



The Exploding Lunch Bag

YOU WILL NEED:

- One small (sandwich size) zip-lock bag—freezer bags work best
- Baking soda
- Warm water
- Vinegar
- Measuring cup
- A tissue

WHAT TO DO:

1. Go outside - or at least do this in the kitchen sink.
2. Put 1/4 cup of pretty warm water into the bag.
3. Add 1/2 cup of vinegar to the water in the bag.
4. Put 3 teaspoons of baking soda into the middle of the tissue.
5. Wrap the baking soda up in the tissue by folding the tissue around it.
6. You will have to work fast now - partially zip the bag closed but leave enough space to add the baking soda packet. Put the tissue with the baking soda into the bag and quickly zip the bag completely closed.
7. Put the bag in the sink or down on the ground (outside) and step back. The bag will start to expand, and expand, and if all goes well ...POP!

HOW DOES IT WORK?

Cool huh? Nothing like a little chemistry to add fun to a boring afternoon. What happens inside the bag is actually pretty interesting - the baking soda and the vinegar eventually mix (the tissue buys you some time to zip the bag shut) When they do mix, you create an ACID-BASE reaction and the two chemicals work together to create a gas, (carbon dioxide - the stuff we breathe out) well it turns out gasses need a lot of room and the carbon dioxide starts to fill the bag, and keeps filling the bag until the bag can no longer hold it any more and, POP! Be sure to clean up well and recycle those plastic bags...have fun!

MAKE IT AN EXPERIMENT

The project above is a DEMONSTRATION. To make it a true experiment, you can try to answer these questions:

1. Will different temperature water affect how fast the bag inflates?
2. What amount of baking soda creates the best reaction?
3. Which size of bag creates the fastest POP?

(p.s. If you like this experiment, try the 'Film Canister Rocket' experiment on the Science Bob website)

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