

Final Project: Design Your Own Reaction Experiment

Name: _____ Date: _____

LEARNING OBJECTIVE

The student will design, conduct, and report on an original chemistry experiment using the scientific method.

MATERIALS NEEDED

- Household reaction materials of choice (e.g., baking soda, vinegar, lemon juice, dish soap, food coloring)
- Measuring spoons/cups
- Clear cups or containers
- Notebook paper
- Pencil
- Stopwatch or phone timer

HANDS-ON ACTIVITY

1. Choose a testable question about a chemical reaction (example: 'Does more baking soda make a vinegar reaction bubble for longer?') and write a hypothesis predicting the answer.
2. Design a fair test by choosing one variable to change (the independent variable, e.g., amount of baking soda) while keeping everything else the same (controlled variables, e.g., same amount of vinegar, same size cup).
3. Run your experiment at least 3 times with different amounts of your independent variable, timing or measuring the reaction (the dependent variable) each time.
4. Record your results in a data table with clear column headers on notebook paper.
5. Write a short lab report with 4 sections: Question/Hypothesis, Procedure, Results (data table), and Conclusion stating whether your hypothesis was supported.

QUESTIONS

1. What was your testable question and hypothesis?
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2. What was your independent variable, and what was your dependent variable?
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3. Summarize your results in 1-2 sentences based on your data table.

4. Was your hypothesis supported or not supported by your results? How do you know?
