

Signs of a Chemical Reaction

Name: _____ Date: _____

LEARNING OBJECTIVE

The student will design and run a controlled experiment to observe and record signs of a chemical reaction.

MATERIALS NEEDED

- 1/4 cup vinegar
- 1 tablespoon baking soda
- A thermometer (if available)
- A clear cup
- Notebook paper
- Pencil
- Stopwatch or phone timer

HANDS-ON ACTIVITY

1. Set up your experiment by measuring 1/4 cup vinegar into a clear cup and having 1 tablespoon of baking soda ready.
2. If you have a thermometer, record the vinegar's starting temperature before mixing.
3. Add the baking soda to the vinegar, start your timer immediately, and observe closely for bubbling, sound, temperature change, or smell.
4. Record your observations every 15 seconds for 2 minutes in a data table with columns for Time and Observations.
5. If you have a thermometer, measure and record the temperature again right after the reaction appears to slow down, and compare it to the starting temperature.

QUESTIONS

1. List at least 3 signs of a chemical reaction that you observed.
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2. Did the temperature increase, decrease, or stay the same during the reaction? What does this suggest?
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3. How long did the most active bubbling last, based on your data table?

4. Why is it useful to record observations at regular time intervals rather than just describing the reaction once at the end?
