**Review – The Mole #1**

1. Molar Mass Calculations
   1. What is the molar mass of NaHCO3?
   2. How many grams are 54 moles of NaHCO3?
   3. How many moles are 234 grams of NaHCO3?
2. Questions from your Notes – The Mole #1
   1. Complete: 1 Mole = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of anything
   2. According to Avogadro’s Law what would 1 liter of H2 gas have in common with 1 liter of O2 gas?
   3. What is Avogadro’s Number? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. What is Molar Mass?
3. Dimensional Analysis - Converting Units
   1. Convert 4,800 days to years
   2. Convert 40cm to m

day yr

1. Questions from your Notes – Chemical Reactions: Rates of Reactions
   1. What is the Collision Theory?
   2. What 2 things need to happen for an “Effective Collision?”
   3. Explain in terms of the ***Collision Theory*** why increasing the temperature speeds up a chemical reaction.
2. Balancing Equations – balance the following equations
   1. \_\_\_\_\_ NO2 → \_\_\_\_\_ O2 + \_\_\_\_\_ N2
   2. \_\_\_\_\_ Ag(NO3) + \_\_\_\_\_ Cu → \_\_\_\_\_ Cu(NO3)2 + \_\_\_\_\_Ag
3. Naming – Name the following
   1. N2O5 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Cu(OH)2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. CaF2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Vocabulary – match the words with their definitions

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| 1. \_\_\_\_ | Dimensional Analysis | a. | 6.022 x 1023 |
| 2. \_\_\_\_ | Average Atomic Mass | b. | A unit used to count atoms by mass in grams. It is based on the quantity of atoms in12 grams of Carbon-12. |
| 3. \_\_\_\_ | Atomic Mass Unit (amu) | c. | A way to convert between units using equivalent measures as fractions. |
| 4. \_\_\_\_ | Mole | d. | The average atomic mass expressed in grams. This is equal to the mass of one mole of atoms or compounds. |
| 5. \_\_\_\_ | Avogadro’s Law | e. | Equal volumes of different gases, at the same temperature and pressure, contain an equal number of particles. |
| 6. \_\_\_\_ | Avogadro’s Number | f. | Unit used to express the mass of one atom relative to Carbon-12. |
| 7. \_\_\_\_ | Molar Mass | g. | Average of the masses of the isotopes of an element as found in nature. This is the number listed on the periodic table. |