

Safety: Wear safety goggles and be sure to follow all safety instructions given by your teacher. Wash your hands after completing the activity.

DEMONSTRATION

You saw a demonstration in which water was added to baking powder and baking soda to see if either one or both reacted and produce a gas.

1. Which powder reacts with water? Baking powder, baking soda, or both? _____



ACTIVITY

Question to investigate:

What two ingredients in baking powder make it bubble when it is mixed with water?

Materials

- Baking soda
- Baking powder
- Cream of tartar
- Testing sheet
- Popsicle stick
- Water
- Dropper
- Testing sheet

2. Baking powder contains baking soda, cream of tartar, and cornstarch. Write down all the possible combinations of ingredients in baking powder that might react when water is added.

_____ + _____
_____ + _____
_____ + _____

Procedure

1. Use a separate popsicle stick to place a small amount of each powder in its labeled area on the testing sheet.
2. Use a popsicle stick to combine the powders in each area to form three separate combinations of solids.
3. Use a dropper to add about 5–10 drops of water to each pile of powders.



WHAT DID YOU OBSERVE?

3. Write down the results of each test below.

Baking soda + Cornstarch _____

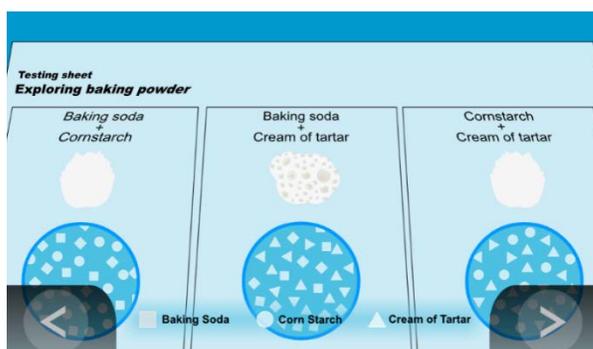
Baking soda + Cream of Tartar _____

Cornstarch + Cream of Tartar _____

4. What are the two ingredients in baking powder that make it bubble when water is added?

EXPLAIN IT WITH ATOMS & MOLECULES

5. You saw an animation that reviews the test you did. Thinking about the animation and your test, how do you know that cornstarch is **not** one of the active ingredients in baking powder?



6. Baking soda bubbles when it is mixed with either vinegar or cream of tartar in water. What kind of substance are vinegar and cream of tartar?

TAKE IT FURTHER

You saw an Alka-Seltzer tablet produce bubbles when placed in water.

7. Baking soda is the main ingredient in an Alka-Seltzer tablet. What do you think could be another ingredient in Alka-Seltzer that causes it to produce a gas when water is added?

