



October 15-minute Family STEAM

Popping Pumpkins

Supplies Provided:

1 tbs Baking soda
Orange water color paint
2 oz Vinegar
Zip-seal sandwich size bags

Supplies From Home:

Black Marker
1 square of toilet paper (or cut a paper towel)
Tape

1. Using a permanent marker, draw a jack-o-lantern face onto zip-seal bags.
2. Once the marker on the bags is dry, fill the bag roughly 1/3 of the way with vinegar (about ¼ cup or about 2 oz).
3. Add 3 teaspoons of corn starch to each bag.
4. Add a few drops of orange water color paint coloring to the bags.
5. Then, tightly seal the bags and mix the ingredients until combined.
6. For each bag you will need to make a baking soda packet. To do this place baking soda in the middle of a square of toilet paper, and then fold the paper into a ball. Secure the packet with a small piece of tape.
7. Seal the bag almost all the way, leaving just enough room to place a baking soda packet in. Do not let the packet go until you have sealed the bag all the way.
8. Double check to make sure the zipper is fully sealed. Then quickly drop the baking soda packet, give the bag a quick shake, and set it down.
9. The bag will fill with pressure until it POPS & explodes, sending colorful bubbles flying!

The Science

A cool chemical reaction is happening between the baking soda and the vinegar. The baking soda is a base and the vinegar is an acid. When you combine the two, a new substance is formed, a gas called carbon dioxide. You can see, hear and even feel the chemical reaction happening. All the CO₂ gas that is formed by the reaction creates pressure inside the bottle. The pressure builds up until it pops the bag.



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