

## SCIENCE 9: Bag of Change

### PREFACE:


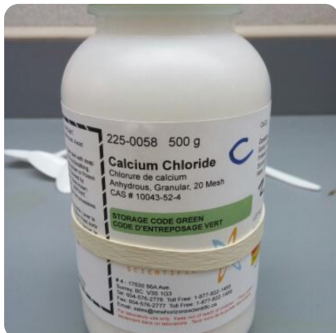

In this activity, you will mix 3 unknown substances together in a bag and observe the changes that occur noting chemical change and physical change. Observation skills are crucial for this investigation. Watch for changes in state (solid, liquid, gas), colour (use noun-colour description), volume (mL), temperature, and anything else you can detect. Do not smell any of these substances please.

### MATERIALS: PLEASE NOTE WHMIS LABELS AND ACCORDINGLY SAFETY

- Chemical A (a white solid)
- Chemical B (a white solid)
- Chemical C (a blue liquid)
- 50 mL graduated cylinders
- Plastic bag
- goggles

### PROCEDURES: GOGGLES ARE DONNED & NOT REMOVED UNTIL LAB CONCLUSION!!!!

1. Add one spoonful of Chemical A on the left side of the ziplock bag. Describe and record the properties for Chemical A. Add 1 spoonful of Chemical B on the right side of the ziplock bag. Do not mix the chemicals. Look and describe Chemical C. Record your observations in the spaces provided below. Observations may include the colour or state of each chemical. Add a photograph of each Chemical in second row below.

Chemical A (Sodium bicarbonate)	Chemical B (Calcium chloride)	Chemical C (Bromothymol blue)
It is a white, powdery substance with very little clumps.	Chemical B is a white substance that is formed into balls that range in size.	It is a dark blue liquid.
		

2. Mix Chemical A with Chemical B in the ziplock bag. Record observations. Add 10 mL of chemical C into a plastic bag. QUICKLY remove as much air as possible and then seal it up.
3. In the first 30 seconds, squeeze the bag in various places to mix the chemicals.
4. Detect any temperature changes with your hand.
5. Record as many observations as you can. After 2 minutes record any new observations.
6. Add at least two photographs of your ziplock bag.

Observations:

When we mixed chemical A with chemical B, nothing really happened. Chemical B stayed in its ball shape.

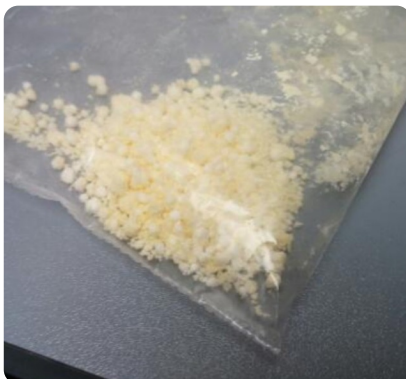
When we added chemical C to the mixture, and it turned yellow and got hot. The balls mostly stayed in the same shape, but some turned into more of a powder.

After two minutes, it mostly stayed the same, but some orange clumps formed. The mixture was no longer hot. It left a residue on the ziploc bag.

PHOTOGRAPHS



Chemical A and B mixed together



Chemical A, B, and C mixed together after 30 secs



Chemical A, B, C mixed together after 2 minutes

7. When you are finished, wash all the chemicals down the drain and rinse out the plastic bag.
8. What evidence of chemical change did you observe in the bag? What physical changes did you see?

**Answer in complete sentences.**

**POST THIS LAB ON YOUR EDUBLOG  
BE SURE TO INCLUDE YOUR VIDEO!!**