3rd Quarter Lab Report: Rates of Weathering

Rough Draft Due Date: March 22nd / 23rd

You MUST print a hard copy of your report to submit; digital copies will NOT be accepted.

I. **PROBLEM: How does (_____) affect the rate of chemical weathering on a carbonate rock (Alka Seltzer)? Variables: Temperature, Acidity (pH), Surface area**

II. **PROCEDURE:** Use complete sentences to write the series of steps you followed to complete the lab investigation. Remember to avoid the use of personal pronouns. For example:
   A. Incorrect: I used a graduated cylinder to measure out 100 ml of water and place it in a 300 ml beaker
   B. Correct: A graduated cylinder was used to measure out 100 mL of water and placed in a beaker

III. **DATA TABLE:** Organize all of the data collected into columns and rows. Include subheadings with units in the table. The subheadings must be the independent and dependent variables.

IV. **GRAPH:** Using Google Sheets, create a line graph of your data versus time to dissolve (s). Check the lab rubric to ensure you meet all criteria for this section. You must also include a brief description of the patterns seen in the data. Use the slope equation ($\frac{y2-y1}{x2-x1}$) to determine the **rate of weathering** in your experiment.

V. **CONCLUSION:** This should be written as an essay, in full sentences and paragraphs. Avoid the use of personal pronouns. The conclusion interprets and explains the results using scientific knowledge and reasoning. Your conclusion MUST include ALL criteria below..

   (1) State the relationship between the chosen variable and the rate of chemical weathering of Alka Seltzer (2)Use data and/or graph as evidence to support your claim (3) Use scientific principles to explain why rates of weathering would be changed when your variable changes (4) Create an analogy to relate the results of this investigation to an example of weathering in your life (5) Explain the potential impact of TWO possible experimental errors

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Final Draft Due Date: March 29th / 30th

Points	Procedure and Data Table	Graph	Conclusion	Attention to Detail
5	(1) Procedure contains enough detail that a scientist can repeat your experiment and get the same results (2) Data includes the control group and at least 3 experimental groups (3) Data organized in columns and rows (4) Independent and dependent Variables used as headings with units (5) Computer generated	(1) Independent variable placed on the x axis (2) Axes-based title (3) Trend line clearly visible (4) Slope of line calculated and displayed on the graph (5) Written description below graph of patterns seen by the slope (6) Computer generated	(1) State the relationship between the chosen variable and the rate of chemical weathering of Alka Seltzer (2)Use data and/or graph as evidence to support your claim (3) Use scientific principles to explain why rates of weathering would be changed when your variable changes (4) Create an analogy to relate the results of this investigation to an example of weathering in your life (5) Explain the potential impact of TWO possible experimental errors	(1) Categories present and in proper sequence (2) Written in past tense, avoid personal pronouns, and complete sentences (3) No errors in grammar, punctuation, and spelling (4) Paragraphs fully develop a main idea (5) Sentences are sophisticated, word choice (scientific and non-scientific) is precise and appropriate (6) No contradictions or confusions about concepts
4	Has 4 criteria	Has 5 criteria	Has 6 criteria	Has 5 criteria
3	Has 3 criteria	Has 3-4 criteria	Has 4-5 criteria	Has 3-4 criteria
2	Has 2 criteria	Has 2 criteria	Has 2-3 criteria	Has 2 criteria
1	Has 1 criteria	Has 1 criteria	Has 1 criteria	Has 1 criteria
0	Not present or poorly done	Not present or poorly done	Not present or poorly done	Not present or poorly done

Total: _____x 2 = _____/40