

ACS Physical Science  
Semester 2 Final Exam  
Study Guide  
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**Note:** This study guide lists the MAIN topics studied in each chapter. This is meant to be a reminder to help you study, not an exhaustive list of what you should know for the final exam. You should also study using your book, notes, and assignments from the semester.

Chapter 6: Chemical Bonds

Main topics:

- Electron Configurations
- Ionic Bonds
- Ionic Compounds
- Covalent Bonds
- Polar Covalent Bonds
- Polar and Nonpolar Molecules
- Attraction Between Molecules
- Polyatomic Ions
- Metallic Bonds

Chapter 7: Chemical Reactions

Main topics:

- Chemical Equations
- Balancing Equations
- Counting with Moles
- Chemical Calculations with Moles
- Reaction Types
- Oxidation-Reduction
- Exothermic and Endothermic Reactions
- Reaction Rates
- Equilibrium

Chapter 11: Motion

Main topics:

- Frame of Reference
- Distance and Displacement
- Speed and Velocity
- Graphing Motion
- Acceleration

Chapter 12: Forces and Motion

Main topics:

- Forces
- Measuring Force
- Force Vectors
- Friction
- Gravity
- Projectile Motion
- Aristotle, Galileo, and Newton
- Weight and Mass
- Newton's Laws
- Momentum
- Electromagnetic Forces
- Nuclear Forces