



# High Touch High Tech®

Science Experiences That Come To You™

## Bang in a Bag

### Supplies:

- Plastic bin
- Sandwich zip lock bag
- ½ a paper towel
- Baking soda
- Tablespoon
- Vinegar
- Water
- ¼ cup measuring cup

### Instructions:

1. Measure ¼ cup of vinegar and put it in the bag.
2. Measure ¼ cup of water and put it in the bag.
3. Outside of the bag, measure 2 tablespoons of baking soda and place it on the paper towel. Be careful to keep this separate from the liquids.
4. Fold the paper towel up to create a little packet.
5. Carry the bag and paper towel packet outside where your plastic bin is.
6. Carefully place the packet into the bag while keeping it OUT of the liquid.
7. Seal the bag and put it down in the plastic bin. Let the packet fall into the liquid.
8. Wait and watch what happens!

### The Science Behind it:

What you just observed was a chemical reaction! A chemical reaction is when 2 or more things mix together to create something new. In this case, the acidic vinegar reacted with the basic baking soda to create carbon dioxide gas.

A liquid and a solid mixed together to form a gas via a chemical reaction. Those are all examples of states of matter. Everything is made up of matter and matter can physically change from solid to liquid to gas without a chemical reaction. Liquid water, ice, and steam are all examples of water in three different states of matter. Typically, an increase or decrease in temperature or pressure prompts a change in physical state.