Objective

By the end of this lesson, you will be able to create a Mentos volcano eruption and understand the science behind it.

Materials and Prep

- Mentos candies (at least 6)
- A 2-liter bottle of diet soda (preferably cola)
- An outdoor space or a large container to contain the eruption
- Protective eyewear and clothing (optional but recommended)

Before starting the lesson, make sure to read and understand the safety precautions for handling the materials.

Activities

1. Set up the outdoor space or the large container in a safe location.
2. Put on your protective eyewear and clothing (if using).
3. Open the bottle of diet soda carefully, making sure not to shake it.
4. Drop the Mentos candies into the bottle of soda all at once.
5. Step back and observe the eruption as the soda shoots up into the air.
6. Repeat the experiment with different variables, such as using different types of soda or changing the number of Mentos candies.

Talking Points

- The eruption occurs due to a process called nucleation. When the Mentos candies are dropped into the soda, the rough surface of the candies provides numerous sites for carbon dioxide bubbles to form.
- The carbon dioxide bubbles attach themselves to the Mentos candies and rapidly rise to the surface of the liquid. This creates a buildup of pressure inside the bottle, leading to the eruption.
- The diet soda works best for this experiment because it contains artificial sweeteners like

aspartame, which provide more nucleation sites compared to regular sugar.

- By changing variables such as the type of soda or the number of Mentos candies, you can observe how different factors affect the size and intensity of the eruption.

- Remember to always conduct this experiment in a safe and controlled environment, and follow any additional safety guidelines provided by your parents or guardians.