Lesson: Fizz Frenzy: Mentos and Diet Coke	Name:
Teacher:	Date:

Florida State Standard: SC.5.P.8.1 – Observe and describe that most substances exist in one of three states: solid, liquid, or gas.
Florida State Benchmark: SC.5.P.8.2 – Identify that gases can be released from liquids and describe how the release of gas results in bubbles or foam.

Objective:

Students will understand how gas is released from carbonated beverages and how surface area impacts the release using the Mentos and Diet Coke experiment.

Materials:

- 1 bottle of Diet Coke (2-liter)
- 1 roll of Mentos (mint flavor)
- Mentos dropper or paper tube
- Outdoor space
- Safety goggles (optional)

Safety Precautions:

- Conduct the experiment outdoors.
- Wear safety goggles.
- Keep a safe distance after releasing Mentos.

Procedures:

1. **Introduction (5 min)** – Discuss carbonation and have students predict what happens when Mentos are added.
2. **Experiment (15 min)** – Outdoors, quickly drop 5–7 Mentos into the Diet Coke bottle using a dropper or paper tube. Step back and observe.
3. **Observation (10 min)** – Students record foam height, reaction speed, and other observations. Discuss why it occurred.
4. **Generalization (10 min)** – Explain nucleation sites and the effect of surface area on gas release.
5. **Assessment (5 min)** – Answer questions:
    1. What type of gas is released?
    2. Why do Mentos cause a stronger reaction than other candies?
    3. How does surface area affect the reaction?
    4. What happens if warm soda is used?
    5. Why is this a physical reaction?

Clean-Up:

- Ensure safety while cleaning.
- Wipe the area, dispose of wrappers, and wash hands.

Answer Key – Suggested Answers

1. What type of gas is released from Diet Coke when Mentos are added?

   - Carbon dioxide (CO_2).

2. Why does Mentos cause a stronger reaction than other candies?

   - Because Mentos have a rough surface with many tiny pits that allow CO_2 bubbles to form quickly.

3. How does surface area affect the reaction?

   - A larger or rougher surface provides more nucleation sites, causing a faster and bigger release of gas.

4. What would happen if warm soda were used instead of cold soda?

   - Warm soda would create a stronger eruption because CO_2 escapes more easily at higher temperatures.

5. Why is this considered a physical reaction rather than a chemical one?

   - It is a physical reaction because the soda and Mentos do not create a new substance—the CO_2 is just being released from the liquid.