



# SLIME TIME

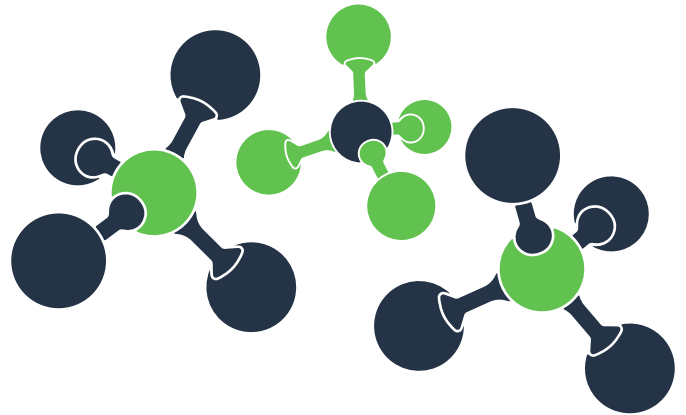
## OVERVIEW

Polymers are vital to life in the 21<sup>st</sup> century. Polymers make up the water bottles we drink from, the tires on our cars, and even contact lenses. There are natural polymers such as rubber and man-made polymers such as polyester, which is in many of our clothing. Human DNA also is a polymer—you can't get more vital than that!

Some polymers act like both a liquid and a solid. This is an unique property, meaning these polymers are non-Newtonian—they don't follow Newton's law of viscosity (thickness of a fluid).

### Polymer Uses

Environmental clean up  
Fighting fires  
Fillings for teeth  
Clothing  
Medical supplies  
And more!



Polymer — Made up of a long chain of molecules.

Non-Newtonian Fluid — A substance that does not act like a true solid or a true liquid.

## RELATED PROJECT AREAS

- Science/Engineering/Technology
- Expressive Arts
- Childcare, Child Development
- Recreation and Leisure Education

## LIFE SKILLS

Critical Thinking and Learning to Learn

## STEM ABILITIES

Hypothesize, Build/Construct, Use Tools, Observe, Measure, and Infer



# #OK4HSTEM

## MATERIALS

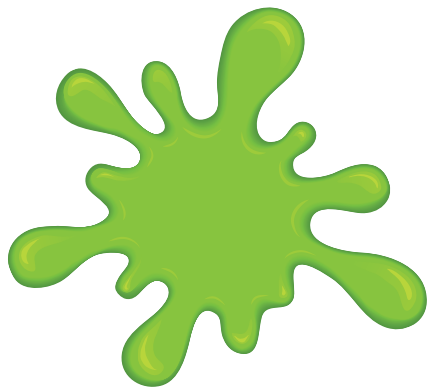
- 1 Cup Clear Glue
- 1 Cup Liquid Starch
- Food Coloring
- Glitter, Confetti, Sequins (optional)

## STEPS

1. Pour the clear glue into a mixing bowl.
2. Add drops of food coloring to the glue and other add ins if desired. Stir well.
3. Continuously stir the mixture while pouring the liquid starch in slowly.
4. The mixture should start to thicken. Stir or knead with hands until slime has reached desired consistency. This step could take several minutes.
5. Have fun with your slime! Store in an air-tight container.

## CRITICAL THINKING

- What uses can you think of for polymers?
- Can you think of any other non-Newtonian fluids you encounter in your everyday life?



## ADDITIONAL ACTIVITIES

### Ratio Tests

Try different ratios of main ingredients and observe their effects on slime consistency. Infer possible reasons for the differences.

### Understanding Slime Properties

In groups of 2-4, pull slime in opposite directions. Hypothesize how far it will stretch before it breaks and test. Hypothesize how long it will take before it breaks and test.

How much weight can your slime pick up? Test its stickiness by picking up various items such as paper clips, pennies, etc.

## RESOURCES

Oklahoma Ag in the Classroom. (2018). Goopy stuff to play with. Retrieved from: <http://aitc.okstate.edu/lessons/extras/recipes/plastic.html>

Basic slime science homemade slime for kids. (2015). Retrieved from: <https://littlebinsforlittlehands.com/basic-slime-science-homemade-slime-for-kids/>

Slime STEM activities - Learning with slime, STEM and fun. (2018). Retrieved from: <https://www.steampoweredfamily.com/activities/slime-stem-activities-learning-with-slime-stem-and-fun/>