

Carmel High School  
Semester Review Part 3  
Honors Chemistry  
Mr. Dooner/Fall 2016

## Honors Chemistry 1<sup>st</sup> Semester Review (Part 3)

### Chapter 6:

Names for 1A, 2A, 7A, and 8A elements

Metals, non-metals, and metalloids

s, p, d, and f blocks

Periodic trends in atomic and ionic size, electronegativity, ionization energy

“Shielding” and “nuclear charge”

#### **PRACTICE PROBLEMS:**

p. 181 # 36, 38, 41, 45

p. 185 # 3, 4, 5, 6, 10, 11, 12, 13

### Chapter 7:

Review the nature of ionic compounds(characteristics)

“Sea of electrons” model of valence electrons in metals

Alloys—interstitial and substitutional; examples

Coordination number

Formula units

#### **PRACTICE PROBLEMS:**

p. 208 # 62, 63, and 67

p. 210 # 102

p. 211 # 1, 4, 5, 6

### Chapter 8:

Single, double, and triple covalent bonds

Coordinate covalent bonds

Diatomic molecules(examples)

Bond dissociation energy

Exceptions to the octet rule

Resonance structures

Electron dot structures(Lewis structures)  
VSEPR theory  
Sigma and pi bonds  
Network solids  
Polyatomic ion Lewis structures  
Unshared pairs  
Molecular shapes(bent, trigonal planar etc)  
Shape of water molecule/bond angles  
Polar molecules  
Polar covalent bonds  
Intermolecular attractions(van der Waals, hydrogen bonding)

**PRACTICE PROBLEMS:**

p. 247 # 43, 44, 45, 47, 51, 52, 53, 58, 59, 61  
p. 251 # 2,4

**Chapter 9:**

Naming rules:  
Binary ionic compounds  
Ions of transition metals  
Exceptions(silver, cadmium, zinc)  
Compounds with polyatomic ions  
Naming binary MOLECULAR compounds  
Prefixes for binary molecular compounds  
Identifying compounds which are acids or bases

**PRACTICE PROBLEMS:**

p. 281 # 42, 47, 52, 55, 57, 59, 61  
p. 285 # 7,8,9,10,11

**Chapter 25**

Alpha, beta, and gamma radiation  
Nuclear symbols and particles  
Half Life  
Fission/Fusion  
Radioisotopes

**PRACTICE PROBLEMS:** p 802 # 6; p 806 #1-2; p 808 #12-13; p 813 #17; p 819 # 21-22; p 821 #28, 32, 34; p 822 # 49, 56, 58, 59, 60