

Science Fair Draft A

Name: Ms. Melko

Due:

Title of experiment: Inflating Balloons using different solutions

Question: Which liquid, when mixed with baking soda, will react and make a balloon inflate the largest?

Materials (list all materials you will use!)

3 balloons (same size)	1/2 cup Diet Coke
3 empty plastic bottles (same size)	1/2 cup lemon juice
baking soda- 3 tablespoons	Permanent
tablespoon	Measuring cup
1/2 cup vinegar	Funnel
	ruler

Independent Variable (The thing you're going to change)

The liquid being mixed with baking soda: lemon juice, Diet Coke, and Vinegar

Dependent Variable (the thing that will change as a result of the independent variable)

How large the balloon inflates

Science Fair Draft A (cont.)

Constants (Everything that will stay the same)

- Same size and shape balloons
- Same size bottles
- Same amount of liquid
- Same amount of baking soda used (1 tablespoon)

Hypothesis (your prediction in the “If...then...” format)

If baking soda is mixed with lemon juice, vinegar, and Diet coke, then the solution with diet coke will make a balloon inflate the largest.

Comment [L1]: Remember that the “if” part of your hypothesis relates to your INDEPENDENT VARIABLE. The “then” statement relates to your DEPENDENT variable.

Procedures (step by step instructions on how you will complete the experiment. Be specific!)

1. Gather materials
2. Using a funnel, fill one plastic bottle with one cup of vinegar, fill another plastic bottle with one cup of lemon juice, and fill the last plastic bottle with one cup of Diet Coke. Label each bottle with the permanent marker.
3. Using a funnel, pour one table spoon of baking soda into the bottle marked vinegar. Quickly remove the funnel, and place the end of balloon over the mouth of the bottle.
4. Observe and wait for the reaction to finish. Measure the balloon’s width using a ruler and record.
5. Repeat process with the bottle labeled water, and the bottle labeled Diet Coke.
6. Repeat experiment

Comment [L2]: Remember to be specific in your directions. Think of it like a science “recipe” where anyone should be able to read it and conduct it correctly.

Science Fair Draft B

Name: _____ **Due:** April 23, 2014

Observations (What did you observe while conducting your experiment?)

Lemon juice- 9 cm
Diet Coke- 4 cm
Vinegar- 11 cm

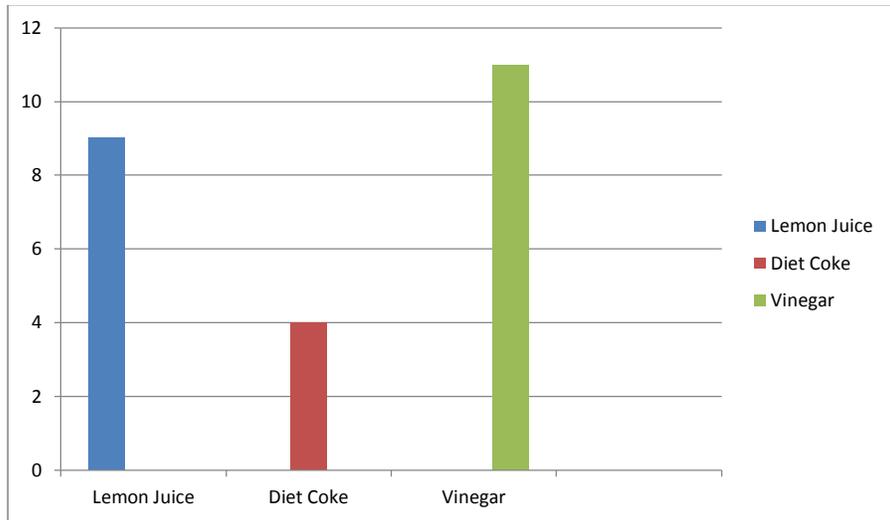
- You could see the bubbles from the vinegar/baking soda solution through the balloon
- Wasn't able to get the whole tablespoon of baking soda into the bottle of vinegar because it overflowed with fizz
- The Diet Coke balloon barely inflated

Results (what were the results of your experiment?)

The bottle with the $\frac{1}{2}$ cup of Diet Coke, when mixed with baking soda, inflated the balloon only 4 cm. The bottle with the $\frac{1}{2}$ cup of lemon juice, when mixed with baking soda, inflated the balloon 9 cm. The bottle with vinegar, when mixed with baking soda, inflated the balloon 11 cm.

Science Fair Draft B (cont.)

Data



Comment [L3]: For your powerpoint, you'll be able to insert a graph from Excel or online.

Conclusions (tell why your experiment ended up the way it did. Answer your experiment question and state whether your hypothesis was correct or incorrect)

When baking soda reacts with vinegar, a chemical reaction occurs, which released carbon dioxide and inflated the balloon. Lemon juice clearly has something that also reacts with baking soda. Diet Coke did not seem to have much of a reaction with baking soda, therefore, my hypothesis was incorrect.