

AP Chemistry First Day Assignment

Complete the following problems below. Use any resources that you have for assistance. The notes for Chemistry I, including solubility rules and formulas, may be particularly helpful. Feel free to e-mail me if you have any questions or concerns. (garydubose@pickens.k12.sc.us)

If you do not know how to do something, try to look it up on the internet.

1. Indicate whether the following compounds are soluble (S) or insoluble (I):

CaCl₂ _____ BaSO₄ _____ KBr _____ LiOH _____ Cu(OH)₂ _____

AgCl _____ NH₄Cl _____ AgNO₃ _____ Al(OH)₃ _____ PbCl₂ _____

2. Give the proper formulas for the following compounds:

Silver Sulfate _____ Calcium Hydroxide _____ Methane _____

Strontium Chloride _____ Sodium Carbonate _____ Propane _____

Ethyl Alcohol _____ Sulfuric Acid _____ Ammonia _____

Acetic Acid _____ Hydrochloric Acid _____ Silver Sulfide _____

Hexane _____ Potassium Oxide _____ Pentene _____

Sodium Hypochlorite _____ Magnesium Chlorate _____ Lead (II) Nitrate _____

Iron (III) Carbonate _____ Copper (II) Nitrate _____ Ethyne _____

Sodium Phosphate _____ Nitric Acid _____ Nitrous Acid _____

3. Calculate the following:

(a) The molarity of a solution formed by adding 35 g of NaCl to enough water to make 1.00 liter of solution.

(b) The mass of CO₂ released when 5.0 g of C₃H₈ is burned in excess oxygen at 1.0 atm and 25° C

(c) The mass of potassium chloride produced when 2.0 g of potassium is added to 5.0 g of chlorine gas.

(d) The volume occupied by 3.0 grams of neon at 1.25 atm and 25° C.

(e) The volume of H_2 gas released when excess HCl is added to 2.0 g of magnesium at 1 atm and 25°C .

(f) The mass of 2.5 liters of chlorine held at 25°C and 3.2 atm of pressure.

(g) The mass of potassium iodide needed to make 240 ml of a 0.25 M solution.

(h) The mass of silver chloride that will precipitate if 15 ml of 0.12 M silver nitrate is added to a solution containing excess sodium chloride.

(i) The percentage by mass of strontium in strontium iodide.

(k) The percentage by mass of carbon in C_5H_{12} .

(l) The formula for a compound that is 50% sulfur and 50% oxygen by mass.

4. Write shortcut electron configurations for the following atoms:

Iron _____ Iodine _____

In addition to having a general understanding of the above concepts, you are expected to know the **general solubility rules, polyatomic ions, ion charges** and general information on the periodic table from Chemistry I. We will begin the year with stoichiometry calculations that will use these skills.