Lab #1: Plop Plop Fizz Fizz

**Background:** Alka-seltzer is an effervescent (meaning it fizzes!) medicine that can be used to treat headaches, pains, inflammation, and colds. In order to take Alka-seltzer tablets, they must be dissolved in a glass of water that you then drink.

**Purpose:** To determine under which conditions alka-seltzer tablets dissolve that fastest.

**Materials:**

* Alka-seltzer tablet
* Salt water
* Warm water
* Acid (vinegar)
* Carbonated water
* Cold water
* Beakers
* Timers

**Experimental Design:**

Independent variable:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dependent variable:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Constants:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
Testable question:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Hypothesis:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Procedure:**

1. Take an alka-seltzer tablet and break it in half.
2. Place half the alka-seltzer tablet in the water.
3. Start the timer as soon as the alka-seltzer tablet enters the water.
4. Stop the timer when the alka-seltzer tablet is **completely** dissolved.

**Data Table:**

|  |  |
| --- | --- |
| Type of Water | Dissolve Time |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

**Results:** Draw a bar graph of your data with the appropriate labeled axes.

**Directions:** Answer the questions in **COMPLETE** sentences.

**Results Summary:**

1. In which type of water did the alka-seltzer tablet dissolve the fastest (list the time)?

2) In which type of water did the alka-seltzer tablet dissolve the slowest (list the time)?

**Discussion:**

1. Does your data support your hypothesis? Why or why not?
2. What are some possible sources of human error with your experiment?

3) What questions does this experiment raise? What further experiment(s) would you like to conduct to test these questions?