

# Chemistry/Honors Chemistry - Unit 2 Syllabus

## (ENERGY and MATTER)

(Chapters 1, 2, 3, 12, and 15)

- I. Energy** (Section 15.1) (pgs. 516-518)
  - A. Definition
  - B. The 2 Basic Forms of Energy
  - C. Chemical Potential Energy
  - D. Law of Conservation of Energy
  - E. Energy Units
- II. Dimensional Analysis** (Section 2.2) (pgs. 44-46)
  - A. Definition
  - B. Unit Equality
  - C. Conversion Factor
  - D. Using Conversion Factors (Steps to solve a problem.)
- III. Temperature** (Section 2.1, Section 15.1, & Section 15.2) (pgs. 34-35, & 518-525)
  - A. Temperature
  - B. Thermometer
  - C. The Fahrenheit Temperature Scale
  - D. The Celsius Temperature Scale
  - E. The Kelvin Temperature Scale
  - F. Absolute Zero
  - G. Converting Between the Kelvin & Celsius Scales
  - H. Heat (q)
- IV. Matter** (Ch. 3 & Section 12.4) (pgs. 70-79 & 425-429)
  - A. Definition
  - B. 4 States of Matter
  - C. Properties of Matter
  - D. Changes in Matter
  - E. 6 Phase Changes (a.k.a.: Changes in State)
  - F. Law of Conservation of Mass (a.k.a.: Law of Cons. of Matter)
- V. Pure Substances** (Ch. 1, 3) (pgs. 5, 84-90)
  - A. Definition
  - B. Elements
  - C. Compounds
  - D. Electrolysis
  - E. Law of Definite Proportions
  - F. Law of Multiple Proportions
- VI. Mixtures** (Ch. 3) (pgs. 80-83)
  - A. Definition
  - B. 2 Types of Mixtures
  - C. 5 Ways to Separate Mixtures

➤ **Unit 2 Review Problems:**

- Chapter 3: #'s 1-4, 10-12, 14-18, 24-26, 31-40, 42-47, 56-67, 69-71, 79, 81, 85-91, 94-96, and 102.
- Chapter 12: #'s 27-30, 35, 38, 75-77, 79-80, 98, and 101.
- Chapter 15: #1-2, 4-15, 53-69, and 74-78.

➤ **Unit 2 Internet help (Mr. Segulin's Honors Chemistry Webpage):**

- Online Text: Chemistry: Matter and Change
- CyberEd Chemistry Titles: Introduction to Chemistry & States of Matter