Mentos and Coke Experiment

We are going to follow the scientific method as we test the chemistry between Mentos and Coke!

Goggles and Aprons on!
This can be a messy lab so dress appropriately. This is a good lab to do outside. Liquid can shoot out of the bottles so it is important to protect your eyes.

Question: Will the reaction between Mentos and regular Coke create a taller geyser than the reaction with Mentos and Diet Coke?

Background Info:

- The original Mint Mentos are round candies with a chewy interior and a hard outer shell. The outside of mint Mentos are covered with many rough small pores because they are sprayed with over 40 microscopic layers of sugar. Gelatin and gum Arabic are some of the ingredients in mint Mentos. Mentos are also heavy and will sink in liquid.
- To make your soda bubbly, carbon dioxide is forced into it at extremely high pressures. Diet sodas have slightly more carbonation (carbon dioxide) than regular sodas and different sweeteners.
- Mentos reacting with soda is a **physical reaction**, caused by the small pitted holes on the Mento. The Mento quickly attracts and releases a large amount of the carbon dioxide gas and because it is heavy and sinks it does this throughout the bottle as it falls. The sudden increase in pressure from the gas being released is what pushes the liquid up and out of the bottle.
- A **Physical Reaction** or **change** can affect the size, shape or color of a substance. The original substance stays the same, no new substance is formed.

Hypothesis: Do you think that there will be a taller geyser from the regular or the diet Coke? Why or why not?

Materials:

2 cups	**20 oz bottle Coke**	**Index card**	**Package mint Mentos**
Index card	**20 oz bottle Diet Coke**	**Measuring tape**	**Magnifying glass/microscope**

Procedure:

1. Use your magnifying glass or pocket microscope to observe the exterior of a Mento. Write down your observations.
2. Label your cups: Coke and Diet Coke. Pour a small amount of each type of Coke in the cups.
3. Place one Mento in each cup and observe what happens. Write down your observations, noting any differences or similarities between the two types of sodas.
4. If you are not outside yet, it is a good idea to go outside now. Set up the measuring tape against a wall so that you can measure how high the geyser shoots from each of your bottles of Coke.
5. Place one of your bottles of Coke in front of the measuring tape.
6. Roll your paper to make a tube and line up, in a stack 3 of your Mentos, inside of the roll.
7. Cover the bottom of the tube with an index card and place it over your bottle of soda.
8. Make sure that your tube is right over the top of your bottle so that the Mentos will drop in once the index card is removed. Now, quickly slide the index card out so that the Mentos all drop into the Coke at once.
9. Get out of the way! This is a wet zone, so expect to get wet!
10. Observe and record how high the geyser reached on your measuring tape and then repeat steps 5-9 with your other Coke.

Data Tables:

Qualitative Data:

Qualitative data, describes something. In an experiment, it is what you can see or notice but cannot measure in numbers. (Hint: think quality for description.)

Observations	
Mentos	
Diet Coke	
Regular Coke	
Mentos + Diet Coke	
Mentos + Regular Coke	

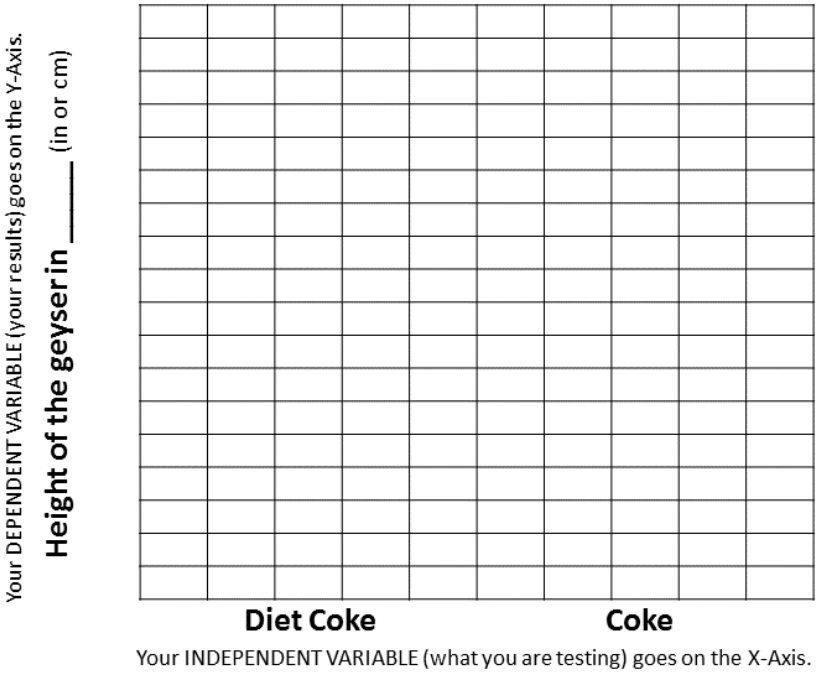
Quantitative Data:

Quantitative data can be counted or measured. It can be measured in numbers. (Hint: think quantity for numbers.)

	Height of Geyser
Diet Coke	
Regular Coke	

Graph:

Create a bar graph to compare how high the geyser of each type of Coke was. In science, it is always better to use the metric system, when measuring. But since many United States measuring tapes are only in inches, it is okay if you used inches to measure for this lab.



Conclusion:

On another sheet of paper, use your data and observations to write whether your hypothesis was supported or not supported. By the way an unsupported (not proven) hypothesis is perfectly okay! Discuss why you think you got the results you did. Also, include what you might have done better and another experiment you might do based upon this lab.