



## Fairfax County Neighborhood & Community Services

### #NCScconnects Virtual Activity



**Activity:** Exploding Lunch Bag

**Category:** STEAM

**Suggested Grade Level:** 1-6

**Description:** Nothing like a little chemistry to add fun to a boring afternoon. What happens if you mix baking soda and vinegar?

#### Supplies:

1 small (sandwich size) plastic bag or freezer bag  
Measuring cup  
Baking soda  
Warm water  
Vinegar  
A tissue

#### Instructions:

1. Go outside – or at least do this in the kitchen sink.
2. Put 1/4 cup of warm water into the bag.
3. Add 1/2 cup of vinegar to the water in the bag.
4. Put 3 teaspoons of baking soda into the middle of the tissue.
5. Wrap the baking soda up in the tissue by folding the tissue around it.
6. You will have to work fast now – partially zip the bag closed but leave enough space to add the baking soda packet. Put the tissue with the baking soda into the bag and quickly zip the bag completely closed.
7. Put the bag in the sink or down on the ground (outside) and step back.
8. The bag will start to expand, and expand, and if all goes well...POP! Cool, huh?



**Takeaways:** What happens inside the bag is interesting – the baking soda and the vinegar eventually mix (the tissue buys you some time to zip the bag shut). When they do mix, you create an ACID-BASED reaction and the two chemicals work together to create a gas (carbon dioxide – the stuff we breathe out). Well, it turns out gases need a lot of room and the carbon dioxide keeps filling the bag until the bag can no longer hold it anymore and POPS! Be sure to clean up well and recycle those plastic bags. Have fun!



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