

Breinlinger and DiBiasio review for  
CP Chemistry Mid-Term  
Chapters 1-8

Know definitions of :

Element	compound
Mixture	atomic number
Atomic mass	mass number
Proton	neutron
Electron	ionic bonds
Nonpolar covalent bonds	polar covalent bonds
Metallic bonds	isoelectronic
Alkali metals	halogens
Exothermic	endothermic
Biology	chemistry
Physics	geology
Threshold frequency	photoelectric effect
Dalton's atomic theory	synthesis reaction
Decomposition reaction	single replacement reaction
Double replacement reaction	combustion reaction

Know how to:

- Determine if a sample is a mixture or a compound
- Differentiate between physical and chemical properties
- Solve density problems (we will give you the formula)
- Determine the number of electrons in each sublevel
- Find the identity of the element if given electron configuration
- Determine number of protons, neutrons and electrons in a neutral atom and an ion
- Convert grams to centigrams, kilograms and milligrams
- Determine how many pairs of electrons are shared in single, double, and triple bonds
- Use good safety techniques in the lab
- Calculate percent error (we will not give you the formula)
- Use velocity = wavelength X frequency to solve problems. Remember that the speed of light is  $3 \times 10^8$  m/s
- Determine trends in atomic radius and ionization energies using the periodic table. Also know why these trends occur.
- Determine the number of valence electrons in an atom
- Determine when electrons gain or lose energy in regards to the different electrons shells (rising or falling to different levels)
- Determine if elements will attract or transfer electrons based on electronegativity. Also know the most electronegative element