College-Prep Chemistry
Review Sheet

Chapters 1/2

Scientific method
Matter and Energy
Significant figures
Scientific notation
Density
Metric system and conversions
Mixtures/solution
Chemical symbols
Physical/chemical properties
Physical/chemical changes
accuracy/precision
phases of matter - solid, liquid, gas
particulate nature of matter
Law of Conservation of Matter and Energy
heterogeneous/homogeneous
elements, compounds, molecules, atoms
endothermic/exothermic
physical/chemical separation techniques
dimensional analysis

Chapter 3

Atomic theory
Atomic Number
Isotopes
Quantum Theory
Flame tests
Electron configuration
Master Plan
Atomic Structure (nucleus, electron cloud, protons, neutrons, electrons)
atomic mass
Experiments (Rutherford, Thomson, etc.)
electromagnetic spectrum
excited vs. ground state electrons

Chapter 4

Mendeleev's periodic table
Periodic Law
Period, Group (family)
Family names and characteristics
Valence electrons
Natural vs. synthetic elements
Mole concept
Avogadro's number
Periodic Properties - atomic radius
ionic radius
s, p, d, f, blocks on periodic table
electron affinity
colored/colorless ions
reactivity
ionization energy

Chapter 16

Balancing nuclear equations
Types and properties of radiation
Biological and physical effects of radiation
Uses of radiation
Critical mass
Carbon-14 dating
Half-life (problems, graphs)
ionizing vs. nonionizing radiation
fission vs. fusion
nuclear bombs
nuclear reactors