

CH 221 Chapter Seven Part 1 Study Guide

- Be able to balance simple chemical equations and understand the information conveyed by the equation (number of moles of reactants, etc.)
- Know how to interpret a chemical equation – states of matter, quantity of reacting materials, etc.
- Understand what an electrolyte is. Know the differences between strong electrolytes, weak electrolytes, and non-electrolytes. Be able to give examples of each category.
- Be able to predict the solubility of ionic compounds in water. Be able to recognize what types of ions are created upon dissolving ionic compounds or acids and bases in water. Know how to predict the products of precipitation reactions by looking at the cations and anions.
- Define acids and bases and know their characteristic behavior towards each other. Be able to recognize acid-base equations. Memorize the names of the common acids and bases.
- Understand the differences between strong and weak acids *and* strong and weak bases. Memorize the neutralization reaction and know when it applies. Understand that the net ionic equation for the reaction of a strong acid and strong base will *always* be $\text{H}^+_{(\text{aq})} + \text{OH}^-_{(\text{aq})} \rightarrow \text{H}_2\text{O}_{(\text{l})}$
- Know the general formula for combustion reactions, including anticipated products and reactants. Be able to recognize precipitation reactions and gas-forming reactions. Know the importance of H_2CO_3 . Understand net ionic equations and be able to derive them from normal chemical equations.
- Be able to give the oxidation number of any element or compound. Oxidation numbers are *very important* for many chemical systems.
- Know the definitions of reduced, oxidized, reducing agent and oxidizing agent. Be able to recognize an oxidation-reduction reaction.
- Be able to solve and understand the assigned problems in problem set #6.