## **Baking Soda "Poppers"**

| Supplies:              | <ul> <li>Vinegar; Baking Soda</li> <li>1 snack size zipper seal bag</li> <li>1 square of toilet paper or tissue</li> <li>Liquid measuring cup</li> <li>Measuring spoons</li> <li>Safety goggles</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| Age or Grade:<br>Time: | All Ages<br>30 Minutes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Background:            | Baking soda, or sodium bicarbonate is a baking ingredient that is activated by a liquid<br>and acid. The chemical reaction of baking soda and an acid produces carbon dioxide in<br>the form of bubbles. These bubbles form air pockets allowing batters and doughs to<br>rise.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Project Goal:          | Discover how a chemical reaction can cause batter to rise using baking soda                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| What to Do:            | <ol> <li>Put on your safety goggles and step outside (if it's a rainy day, do this activity in your bathtub, shower or sink).</li> <li>Place 1 tsp of baking soda in the middle of a square of toilet paper or tissue.</li> <li>Wrap up the baking soda in the tissue by folding the tissue several times and place in the zipper seal bag.</li> <li>Partially seal the bag, leaving about one inch open.</li> <li>Pour ¼ cup of vinegar into the bag and seal it completely, as quickly as you can.</li> <li>Give the bag a quick shake and gently toss onto the ground.</li> <li>Wait for the contents to foam, then the bag to expand, then pop!</li> <li>Pick up the bag and dispose of it or dry it out and try again — Don't leave any trash outside!</li> </ol> |
| Reflect:               | <ol> <li>What is the advantage of using a chemical reaction to cause your batter to rise<br/>rather than using yeast?</li> <li>If you did not have vinegar, what other types of acid (sour foods or liquids) could<br/>you use to get a similar reaction?</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Apply:                 | Can you think of a recipe that uses baking soda and an acid?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Going Further:         | Try other acidic liquids such as lemon juice or butter milk. Go to <u>https://www.ice.edu/blog/what-irish-soda-bread</u> to learn how to make Irish Soda Bread with your family!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |





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