

5<sup>th</sup> Grade - Lesson 3.2  
Exploring Baking Powder

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**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 to see if baking soda or baking powder reacts with water to produce a gas.

1. Does baking soda or baking powder react with water?

Baking powder reacts with water but baking soda does not.



**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

2. Write down all the possible combinations of powders that might react when water is added.

Baking Soda + Cornstarch

Baking Soda + Cream of Tartar

Cornstarch + Cream of Tartar

## 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 make three separate combinations of powder.
3. Use a dropper to add about 5–10 drops of water to each pile.



3. Write down the results of each test below.

Baking soda + Cornstarch     Did not bubble

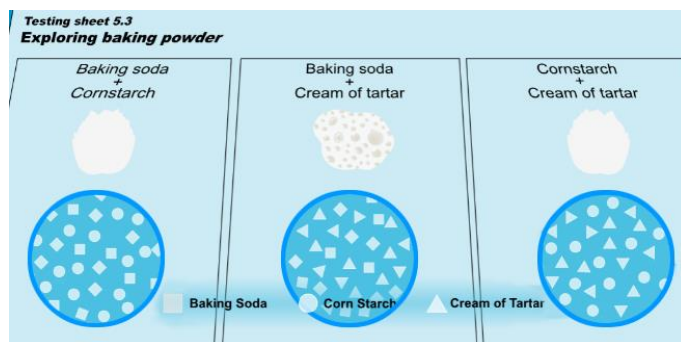
Baking soda + Cream of Tartar     Bubbled

Cornstarch + Cream of Tartar     Did not bubble

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 reviewing the test that 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?



Cornstarch is not one of the active ingredients because it didn't react with baking soda and it didn't react with cream of tartar.

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

Vinegar and cream of tartar are both acids.

### **TAKE IT FURTHER**

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

7. An Alka Seltzer tablet is made mostly of baking soda. What do you think is the other ingredient that reacts with the baking soda to produce a gas?

**It is some kind of acid.**

