

# Unit 4 Study Guide – Solutions, Dilutions, and Solubility

*By the end of this unit, you should achieve these learning targets:*

<b>Learning Target</b>	<b>How am I doing with this? Write down evidence!</b>
Know how to complete chemical conversion problems involving moles, liters of gas, molar mass (grams), and molecules/atoms.	
Know how to calculate molecular weight and molar mass and know the differences between them.	
Know how dissolution (of ionic compounds) occurs.	
Know the relationship between solute, solvent and solutions.	
Be able to calculate molarity of a substance given moles/grams and liters/mL of solution.	
Know some factors that can affect the solubility of a solute and how to read a solubility curve graph.	
Know how to transition between saturated, supersaturated, and unsaturated solutions.	
Know how to solve for an unknown molarity or volume when conducting a dilution or concentration problem.	

**10-15% of this exam may consist of questions and topics from previous unit exams:**

- **Unit 1 - Fundamentals of Chemistry**
- **Unit 2 - Energetics and Gas Laws**
- **Unit 3 - Atomic Structure and Periodic Properties**