



## STEM Activity Idea:

### LEMON SODA

**Suggested Program Level: Daisy**

Create your own refreshing, fizzy drink by using a little kitchen chemistry!

#### Supplies (one set for each girl):

- drinking glass
- 2 lemons, cut into wedges
- 1-2 teaspoons sugar
- spoon
- water
- 1 teaspoon baking soda
- ice (optional)
- citrus juicer (optional)

#### Instructions:

1. Show the girls how to squeeze the lemon halves, putting the juice into the drinking glass. Let the girls juice their lemon halves into their glasses. Watch for seeds, and help the girls remove any with the spoon. This is a great time for some older helpers, or to use a juicer to help extract the lemon juice.
2. Let the girls add water to make the water/lemon juice ratio roughly equal.
3. Let the girls taste the water/lemon mixture to see if they need to add a little sugar. The girls can add sugar if necessary.
4. Instruct the girls to stir in the baking soda and wait for the reaction; let the fizzing be a surprise discovery.
5. Add ice (if desired) and enjoy!
6. As you drink the lemon soda, discuss how the baking soda and lemon juice create carbon dioxide bubbles that are the exact same bubbles that are in sodas.

#### Why?

Lemon juice is an acid and baking soda is a base, and when acids and bases combine there is a chemical reaction. In this case, the solid baking soda mixes with the liquid lemon juice to create carbon dioxide gas (bubbles). This experiment could be recreated using oranges, limes or any other citrus fruit.