awarded to the top 3 finalists. Learn more at: [www.projectexploration.org/character-contest](http://www.projectexploration.org/character-contest).



Call or text us for help: 312-772-6634



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