Bubbling Balloon

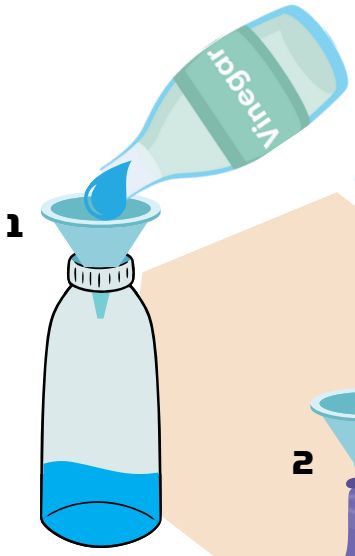
Vinegar, baking soda, and carbon dioxide are all chemicals that can be found in your everyday life. Vinegar is found in fermented fruits, baking soda is used in baked goods, and carbon dioxide is what we breathe out. Explore how we can use these chemicals to create a fun reaction!

Materials:

- Plastic Bottle
- Baking Soda
- Measuring Spoons
- Paper Towel or Towel
- Funnel
- Vinegar
- Balloon

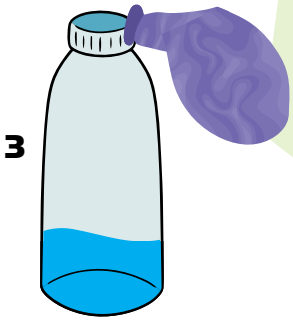
Procedure:

1. Using the funnel, pour vinegar into the the bottle until it is ¼ full.



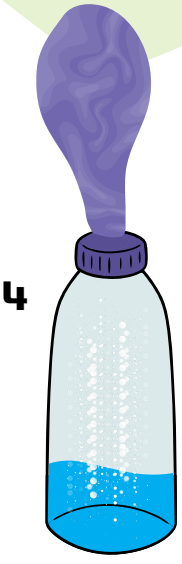
2. Dry the funnel, then use it to pour 2 tablespoons of baking soda into the balloon. You may need a partner to help with this step.

3. Carefully, place the opening of the balloon over the opening of the bottle.



4. When you are ready, hold the balloon up and let the baking soda fall into the bottle. What happens?

***Tip:** Hold the balloon where it is attached to the bottle.*



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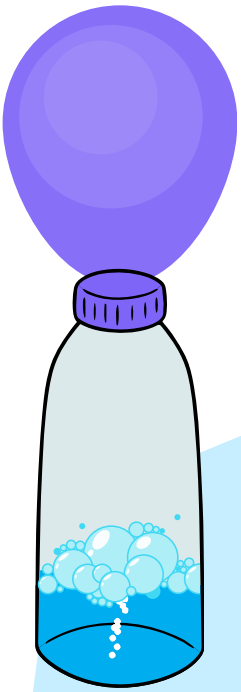
WHAT'S HAPPENING?

A chemical reaction happens when you add two substances together and they create new substances by rearranging their molecules. You used a chemical reaction between an acid and base to make the balloon inflate!



Acetic Acid (Vinegar) CH_6COOH + Sodium Bicarbonate $NaHCO_3$

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Carbon Dioxide CO_2 + Water H_2O + Sodium Acetate CH_3COONa

In this experiment, citric acid is the acid and baking soda is the base. When they are mixed together, they create carbon dioxide which is a gas. The molecules in gasses like to fill all the space they are given. When the bottle is full of water and carbon dioxide, the carbon dioxide begins to fill the balloon.

DID YOU KNOW?

A **chemist** is someone who studies everything about the different chemicals that exist in our world, even milk! If you liked exploring this activity, maybe chemistry is for you!