



Subject: Science/Chemistry/Biology

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

Name:

Try this at Home: Restrain and Release a Gas!

Watch this Wonderama Video on YouTube: [Cool Science: Restraining a Gas](#)

(If needed, use the video title to search for this video.)

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?
