



Volcano Candy

Use a chemical reaction to make a foamy candy!

Activity Guide

Try This!

SAFETY: Extreme caution is necessary when heating and handling the candy. It is recommended that you do this activity as a demonstration and do not allow visitor participation.

SAFETY: The candy is safe to eat only if you use food-grade ingredients and clean kitchen equipment to prepare it.

1. Prepare the pan by lining with aluminum foil.
2. Coat the foil with the cooking spray.
3. Combine $\frac{1}{4}$ cup sugar and $\frac{1}{2}$ cup corn syrup in the pot.
4. Add 1-teaspoon vinegar to the pot and stir.
5. Heat to boiling until all the sugar dissolves.
6. While you wait for the candy to heat up, measure out 1 scant teaspoon baking soda, crushing any lumps so you have a uniform powder. Set the baking soda aside.
7. Continue heating and stirring the sugar syrup until the temperature reaches 290° F.
8. Remove the pot from the heat and place it on a trivet.
9. Quickly stir in the baking soda. Observe the reaction.
10. Pour the mixture into the prepared pan. Don't spread out the mixture (or you'll pop the bubbles).
11. Let the candy cool, then break it into pieces and eat it.

What's Going On?

The bubbles that erupt in the sugar syrup are carbon dioxide that was created when the baking soda and vinegar reacted. This chemical reaction is used to leaven many baked goods. (It's also familiar to many kids from making model volcanoes in school.)

The resulting holes in the candy crystal make the candy lightweight, and give it a foamy structure. This candy is an example of a polymer, which is a large molecule made of repeating structural units.



Learning Objectives

- Carbon dioxide is created when baking soda and vinegar react.
- A polymer is a large molecule made of repeating structural units.

Materials

- Granulated sugar
- Light corn syrup
- Cooking spray (butter or oil)
- Vinegar
- Baking soda
- Aluminum foil
- Small pan (about 6 inches square)
- Transparent glass pot, pan, or casserole that is safe for stovetop use
- Rubber spatula
- Candy thermometer
- Hot plate or stovetop
- Glove or hot pad
- Trivets or heatproof surface.

Credits

This project is made possible by a grant from the Camille and Henry Dreyfus Special Grant Program in the Chemical Sciences. Copyright 2011, Sciencenter, Ithaca, NY.

