Chapters 1-2

* Mass
* Weight
* Independent/Dependent Variable
* Theory vs. Law
* Lab Safety
* SI/Metric System 🡪 Be able to convert on the stair step on your own
* Derived Unit
* Dimensional Analysis 🡪 You will be given the unit conversions
* Temperature Calculations
* Scientific Notation
* Accuracy vs. Precision
* Significant Figures 🡪 Know the rules!
  + Addition/Subtraction
  + Multiplication/Division
* Be able to create a graph with the appropriate labels
  + Be able to calculate slope

Chapter 3

* States of matter
* Physical/chemical change
* Heterogeneous/homogeneous mixtures
* Separation techniques
* Percent mass
* Elements – name/symbol

Chapter 4

* Dalton’s atomic theory
* Know the gentlemen that led to the discovery of the subatomic particles. You will be asked for their name, experiment (except for the neutron), and what subatomic particle they discovered
* Atom, proton, neutron, electron, nucleus
* Be able to calculate
  + Average atomic mass
  + Mass number
  + Number of neutrons
  + Number of electrons
    - With the +/- charges & what that means with the number of electrons
* Use your periodic table to find information

Chapter 5

* Electromagnetic spectrum
* Atomic emission spectra
* Atomic orbital
* n
* Ground/excited state
* Electron configuration
* Aufbau principle
* Pauli’s exclusion principle
* Hund’s rule
* Valence electrons
* Lewis dot structures

Chapter 6

* Families on the periodic table
* Trends on the periodic table
* Ion
* Octet/duet rule

Chapter 7

* Chemical Bond
* Cation vs. Anion
* Ionic bond
* Ionic compound
  + Know the model
* Crystal lattice
* Electrolyte
* Formula unit
* Monatomic ion
* Polyatomic ion
  + You may be asked to list/identify a polyatomic ion
* Electron sea model
* Delocalized electron
* Metallic bond

Chapter 8

* Covalent bond
  + Single, double, triple bonds
    - Know how many electrons are actually being shared
* Lewis structure
* Endothermic vs. Exothermic reaction
* Structural formula vs. Lewis formula
* Know why some elements violate the octet rule
* Polar covalent bonds
  + Electronegative Elements – How does it affect a covalent bond

Naming

* Type I
* Type II
* Type III
* Naming Acids

Chapter 9

* Chemical reactions
  + Know the 5 types
* Know how to balance a chemical equation
* Aqueous solution
* Solute vs. solvent
* Complete ionic equation
* Spectator ion
* Net ionic equation

**General**

* Know how to use a periodic table to find the charges of elements
* Know how to write the formula of a compound so that it is electrically neutral
  + I.e. You want to add as many of each as necessary in order to make the charges equal zero