

Acid Base Neutralization & Heat Transfer Lab Quiz



1. Write the full formula for heat/energy transfer. (1 point)
2. What is the conversion of grams to milliliters? (1 point)
3. Which gas was the product of the vinegar and baking soda reaction? (1 point)
4. The hypothesis should have been based on (select only two): (2 points)
 - a. the size of the chemical reaction
 - b. the duration of the chemical reaction
 - c. which of the six chemical reactions occurred
 - d. how the heat/energy transferred (e.g., endothermic, exothermic)
 - e. the ratio of baking soda to vinegar
 - f. the quantifiable amount of temperature change
5. T/F: This experiment is representative of a larger concern, solution, or real-world application. (1 point)
 - a. True
 - b. False
6. This experiment is representative of a larger concern, solution, or real-world application. Here are some examples (select all that apply): (1 point)
 - a. the two reagents/reactants can be used as a cleaning solution
 - b. the experiment identifies acid-base mixtures & reactions
 - c. the two reagents/reactants can be used as a stain removal
 - d. the experiment identifies how gases can be products of acid-base reactions
7. What was the ratio used throughout the experiment (select only two)? (2 points)
 - a. 1:3 (vinegar to baking soda)
 - b. 1:3 (baking soda to vinegar)
 - c. 3:1 (baking soda to vinegar)
 - d. 3:1 (vinegar to baking soda)

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8. In general, what should have happened to the temperature of the solution during the chemical reaction? (1 point)
- Temperature increases
 - Temperature decreases
9. Which type of chemical reaction occurred? (1 point)
- Synthesis
 - Single displacement
 - Double displacement
10. Which statement is true (select only two)? (2 points)
- baking soda is a base
 - baking soda is an acid
 - vinegar is a base
 - vinegar is an acid

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1. Write the full formula for heat/energy transfer. (1 point)

Heat transfer = mass X specific heat capacity X change in temperature

$$Q = m * C_p * \Delta T$$

2. What is the conversion of grams to milliliters? (1 point)

One to one (1:1)

3. Which gas was the product of the vinegar and baking soda reaction? (1 point)

Carbon dioxide (CO₂)

4. The hypothesis should have been based on (select only two): (2 points)

- b. the duration of the chemical reaction
- d. how the heat/energy transferred (e.g., endothermic, exothermic)

5. T/F: This experiment is representative of a larger concern, solution, or real-world application. (1 point)

a. True

6. This experiment is representative of a larger concern, solution, or real-world application. Here are some examples (select all that apply): (1 point)

- a. the two reagents/reactants can be used as a cleaning solution
- b. the experiment identifies acid-base mixtures & reactions
- c. the two reagents/reactants can be used as a stain removal
- d. the experiment identifies how gases can be products of acid-base reactions

7. What was the ratio used throughout the experiment (select only two)? (2 points)

- b. 1:3 (baking soda to vinegar)
- d. 3:1 (vinegar to baking soda)

8. In general, what should have happened to the temperature of the solution during the chemical reaction? (1 point)

b. Temperature decreases

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9. Which type of chemical reaction occurred? (1 point)

c. Double displacement

10. Which statement is true (select only two)? (2 points)

a. baking soda is a base

d. vinegar is an acid