

Name \_\_\_\_\_

## Base's Bold Encounter with Acids: The Reaction and Its Products

### Multiple Choice Questions

1. What is the main product of the reaction between bases and acids?
  - a) Oxygen gas ( $O_2$ )
  - b) Water ( $H_2O$ )
  - c) Hydrogen gas ( $H_2$ )
  - d) Carbon dioxide ( $CO_2$ )
  
2. Which of the following is an example of a base commonly used in chemical reactions involving neutralization?
  - a) Hydrogen chloride ( $HCl$ )
  - b) Sodium hydroxide ( $NaOH$ )
  - c) Sulfuric acid ( $H_2SO_4$ )
  - d) Nitric acid ( $HNO_3$ )
  
3. What happens during neutralization when a base encounters an acid?
  - a) The base donates hydrogen ions ( $H^+$ ) to the acid.
  - b) The acid donates hydrogen ions ( $H^+$ ) to the base.
  - c) Both the base and acid remain unchanged.
  - d) A chemical reaction occurs to form water and a salt.
  
4. What is the main product of the reaction between sodium hydroxide ( $NaOH$ ) and hydrochloric acid ( $HCl$ )?
  - a) Sodium chloride ( $NaCl$ ) and oxygen gas ( $O_2$ )
  - b) Sodium hydroxide ( $NaOH$ ) and hydrogen gas ( $H_2$ )
  - c) Sodium chloride ( $NaCl$ ) and water ( $H_2O$ )
  - d) Sodium sulfate ( $Na_2SO_4$ ) and carbon dioxide ( $CO_2$ )
  
5. Which of the following is NOT a base commonly used in chemical reactions involving neutralization?
  - a) Sodium hydroxide ( $NaOH$ )
  - b) Ammonia ( $NH_3$ )
  - c) Potassium hydroxide ( $KOH$ )
  - d) Hydrochloric acid ( $HCl$ )

