

SECTION 2-3 REVIEW**SOLUTIONS****VOCABULARY REVIEW** Define the following terms.

1. solvent _____

2. aqueous solution _____

3. hydroxide ion _____

4. base _____

5. buffer _____

MULTIPLE CHOICE Write the correct letter in the blank.

- _____ 1. The concentration of a solution is the measurement of the amount of
- | | |
|---|--|
| a. acid dissolved in a fixed amount of base. | c. solute dissolved in a fixed amount of the solution. |
| b. solvent dissolved in a fixed amount of the solution. | d. solvent dissolved in a fixed amount of the solute. |
- _____ 2. When water dissociates, it forms
- | | |
|--------------------------------|-----------------------------------|
| a. H^+ ions and H_2O . | c. H^+ ions and H_3O^+ ions. |
| b. H^+ ions and OH^- ions. | d. OH^+ ions and H_3O^- ions. |
- _____ 3. An acid is a solution with more
- | | |
|--|-------------------------------------|
| a. hydronium ions than hydroxide ions. | c. sodium ions than hydroxide ions. |
| b. hydroxide ions than hydronium ions. | d. hydroxide ions than sodium ions. |
- _____ 4. An example of a base is
- | | | | |
|----------------|-------------|-------------|-----------|
| a. pure water. | b. vinegar. | c. ammonia. | d. urine. |
|----------------|-------------|-------------|-----------|
- _____ 5. A solution with a pH above 7 is
- | | | | |
|-----------------|-------------|------------|--------------|
| a. logarithmic. | b. neutral. | c. acidic. | d. alkaline. |
|-----------------|-------------|------------|--------------|

SHORT ANSWER Answer the questions in the space provided.

1. What are solutions? _____

What states of matter can solutions be composed of? _____

2. How much sugar is there in 100 mL of a 10 percent aqueous sugar solution? _____

What is the solvent in this solution? _____

3. What are the relative numbers of H_3O^+ and OH^- ions in an acidic, an alkaline, and a neutral solution?

4. How many times more hydroxide ions are there in a solution with a pH of 9 than in a solution with a pH of 3? _____

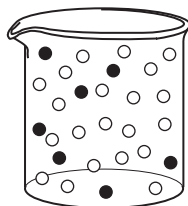
5. How are buffers important to the functioning of living systems? _____

6. **Critical Thinking** If a solution has a pH of 7.5, what would its new pH be if the concentration of H_3O^+ ions in the solution were increased by 100 times? Explain your reasoning. _____

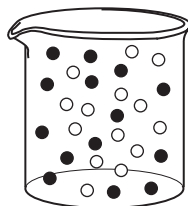
STRUCTURES AND FUNCTIONS In the space below each solution, indicate whether that solution is acidic, alkaline, or neutral.

The diagrams below represent three solutions with different relative amounts of hydronium and hydroxide ions.

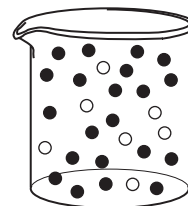
- Hydronium ion
- Hydroxide ion



a _____



b _____



c _____