

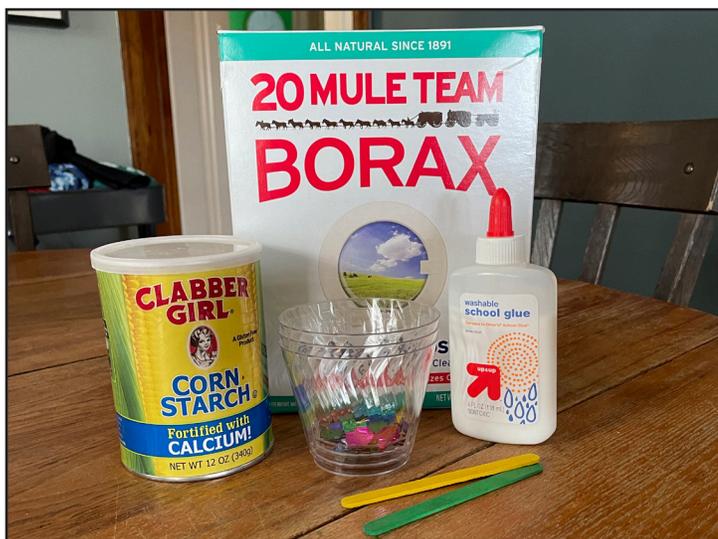


Polymer Bouncy Balls

Meet Helen. She's a chemist. She connects molecules together to make larger chains called polymers. Today we'll make polymer chains by mixing ingredients to create our own bouncy balls!

"I can design a brand-new molecule and go into the lab to make it. Sometimes, it doesn't work out perfectly, but when it does, it is the most amazing feeling in the world."

- HELEN TRAN



MATERIALS:

- 1 tbsp borax
- ½ cup warm water
- 2 tbsp school glue (like Elmer's)
- 1 tbsp corn starch
- Glitter and/or food coloring (optional)
- Paper bowls (for mixing)
- Stir sticks (anything disposable that you can use for mixing)

INSTRUCTIONS:

1. In a bowl, make your first mixture by stirring the warm water and borax until the borax is completely dissolved.



2. In a separate bowl, mix your Elmer's glue and corn starch until the corn starch is dissolved.



Polymer Bouncy Balls Continued

- 3.** Add food coloring and/or glitter to your glue mixture (this step is optional).



- 4.** Add a teaspoon of the borax mixture into the glue mixture and stir. This will begin the chemical reaction!



- 5.** As you stir, the mixture will firm up and become rubbery. Pick it up and roll it into a ball in the palms of your hands. If the mixture isn't firm enough, you can add a little more of the borax mixture to adjust the consistency.



- 6.** Test out your bouncy ball! You can store it in a plastic bag to prevent it from sticking to things.

- 7.** Play around with the recipe. What happens if you add more of the borax mixture? What happens if you add more glue? What happens if you change the shape of the ball? How does that impact the bounce?



VOCABULARY:

MOLECULE - *the smallest unit of a substance that has all the properties of that substance.*

For example, a water molecule is the smallest unit that is still water.

POLYMER - *made up of many many molecules all strung together to form really long chains.*

How they act depends on what kinds of molecules they're made up of and how they're put together.