**Lab: Experimental Investigation of Alka-Seltzer**

**Using the Scientific Method**



**1. Question:**

What type of water is best for making Alka-Seltzer dissolve faster?

Variable being tested: **Type of Water**

Room temperature water Warm water

Cold water Acid water

**2. Hypothesis:**

(What is your best guess?)

**If** I use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ type of water **then** the Alka-Seltzer will dissolve faster.

**3. Experiment:** Write a procedure then perform an experiment to test your hypothesis

1. ***Independent variable*** (what are you changing?) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of water
2. ***Dependent variable*** (what will you measure?) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for tablet to dissolve
   1. How will you measure it? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. ***Control variables*** (what must stay the same?)
   1. Whole tablet or half a tablet? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Amount of water in milliliters \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. Stirring or no stirring \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4. Data:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Independent:** | **Dependent:** | **Controlled** | | |
| **Type of Water** | **Time, minutes:**  **seconds** | **Whole or half**  **tablet** | **Amount of water** | **Stirring/No Stirring** |
| Room Temp |  |  |  |  |
| Warm |  |  |  |  |
| Cold |  |  |  |  |
| Acid |  |  |  |  |

**5. Data Analysis:**

Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Time,

Minutes: Seconds

Type of Water

**6. Conclusion:**

My hypothesis was that if I used \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ type of water then the Alka-

Seltzer would dissolve faster. Looking at the graph the data shows that it

dissolved fastest in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ water. Therefore, my hypothesis was (correct or

incorrect) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Review of Experimental Investigation of Alka-Seltzer:**

1. State the 6 steps in the Scientific Method (look at the numbered steps of this investigation)

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What question were you trying to answer?
2. What was the independent variable in this investigation?
3. a. What variable did you measure?

b. What do we call this variable?

1. Why was it important to use the same amount of tablet (whole or half) each time?
2. What other variables did you have to keep the same?
3. What could you have done to make this lab more accurate?