Unit G − Periodicity, Nomenclature,

Name_____Per___

Papers worth reviewing

- LAD G1 − Alkali & Halogen Reactivity
- LAD G2 − Reactivity of Cu and Zn
- LAD G3 − Electrolytes and Conductors
- LAD G4 − Alloys
- NoteSheet F5 (G1) − Atomic Size
- NoteSheet F6 (G2) − Ionization Energy
- NoteSheet G2.5 − Do's and Don'ts of the Periodic Trends
- NoteSheet G3 − Binary Ionic Compounds
- NoteSheet G4 − Binary Ionic Compounds with Roman Numerals
- NoteSheet G5 −Ionic Compounds with Polyatomic Ions
- NoteSheet G6 −Naming Binary Molecular Compounds
- NoteSheet G7 − Ionic vs Molecular
- NoteSheet G8 − Electrolytes & Conductors
- Practice F5 (G1) − Periodic Trends
- Practice G2 − Binary Ionic Compounds
- Practice G3 − Binary Ionic Compounds Using Roman Numerals
- Practice G4 − Ionic Compounds with Polyatomic Ions
- Practice G5 − Molecular Compounds
- Practice G6 − Nomenclature Review
- Consider using the class presentation and clicker questions for review as well (available on the unit G document page at the top)
- Consider reviewing your openers. (At the end of the unit, you can find a pdf with all the openers…and more, with answers on the documents page)
- Consider using the vocabulary list on the back of this sheet

Objectives

1. know the periodic trends and be able to describe them in terms of Coulombs Law: distance between protons & valence electrons, size of nuclear charge (total charge and/or effective nuclear charge)
   - atomic and ionic radius
   - isoelectronic particle comparisons
   - first ionization energy, be able to write a chemical equation to describe ionization
   - successive ionization energy be able to write a chemical equation to describe successive ionizations
2. describe and explain the reactivity within the alkali metal and halogen families
3. be able to describe the back story of how ionic compounds form as a result of the transfer of some # of electrons
4. be able to name compounds and write chemical formulas
   - ionic compounds
   - binary molecular compounds
   - acids
5. be able to describe bonding in metals, ionic compounds, molecular compounds
6. define and identify conductors and insulators
   - write an equation to describe melting ionic compounds
   - want more info about diamonds vs graphite go online to look at page 2 of NS G7
7. define and describe electrolytes
   - write an equation to describe the dissolving of ionic compounds
   - distinguish between weak acids and strong acids
   - draw particulate diagrams of the dissolving of ionic compounds as well as weak and strong acids
8. understand what an alloy is and why alloys are useful
   - be able to describe and identify interstitial and substitutional alloys

Unit G − The Atom

Vocabulary List

This vocabulary list is meant to complement your study. Knowing this list alone, without the concepts on the front would not prepare you for the test.

- alkali metals, alkaline earth metals, transition metals
- halogens, noble gases
- valence electrons
- inner core of electrons
- energy levels (occupied energy levels)
- effective nuclear charge (ENC)
- Coulombs law
- isoelectronic
- atomic radius (ionic radius)
- ionization energy
- successive ionization energies
- periodic trend (for atomic and ionic radius, for ionization energy, for successive ionization energies)
- columns, groups, families
- rows and periods
- reactivity
- conductor
- insulator (non-conductor)
- delocalized electrons (sea of loose valence electrons)
- allotropes
- electrolyte
- particulate diagrams
- non-electrolyte
- ionic compounds
- ionic bonds
- lowest whole number ratio
- Roman numerals (I, II, III, IV, V, VI, VII)
- cation
- anion
- polyatomic ions
- molecular compounds
- covalent bonds
- mono / di / tri / tetra / penta / hexa / hepta / octo / nono / deca
- diatomic elements (the "-gen" elements: {H_2, O_2, N_2, F_2, Cl_2, Br_2, I_2 })