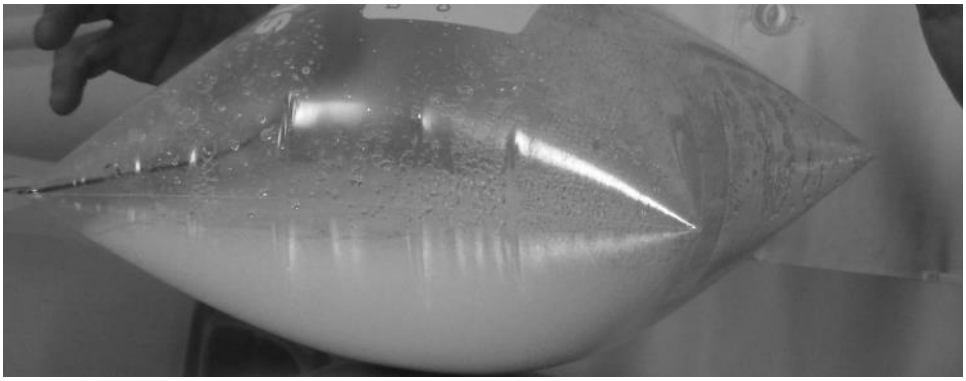

# EXPLODING SANDWICH BAG

## SCIENCE SAFETY

PLEASE follow these safety precautions when doing any science experiment.

- **ALWAYS** have an adult present.
- **ALWAYS** wear the correct safety gear while doing any experiment.
- **NEVER** eat or drink anything while doing any experiment.
- **REMEMBER** experiments may require marbles, small balls, balloons, and other small parts. Those objects could become a CHOKING HAZARD. Adults are to perform those experiments using these objects. Any child can choke or suffocate on uninflated or broken balloons. Keep uninflated or broken balloons away from children.

## INGREDIENTS

- Baking Soda
- Vinegar
- Paper Towel
- Sandwich Bag

## INSTRUCTIONS

**STEP 1**: Tear a paper towel into four equal pieces. Using one of the pieces, pour two tablespoons of baking soda into the center of the paper towel square. Describe the baking soda by its observable properties.
**STEP 2**: Fold the square into a smaller square, so the baking soda stays inside.
**STEP 3**: Fill the sandwich bag ¼ of the way with vinegar. Describe the vinegar by its observable properties.
**STEP 4**: Drop the paper towel into the sandwich bag. Hold the sandwich bag over the trash can, close it, and observe. Did mixing the two substances result in a new substance?

## EXPLANATION

When the paper towel square, containing the baking soda, is placed into the bag, containing the vinegar, a chemical reaction happens, which creates carbon dioxide gas. The carbon dioxide gas fills the bag, causing the bag to expand and eventually pop.

### SCIENCE BACKGROUND

Matter is anything that has mass and takes up space. Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties. Measurements of a variety of properties can be used to identify materials. When two or more different substances are mixed, a new substance with different properties may form. This is considered a chemical reaction, which is a change that results in one or more new substances. A physical reaction does not result in a new substance.

### I CAN STATEMENT

- ✓ I can plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
- ✓ I can conduct an investigation to determine whether the mixing of two or more substances results in a new substance.

### NEXT GENERATION SCIENCE STANDARDS CONNECTION

2 – Structure and Properties of Matter | Patterns
5 – Structure and Properties of Matter | Cause and Effect