

Mr. Liddell's 2nd Semester Study Guide for Chemistry

STRATEGY: Start by studying the sample problem for each topic listed below. Read through your notes to refresh your memory on these topics. After studying the sample problem, use this study guide as a starting point to identify the chapters on which you need to spend more time reviewing, and study these chapters first. Solve the practice problems below each sample problem. Next, solve the listed Study Guide Problems for each chapter. If you have trouble solving any problem, visit www.MrLiddell.com/StudyGuide2 and watch the video lectures for extra help. Finally, for extra practice, re-solve any section review for the chapters listed below.

FINAL EXAM FORMAT:

- ◆ The exam will include multiple-choice and matching. You will need to bring your notes, a calculator and a writing tool.
- ◆ You will also need to be familiar with all the formulas and conversion factors needed to solve the questions below. If you are missing any of the formulas or conversion factors from your notes (% error, % comp., % yield, metric, empirical, gas laws, pressure, solutions, any values that you might need, etc...) be sure to add them before the exam.

CHAPTER 1 - *Matter and Change*

Sample & Practice Problems:

Significant Figures p.24

Study Guide Problems: p.25 #1-13

Study All Chapter 1 Vocabulary

CHAPTER 2 - *Measurements and Calculations*

Sample & Practice Problems:

Density p.39 Conversion Factors p.41
Percentage Error p.45 Significant Figures p.47 & 49
Multi-Step Problems p.54 Scientific Notation p.62

Study Guide Problems: p.63 #1-11, p.881 #1-6 and 9-12,
p.882 #35-37, p.883 #54, p.885 #76-77

Study Chapter 2 Vocabulary

CHAPTER 3 & 4 - *Atoms, Moles, Electrons and Periodicity*

Sample & Practice Problems:

Subatomic Particles p.79 Conversion Factors p.92
Gram/Mole Conversions p.84 & 85
Conversions with Avogadro's Number p.86
Electron Configurations p.113, 120, & 122
Weighted Averages and Atomic Mass p.128

Study Guide Problems: p.93 #1-11, p.103 #1-5, p.122 #1-5,
p.886 #95-111

Study Chapters 3 & 4 Vocabulary

CHAPTER 5 & 7 - *Periodic Law, Chemical Formulas and Nomenclature*

Sample & Practice Problems:

More Electron Configurations p.143, 146, 148 & 170
Writing Formulas for Ionic Compounds p.223, 227
Naming Ionic Compounds p.225
Naming Binary Molecular Compounds p.229
Formula and Molar Mass p.238, 239
Converting moles and grams, p.240, 241
Percentage Composition p.243, 256
Empirical & Molecular Formulas p.246, 247, 248

Study Guide Problems: p.137# 1-3, p.149 #1-4, p.251 #1-15,
p. 253 #31-32, p.888 #132 & 134, p.889 #150-151

Study Chapters 5 & 7 Vocabulary

CHAPTER 8 - *Balancing Equations and Chemical Reactions*

Sample & Practice Problems:

Writing Chemical Equations p.267, 268, 272
Balancing Chemical Equations p.273, 273, 294

Study Guide Problems: p.290 #1-12

Study Chapter 8 Vocabulary

CHAPTER 9 - *Stoichiometry and Limiting Reactant*

Sample & Practice Problems:

Stoichiometry p.305-307, 309, 310, 324
Limiting Reactant p. 313, 314
Percentage Yield p.317

Study Guide Problems: p.892 #165-175, p.892 #200-204,
p.893 #218 & 219

Study Chapter 9 Vocabulary

CHAPTER 11 - The Gas Laws

Sample & Practice Problems:

Converting Units of Pressure p.365
Boyle's Law p.370
Charles's Law p.372
Gay-Lussac's Law p.373
Combined Gas Law p.375
Avogadro's Law p.381
Gas Stoichiometry p.382
The Ideal Gas Law p.385
Rearrangements of Gas Laws p.396

Study Guide Problems: p.895 #237, 239, 242,
p.896 #243, 244, 245,246, 248, 249
p.898 #277, 278, 279, 280
p.899 #305, 306, 307

Study Chapter 11 Vocabulary

CHAPTER 12 - Solutions: Molarity, Molality, % Concentration

Sample & Practice Problems:

Calculating Molarity p.420, 421
Calculating Molality p.423, 424
Calculating Solution Concentration p.430

Study Guide Problems: p.901 #328-340

Study Chapter 12 Vocabulary

CHAPTER 14 Acid and Bases

Study Guide Problems: p.491 #1-13, and 19-20

Study Chapter 14 Vocabulary

Study Guide Videos are available at:
www.MrLiddell.com/StudyGuide2