

# 15 Days of Winter Break

## Lemon Volcano

### What You Need:

- lemon
- lemon juice (from 1 or 2 other lemons)
- baking soda
- Popsicle stick or spoon
- tray or dish

### Optional (but fun):

- food coloring
- dish soap



Photo from sciencebuddies.org

### Instructions:

1. Prep the lemon by rolling it on the counter. This will help loosen the juice inside.
2. Have an adult cut off the bottom of the lemon to make it flat, so the lemon will stand up without flopping over or rolling away. Try not to cut into the flesh of the lemon or you may end up with a leaky volcano.
3. Have the adult cut into the top of the lemon to make a hole.
4. Place your lemon volcano onto your tray. Use the Popsicle stick or spoon to squish and squash the lemon pulp to release the juice. Scrape the sides along the inside of the lemon, but try not to puncture the bottom.
5. If wanted, squeeze a few drops of dish soap into your volcano. This isn't necessary, but will make your volcano bubbly.
6. If wanted, add a few drops of food coloring to your volcano. This isn't necessary either, but adds a little extra pizzazz to the experiment.
7. Add a teaspoon of baking soda to the lemon to activate your volcano. Watch it foam up and come to life!
8. Use your Popsicle stick or spoon to mix the lemon juice up a little more. Sprinkle in more baking soda once your volcano slows down.
9. Add in the extra lemon juice to reactivate your volcano after it settles down again. Have fun experimenting with the lemon juice and baking soda, adding a little at a time.

### Citrus Volcano: Why does it happen?

When we add baking soda to the lemon, we're combining citrus acid with sodium bicarbonate, which forms a gas called carbon dioxide. What we're seeing is a chemical reaction between an acid and a base.

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