

BOUNCY BALL

Got Glue?? Gather your materials and follow the directions to craft your own bouncy ball. The mission is to have the right balance of all ingredients to create the bouncy ball that can bounce the highest in the class.

Hypothesis:

Based on the ingredients at your lab station, how much glue do you think is needed for your ball? _____

Materials:

1 tablespoon (TB) of borax	1 TB of cornstarch	Meter stick
½ cup of warm water	Bowl/cup for mixing	Measuring utensils
___ glue	stirring stick/spoon	Food coloring (optional)
phone/iPad camera		

Procedure:

1. Mix ½ cup of warm water and 1 TB of borax in the container.
2. In a separate container, mix glue and 1 TB of cornstarch. Stir until combined.
3. Add a few drops of food coloring to the glue/cornstarch mixture. Stir until combined.
4. Pour the glue/cornstarch mixture into the borax water and let it sit for about 10-15 seconds. The glue mixture should start to harden.
5. Remove the blob from the borax water and roll between your hands into a ball. (If the ball still feels sticky after you roll it into a ball, dunk it back in the borax water)
6. Take turns bouncing your ball starting from the top of the meter stick. Use the meter stick to measure the highest point of the bounce from the bottom of the ball.
7. Use your camera to record your bounce in slow motion no more than two feet away.
8. Record the initial heights of each team member's bouncy in the table below.

Investigation:

Test your hypothesis! (Remember 3 tsp = 1 TB)

Round 1 Group	Amount of Glue Used (TB)	Height of Bounce(cm)
Team member 1:		
Team member 2:		
Team member 3:		
Team member 4:		

BOUNCY BALL

Round 2 Whole Class	Amount of Glue Used (TB)	Height of Bounce(cm)
Group Name:		
Group Name:		
Group Name:		
Group Name:		

Reflection

Did your ball bounce as high as you thought it would? Why or why not?

What would you have changed about how much glue to include?

Why is it important to know the proper amounts of reactants to use?

Adapted from: Malia. (2022a, April 20). How to make bouncy balls. The Stem Laboratory.
<https://thestemlaboratory.com/how-to-make-bouncy-balls/>