

Diet Coke and Mentos Experiment Design

Before any experiment can be performed, background research must be done, a hypothesis must be made, and an experiment must be carefully designed. Your assignment is to go through these three steps for our Diet Coke and Mentos experiment. I will pick the best 2 or 3 experiment designs and we will do them (outside) as a class. Hopefully this will be fun. At least, I'm looking forward to it.

Here are the requirements for your write up.

1. Research the Diet Coke/Mentos phenomenon. (Web research is fine.) Find out any ideas or previous research done on this subject. Write, in your own words, 3-4 paragraphs on your findings. Be sure to cite your references. For this assignment, citing the web address is fine, in parenthesis, immediately after the idea you're referencing has been written.
2. From the research you have done, find an aspect of the previous work or ideas that you'd like to test in class. Formulate a hypothesis that is one or two sentences long. For example, and this hypothesis is NOT on the table for experimentation by the way, "I think that placing a lit cherry bomb next to a Diet Coke 2 liter bottle will spray Diet Coke much further away from the initial experiment site than dropping Mentos in Diet Coke will."
3. Design an experiment to test your hypothesis and write it up. Make sure it's something that can be easily and cheaply done in under an hour. Make sure it is not a dangerous experiment; no hazardous chemicals, like strong acids or bases and nasty solvents. I don't mind buying non-alcoholic products that can be bought at either a drug store or a grocery store as long as the cost doesn't get too high. Be very specific; include materials and product names that you want to test. (If an elaborate device would have to be custom constructed or you choose to formulate your hypothesis on alcoholic beverages or hazardous materials, that's fine for the theoretical purposes of the assignment, but bear in mind that will not be the experiment selected for the in-class test.) Think about all the things we discussed in class for designing a good experiment. Indicate what kind of measurements you're going to make, and how you would make the measurements. Indicate the order of the steps in your experiment. Indicate how many trials you want to make of each step. This write up should take up several paragraphs, at least. If it's only a couple of sentences, you're leaving out lots of important information.

This assignment must be typed. Use at least a 10-12 point font so I can easily read them. Use proper grammar, and a spell-checker. Don't use unprofessional language. Try to write like a scientist! Be subjective. Be analytical. Be mature, OK?