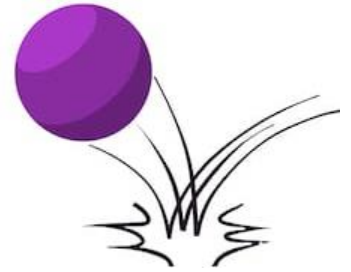


Bouncy Ball Experiment

Introduction

Can you make the bounciest bouncy ball? In this experiment you will make two bouncy balls. You will be given the recipe for the first one. After making it, you will drop it from a height of one metre and measure the height of its bounce back up. Then you will change one thing in the recipe for the second bouncy ball. You will repeat the bounce test to see if the change you made caused the ball to become more or less bouncy than the first one.



Safety



1. In this experiment you will use a chemical called Borax. Borax can be an unsafe chemical. It is a type of strong cleaning chemical. If it is used in the workplace the box is labelled with the symbol shown to the right. What does this symbol mean? What could happen if it touches your skin? _____

2. List 2 lab safety rules you should follow to protect yourself from harm during this experiment.

1. _____
2. _____

Equipment – Draw a picture of each object.

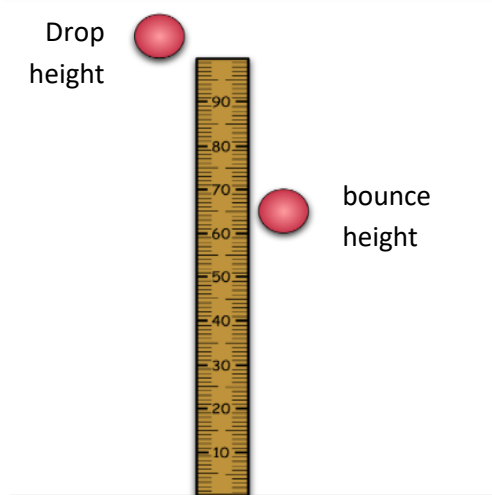
beaker graduated cylinder stirring rod scoopula metre stick

Chemicals – Use words to describe each chemical you will use in this experiment.
(Example: Is it a solid, liquid, or gas? What color is it? Does it have a smell?)

Chemical	Solid, liquid, or gas?	Color?	Smell?
Borax			
White glue			
Water			

Procedure (The procedure is a list that tells you what to do.)

1. Use a scoopula to put 2 mL of Borax in a small graduated cylinder. Pour the Borax into a small beaker.
2. Pour 10 mL of water into the graduated cylinder.
3. Pour the water into the beaker with Borax. Use a stirring rod to mix them together.
4. Measure 10 mL of white glue into a second small beaker.
5. Pour the Borax-water mixture into the beaker with the white glue. Stir for a few minutes. Then pick it up in your hands and mix it some more until you can put it in the shape of a ball.
6. Get a metre stick and put it against a wall. Have one person drop the ball from the top of the stick and a second person watch how high it bounces on the stick. Record your measurements in the table below.



Data for Ball 1

	Recipe	Bounce Height 1	Bounce Height 2	Bounce Height 3	Average bounce height
Ball 1					

How will you change the recipe? (You can only change one thing. For example, you might use 5 mL of white glue instead of 10 mL. Do not increase any amount by more than 5 mL) _____

Hypothesis - Guess what will happen. Example: "If I change the amount of white glue from 10 mL to 5 mL, then the ball will bounce higher" _____

Repeat the **Procedure** to make your second bouncy ball and record your data in the table below.

Data for Ball 2

	Recipe	Bounce Height 1	Bounce Height 2	Bounce Height 3	Average bounce height
Ball 2					

Analysis

1. Which ball had a higher average bounce height?
2. Was your hypothesis correct?
3. If you were going to make a third bouncy ball, what would you change about the recipe?