

Please use the following resources to learn about chemical properties and chemical changes.

Watch this Video: [Chemical reactions: Facts for kids](#)

Answer these questions:

- What is a chemical change? Can chemical changes be undone?
- What is evidence that a chemical change has taken place?
- How is a physical change different from a chemical reaction?

Activity: Follow these directions to figure out the difference between baking soda and baking powder.

You will need:

<ul style="list-style-type: none"> • Baking soda • Baking powder • Cream of tartar OR Lemonade drink mix 	<ul style="list-style-type: none"> • White vinegar • Water • 2 large spoons • 3 small spoons 	<ul style="list-style-type: none"> • 3 bottle caps from seltzer, soda, or milk bottles (colored plastic is nice) • permanent marker
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1. Use the permanent marker to label the bottle caps: S for Baking Soda, P for Baking Powder and, T for Cream of Tartar (or L for Lemonade).



2. Using a different small spoon for each powder.
 - a. Put a $\frac{1}{4}$ tsp baking soda in the bottle cap labeled S.
 - b. Put a $\frac{1}{4}$ tsp baking powder in the bottle cap labeled P.
 - c. Put a $\frac{1}{4}$ tsp cream of tartar in the bottle cap labeled T (or Lemonade mix in the bottle cap labeled L).



3. Using one of the large spoons, put a spoonful of vinegar into each of the bottle caps.
 - a. What happens?
4. Rinse out the bottle caps and dry them.
5. Using the small spoons, put a $\frac{1}{4}$ tsp of each powder into the correctly-labeled bottle caps.
6. Now, use a different large spoon to put a spoonful of plain water into each of the bottle caps.



- a. What happens this time?
7. Final test:
 - a. Rinse and dry the S lid or the T lid.
 - b. Add $\frac{1}{4}$ tsp of baking soda and $\frac{1}{4}$ tsp of cream of tartar/drink mix to the lid.
 - c. Use the large spoon to put a spoonful of water into the lid.
 - d. What happens now?
8. What conclusion can you draw about the chemicals in this experiment?
9. How do baking soda and baking powder help you make a cake?

Watch this video if you need help with the activity: [C02 Chemical Identification.mp4](#)

Make observations & use Claims, Evidence, and Reasoning!

1. **Claim:** Mixing some chemicals causes a reaction.
 - **Evidence:**

 - **Reasoning:**

2. **Claim:** Mixing some chemicals does not cause a reaction.
 - **Evidence:**

 - **Reasoning:**