

Welcome to Family Science Night!

What Is Plastic?

How many of you used something plastic today?

Who chewed gum?

Who ate Jell-o?

Who's wearing tennis shoes?

Polymers or plastics are an important part of our lives. Gum, Jell-o, and tennis shoes all contain some form of plastic.

Questions to ponder:

- ◇ Can you name other materials that are made out of plastics?

- ◇ What is the difference between a mixture and a chemical reaction?

Mix up your own batch of plastic or SLIME!

Plastic is a form of matter created by putting together two or more different chemicals.

Remember that scientists do not taste any of the supplies.

Measure these ingredients.

½ cup white Elmer's glue

½ cup warm water

1 tsp. Borax soap/detergent

1/3 cup hot water

A drop of food coloring

1. In a cup, mix the glue and warm water. Add a few drops of food coloring.
2. Mix the borax soap and hot water in a separate cup.
3. Pour the borax soap mixture into the glue mixture.
4. Stir and knead it. Voila! You have made plastic!
5. Store the plastic in a sealed tub or zip lock bag.

Investigate:

Slime Tests

Test	Observations Describe what you see.	State of Matter Solid, liquid, or gas
Description Color, texture, and odor		
Slow Poke Test Slowly poke your finger into the slime.		
Quick Poke Test Quickly poke your finger into the slime.		
Slow Pull Test Slowly pull on a piece of slime.		
Quick Pull Test Quickly pull on a piece of slime.		
Blob Test Let your slime sit for a few minutes.		
Bounce Test Roll your slime into a ball and drop it on the table.		

3 States of Matter:

Solid

Keeps its own shape, doesn't flow, molecules are ordered and closely packed

Ex: shoe

Liquid

Takes the shape of its container, flows and is runny, molecules are more spread out

Ex: milk

Gas

Molecules spread far apart, does not keep a shape

Ex: perfume

More questions to ponder:

- ◇ Which ingredient contained a polymer or plastic?

- ◇ What physical change took place while mixing the ingredients?

- ◇ What chemical change took place while mixing the ingredients?

- ◇ What kind of properties does your slime have?

- ◇ What are some benefits of plastics?

The plastic in glue is called *polyvinyl acetate resin*. While making slime, you changed the behavior of this plastic. A physical change took place when you added water to the glue. A chemical change occurred when you added the borax solution to the glue mixture. The borax made the polymer (plastic) strands in the glue bond together more strongly. For example, instead of holding hands, the polymer strands locked elbows. Their bond was much tougher to pull apart. Polymers have both solid and liquid properties at the same time! That is what makes them very unique and useful for so many things. Plastics are also inexpensive to manufacture and very flexible. They mold easily into various shapes.