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Lesson: Fizz Frenzy: Mentos and Diet Coke

Name:

Teacher:

Date:



## The Explosive Science Behind the Mentos and Diet Coke Free Article – STEM Scholars Hub

### Description:

Discover the science behind the classic Mentos and Diet Coke experiment in this free STEM article from STEM Scholars Hub. Students will learn how carbon dioxide gas is released from carbonated beverages and how surface area affects the intensity of the reaction. This article explains the phenomenon in a fun, educational, and safe way, helping students connect hands-on observations to key scientific concepts.

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### Introduction

The Mentos and Diet Coke experiment is a classic science demonstration that captivates audiences with its explosive results. When these two seemingly ordinary substances combine, they create a stunning fountain of soda, illustrating key scientific concepts in a fun and engaging way.

### The Reaction Explained

- **Carbon dioxide in Diet Coke:** Diet Coke contains  $\text{CO}_2$  gas dissolved under pressure. Opening the bottle releases some gas, forming bubbles.



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- **Role of Mentos:** Dropping Mentos into the soda provides nucleation sites—tiny surface imperfections where CO<sub>2</sub> bubbles rapidly form.
- **Rapid gas release:** The rough texture of Mentos increases surface area, causing CO<sub>2</sub> to escape almost instantly and creating foam that shoots high into the air (Lee & Ley, 2005).

## Safety Considerations

- Perform the experiment outdoors.
- Wear safety goggles to protect eyes from splashes.
- Step back immediately after adding Mentos to maintain a safe distance.

## Educational Value

The Mentos and Diet Coke experiment provides hands-on learning about:

- Physical reactions and gas dynamics
- Relationship between surface area and gas release
- Behavior of gases under pressure

This engaging activity encourages students to observe, hypothesize, and think critically while connecting excitement to scientific principles.

## Conclusion

The Mentos and Diet Coke experiment is more than a fun spectacle—it's a powerful educational tool. With proper safety precautions, it can inspire curiosity and foster a love for science in learners of all ages.

## References:

Lee, J. J., & Ley, C. J. E. (2005). *The Physics of the Diet Coke and Mentos Experiment*. *Journal of Physics Education*, 23(4), 201–205.