

Acids, Bases, and Solutions ▪ *Reading/Notetaking Guide***Acids and Bases in Solution** (pp. 274–279)

This section explains what kinds of ions acids and bases form in water. It also describes how the concentrations of ions are measured in a solution.

Use Target Reading Skills

As you read, complete the outline about acids and bases in solution. Use the red headings for the main ideas. Use the blue headings for subtopics where possible. If there are no blue headings, write your own subtopics. Use the Key Terms and Key Concepts to decide what other information to add to the subtopics.

Acids and Bases in Solution
I. Acids in Solution
A.
B.
II. Bases in Solution
A.
B.
III.
A.
B.
IV.
A.
B.

Acids in Solution (pp. 274–275)

1. What is a hydrogen ion (H^+)?

2. What do acids in water separate into?

3. Any substance that produces hydrogen ions (H^+) in water can be called a(n)

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4. What is a hydroxide ion (OH^-)?

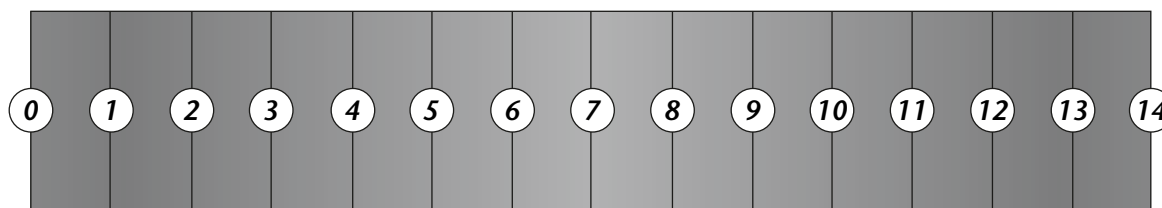
5. Any substance that produces hydroxide ions (OH^-) in water can be called a(n) _____.

Strength of Acids and Bases (pp. 276–277)

6. Circle the letter of each sentence that is true about the strength of acids and bases.
- a. A strong base produces more OH^- ions than a weak base.
 - b. A weak acid produces more OH^- ions than a strong acid.
 - c. A strong acid produces more H^+ ions than a weak acid.
 - d. A weak base produces more H^+ ions than a strong base.

7. What is the pH scale?

8. On the scale below, add labels to show the pH of these substances: milk, soap, water, vinegar, lemon, and ammonia.



9. Is the following sentence true or false? A strong acid is safe as long as it's in a dilute solution. _____
10. When the pH of a solution is low, is the concentration of hydrogen ions high or low? _____
11. Circle the letter of each sentence that is true about pH.
- a. A pH lower than 7 is acidic.
 - b. A pH of 7 is neutral.
 - c. A pH lower than 7 is basic.
 - d. A pH higher than 7 is acidic.

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Acids and Bases in Solution *(continued)*

Acid-Base Reactions (pp. 278–279)

12. A reaction between an acid and a base is called _____.
13. Is the following sentence true or false? An acid-base mixture is always more acidic than the starting solutions were. _____
14. What is a salt?
- _____
- _____
- _____
15. What two substances does a neutralization reaction produce?
- a. _____
- b. _____