Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period:\_\_\_\_\_\_\_\_\_\_\_

**The Scientific Method-Plop and Fizz Lab**

**Scenario:** Miss Trainer has frequent heartburn and indigestion. She typically takes Alka-Seltzer to soothe her upset stomach. However, she found herself wondering if there is a faster way to dissolve her Alka-Seltzer tablets. Are you able to tell her what type of liquid will dissolve the Alka-Seltzer the fastest?

Assignment: Use the scientific method to answer the question:

You are given guidance at each step of the way. Fill out this form completely. Answer each question in **complete sentences**, and **do not skip steps!**

**Step 1: State the Problem (usually is a question)**

**Question:**

**Step 2: Gather Information**

1. Will you use a whole tablet or a half tablet of Alka-Seltzer?
2. How will you measure how quickly it dissolves?
3. How much water will you place in your beakers?

Will this be the same amount in all of your tests?

Variables to test: Tap water, warm water, cold water, saltwater, vinegar. Of the variable mentioned, which should serve as your **CONTROL** group? Why?

In the experiment, what is the **independent variable**? Why?

In this experiment, what is the **dependent variable**? Why?

**Step 3: Form a Hypothesis**

If\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

then, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Step 4: Plan and Conduct an Experiment**

1. What safety precautions should you take?
2. Tell me step by step how you will conduct your experiment.

**Step 5: Analyze/Record your data**

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| --- | --- |
| **Type of Water (Solution)** | **Dissolve Time (in Seconds)** |
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You will create a graph based off your data, you need to label the graph with a title and label your axes.

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**Step 6: Draw your conclusions-In a complete sentence, answer your experimental questions.**

1. Was your hypothesis supported or rejected? Explain.
2. What was the control in this experiment? Justify your answer.
3. What was the independent variable in this experiment? Justify your answer.
4. What was the dependent variable in this experiment? Justify your answer.
5. What type of water dissolved the fastest? Why do you think this happened?
6. What type of water dissolved the Alka-Seltzer the slowest? Why do you think this happened?

**Write a 1 page summary on the experiment**. Use the data above to help you write this summary. Do not add any opinions on the experiment, it should be written in 3rd person, do not put, I, we, us. This is a expository type of writing. **Expository writing** is a type of **writing** that is used to explain, describe, give information, or inform. The text is organized around one topic and developed according to a pattern or combination of patterns. I will leave some examples for you on your desk so that you can write this. ( You may use this paper to write your summary).