



4-H Learn at Home Activity: Exploding Baggies

Materials Needed:

- Zip-closing plastic baggies (sandwich size works best)
- Toilet/tissue paper
- Baking soda
- Vinegar
- Measuring cups and spoons
- Protective eye equipment (sunglasses can work)

Instructions:

Note: This activity should be done outside, or in a place where making a bit of a mess is okay!

1. Provide each child with a zip-closing plastic bag and protective eyewear.
2. Have each child measure out $\frac{1}{2}$ cup of vinegar and set it aside.
3. Next, each child should take a few squares of toilet paper or tissue paper and add 1 tablespoon of baking soda to the center of the toilet/tissue paper.
4. Twist and fold the toilet/tissue paper around the baking soda to form a small pouch. Make sure all the powder is contained inside.

5. Quickly drop the tissue/toilet paper pouch of baking soda into the baggie and zip it closed. Shake the baggie a few times and place it on the ground and step back!

This activity offers an experience to observe a chemical reaction by combining substances together (an acid and a base) and observing the reaction. Since this takes place in a closed baggie, youth can observe what happens to the bag as it fills with a newly created gas and pressure builds inside the bag. A new substance (carbon dioxide gas) is formed when the vinegar and baking soda are combined.

Reflective Questions:

- What happened to the baggie?
- What did you notice when you added your baking soda pouch into the vinegar?
- What was your favorite part of this activity?
- What do you think is happening inside the baggie?
- Have you seen anything like this before? What are the similarities and differences you can recall?

Extensions of this activity:

- Change the amounts of the materials used. Vary different measurements of baking soda and vinegar and see if that changes the results.
- Try adding food coloring to the vinegar and place baggies on poster paper to make fun "exploding art".