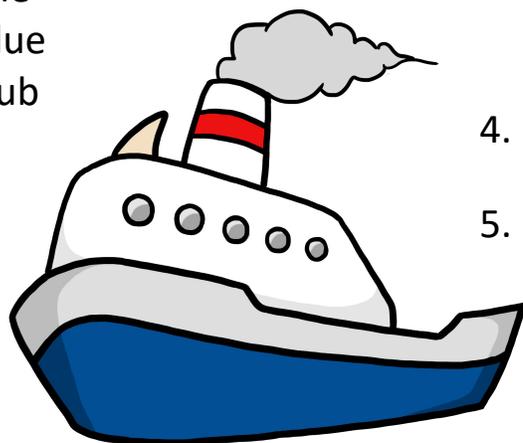




BAKING SODA-VINEGAR STEAM POWERED BOAT

Supplies

- Baking soda
- White vinegar
- Plastic bottle
- Sharpie
- Hot glue
- Bathtub



Procedure

1. Peel off the label on your water bottle and decorate the plastic with permanent markers
2. Poke a hole in the bottom of the bottle, and slip straw through
3. Pour one cup of vinegar into one side of the bottle, and a few spoonfuls of baking soda into the other, keeping them separate
4. Give the bottle a shake, and quickly set it in the tub
5. Watch as your boat cruises around!

Science behind the reaction

This experiment shows the **reaction** that occurs when you mix an acid like vinegar with an alkali like baking soda. When mixed, they form a gas that gets trapped inside the bottle and tries to escape.

In our case, the only way out is through the straw, which causes the water bottle to be pushed across the water like a steam engine. When the reaction finally stops, we can notice that our boat stops speeding around.

What do you think would happen if we added more vinegar? More baking soda? How do you think you could make the boat go faster or slower? Try changing the **procedure** to make the substances react differently on your own!