

Chapter 8 Solutions, Acids, and Bases

Section 8.2 Solubility and Concentration**(pages 235–239)**

This section explains solubility, the factors affecting solubility, and different ways of expressing the concentration of a solution.

Reading Strategy (page 235)

Previewing Before you read the section, rewrite the topic headings as *how*, *why*, and *what* questions. As you read, write an answer to each question. For more information on this reading strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.

Question	Answer
What is solubility?	
	Solvent, temperature, and pressure
How can the concentration of solutions be expressed?	

Solubility (pages 235–237)

- _____ is the maximum amount of a solute that dissolves in a given amount of solvent at a constant temperature.
- List the following solutes in order from most soluble to least soluble in water: table salt, baking soda, table sugar.
 - _____
 - _____
 - _____
- A _____ is a solution that contains as much solute as the solvent can hold at a given temperature.
- A solution that has less than the maximum amount of solute that can be dissolved is called a(n) _____.
- Is the following sentence true or false? It is impossible for a solution to contain more solute than the solvent can hold at a given temperature.

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Factors Affecting Solubility (page 237)

6. Circle the letters of factors that affect the solubility of a solute.
 - a. polarity of the solvent
 - b. amount of solvent
 - c. pressure

7. Is the following statement true or false? In general, the solubility of solids increases as the solvent temperature increases.

8. In general, the solubility of gases decreases as the solvent temperature _____ . Circle the correct answer.
 increases decreases stays the same

9. In general, the solubility of a gas increases as pressure _____. Circle the correct answer.
 increases decreases stays the same

Concentration of Solutions (pages 238–239)

10. The _____ is the amount of a solute dissolved in a given amount of solution.
11. Circle the letters that identify ways to express the concentration of a solution.
 - a. density
 - b. percent by volume
 - c. molarity
12. Complete the equation.
 Percent by volume = $\frac{\text{_____}}{\text{Volume of solution}} \times 100\%$
13. Write the equation used to calculate percent by mass.
 Percent by mass = _____
14. Is this sentence true or false? Molarity is the number of moles of a solvent per liter of solution. _____