A Chemical Change: Diet Coke & Mentos
4th Grade

Authors: Boehm, Michael; Bradley, Cindy

References:

Benchmarks & Objective:

- PS-1: Identify characteristics of a simple physical change (e.g. heating or cooling can change water from one state to another and is reversible)
- PS-4: Explain that matter has different states (e.g. solid, liquid, gas) and that each state has distinct physical properties
- SI-1: Select the appropriate tools and use relevant safety procedures to measure and record length, weight, volume, temperature and area in metric and English units

Materials:

- Science journals
- Mint flavored Mentos
- 2 Liter Diet Coke

Target Concept:

This lesson will be used to teach students about chemical and physical changes.

Initial Introduction:

The previous lessons should be enough of an introduction on the topic of chemical and physical changes.

Procedure:

Day One

1. Go outside
2. Ask the students what's in Diet Coke
    a. You're looking for water and Carbon Dioxide
3. Dump about 5-9 Mentos into the Diet Coke and walk away
4. Have the students record their observations
5. Ask the students what kind of change occurred
    a. There may be a more complicated chemical change occurring, but in general the mentos offer a rough surface for the CO2 to form bubbles and escape from the Coke

Target Observations:

- Physical changes involve physical properties and don't irreversibly alter the material

Final Target Concept:

The students should have witnessed another example of a physical change.

Summary & Discussion:

The teacher should review the difference between physical and chemical changes and the methods of achieving both changes.