Plop Plop Fizz Fizz: Practicing the Scientific Method

In this lab, you will develop and test a hypothesis, analyze data and draw conclusion. Follow all of the following steps. Do not skip a step.

1. **Background** : what do you know, or what can you find out about alka seltzer. What do you know about rates of dissolving? What do you know about the different solutions that we are testing.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. **Purpose**: create a statement that summarizes what the lab is about. We will be testing tap water, warm water, cold water salt water and acidic water( vinegar)
   * What type of solution will make an alka seltzer tablet dissolve faster? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. **Variables**:
   * Independent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Dependent:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Constant: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Control:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. **Hypothesis**: If alka seltzer is placed in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then it will dissolve faster than other solutions because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. If alka seltzer is placed in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, it will dissolve slower than other solutions because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. **Materials**:
   * Beaker
   * Graduated Cylinder
   * Alka Seltzer
   * The 5 water solutions (tap, cold, hot, salt, vinegar
   * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. **Procedure**: Answer these questions regarding your experimental design:
   * Will you use a whole tab or a half of tablet of alka seltzer?
   * How will you measure how quickly it dissolves?
   * How much water will you place in your beakers?
   * Will this amount be the same for all solutions?
   * What safety precautions should you take?
7. **Results**:
   * Qualitative: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   * Quantitative:

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| --- | --- |
| **Type of Water** | **Dissolve Time** |
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1. **Conclusion**: Restate you hypothesis. Provide a summary of what the results showed to us, and a potential reason why. Was you hypothesis Supported or NOT Supported? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. **Evaluation**: What went wrong? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. **References**: What did you use to gather your information for background or to actually complete the lab? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_