



**Subject:** Science/Chemistry/Biology

**Key Concepts:** matter, gas, carbon dioxide, restrain, chemical reaction

**Name:**

## Try this at Home: Restrain and Release a Gas!

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### Words to Learn

**Matter:** anything that takes up space

**Gas:** the state of matter that does not have a set size or shape

**Carbon Dioxide:** an invisible gas that is made of one atom of carbon and 2 atoms of oxygen

**Chemical Reaction:** a process in which two different substances are mixed together, and atoms rearrange and create a new substance

**Expand:** to grow or increase in size

**Restrain:** to keep something under control from growing or doing something

### What You Need:

- Vinegar
- Baking Soda
- 1 cup measuring cup
- 1 gallon sandwich bag
- 1 small clip
- Safety glasses or goggles to be extra safe
- Surface (table or counter) that can get water and baking soda on it

### What to Do:

1. Pour 2 cups of vinegar into the sandwich bag.
2. Twist the bag just above the vinegar to seal it in.
3. Put the clip on the seal to keep it closed tight.
4. Pour 1 cup of baking soda into the top section of the bag.
5. Seal the bag closed.
6. Take off the clip, straighten out the bag, give it a gentle shake, and lay it on a table.
7. Step back, and watch the gas release and explode the bag!

## What You Learned:

1. Use the words below to fill in the blanks to explain how and why the bag exploded.

**chemical reaction**

**gas**

**expand**

**restrain**

The vinegar and baking soda combined to form a \_\_\_\_\_

that created the \_\_\_\_\_, carbon dioxide. The carbon dioxide wanted to

\_\_\_\_\_, and the bag wanted to \_\_\_\_\_ it.

2. What surprised you most about this experiment?

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