

Non-Messy Squishy Slime

Overview: Sugar, water, and cornstarch by themselves are not very exciting, but combine them together and you'll find a gooey, goopy slime! This chemical reaction creates a polymer that's really fun to play with.

What to Learn: You should understand you are working with a chemical reaction, where you add two or more compounds together to get something completely different. You are making something called a polymer, which is an incredibly long chain of molecules.

Materials

Part I: Squishy Slime	Part II: Messy Squishy Slime II	Part III: Messy Squishy Slime III
<ul style="list-style-type: none">• 1 cup sugar• 3 cups cornstarch• 12 cups water• measuring cup• pan• heat source• spoon for stirring• food coloring• plastic baggie	<ul style="list-style-type: none">• 1 tsp fiber (psyllium fiber like Metamucil)• 1 cup water• spoon• heat source• food coloring	<ul style="list-style-type: none">• 1 cup cornstarch• 2 2/3 cups vegetable oil• spoon• balloon

Experiment

1. **Squishy Slime:** Mix 1 cup sugar, 12 cups water, and 3 cups cornstarch in a saucepan. Stir constantly over medium heat until thickened, about 5 minutes. Place a glop in each of several bowls along with drops of food coloring. Place a dollop of each color into a plastic sandwich bag and zip it shut. Squish and squeeze without getting your hands slimy!
2. **Messy Squishy Slime II:** Mix one teaspoon fiber (psyllium fiber like Metamucil) with one cup cold water. (You can add food dye to of water if you'd like.) Heat mixture (use a stove with adult help, or use a microwave for a few minutes) until it looks slimy. Stir once or twice while heating.
3. **Messy Squishy Slime III:** Mix 1 cup cornstarch and 2-2/3 cups cheap vegetable oil together, stirring to combine. Let sit for an hour (if it's a hot day, stick it in the fridge while you wait). Get a friend to rub a balloon on their head (to charge it up) as you slowly tip the slime to pour it into a second container. Bring the balloon close (but not touching) to the slime, and watch the slime

react to the balloon! You'll either see the slime wiggle closer, gel up, or break off a piece, depending on the consistency of your slime!

Non-Messy Squishy Slime Observations

Experiment	Observations (Tell about EVERYTHING you see, feel, and hear!)
Squishy Slime	
Messy Squishy Slime II	
Messy Squishy Slime III	

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Reading

Chemical reactions happen when two or more molecules interact and change to form a new substance with different properties. There are several clues that a chemical change has occurred, including the following:

1. There is a formation of gas which is seen by a fizzing or bubbling.
2. Heat, light, or odor are produced.
3. A color change is produced.
4. A solid is formed.

A physical change, on the other hand, happens when a substance changes physical forms but still retains its original properties. Ice may be melted to water or heated until it steams, but it's still H₂O.

Sugar, water, and cornstarch are common household items that have very useful purposes. But when combined together, they create something completely different. The product of this chemical reaction is a gooey, slimy mess called a polymer. A polymer is a long chain of molecules that can be slippery, stretchy, and in this case very slimy. Some other polymers are Silly Putty, Jell-O, rubber bands, plastic, rubber, and even gum.

Exercises

1. How could you make the polymer stretchier?
2. Does the amount of cornstarch added change the slime?
3. Why should the squishy slime polymer be stored in a Ziploc bag?
4. Does the amount of water added to the polymer affect the gooeyness of the slime?

Answers to Exercises

1. How could you make the polymer stretchier? (Answers will vary. Ex: add a sticky substance like glue, add more water)
2. Does the amount of cornstarch added change the slime? (Yes, it becomes drier.)
3. Why should the squishy slime polymer be stored in a Ziploc bag? (so it doesn't dry out)
4. Does the amount of water added to the polymer affect the gooeyness of the slime? (Yes, the more water, the gooier it becomes!)