**Mole to Grams, Gram to Moles Conversion**

*What are the molecular weights of the following compounds?*

1. NaOH 2) H3PO4
2. H2O 4) Mn2Se7
3. MgCl2 6) (NH4)2SO2

Conversion Factors

Set up the following conversion Factors. Do your set up on the table first, then do it on the paper.

How many seconds are in 2 weeks?

You’re throwing a pizza party for 15 and figure each person will eat about 4 slices. How much is the pizza going to gost you? You call up the pizza place and learn that each pizza will cost you $14.78 and will be cut into 12 slices. How many pizza’s will you have to buy and how much will it cost?

When converting Moles to Grams and Grams to Moles, know how to set up, like with dimensional analysis helps.

**There are three definitions (equalities) of mole. They are:**

 1 mole= 6.02 x 1023 particles

 1 mole= molar mass (could be atomic mass from periodic table or molecular mass)

Each definition can be written as a set of two conversion factors. They are

1 mole=molar mass (g) can be written as $\frac{1 mole}{molar mass (g)}$ or $\frac{Molar mass (g)}{1 mole}$

1 mole= 6.02 x 1023 particles can be written as $\frac{1 mole}{6.02 x 10\^23}$ or $\frac{6.02 x 10\^23}{1 mole}$

*Also thing to keep in mind*

**To find moles divide molar mass To find grams multiply molar mass**

Solve the following: Do your set up on the table, then on your paper

1. How many moles are in 15 grams or lithium?
2. How many grams are in 2.4 moles of sulfur?
3. How many moles are in 22 grams of argon?
4. How many grams are in 88.1 moles of magnesium?
5. How many moles are in 2.3 grams of phosphorus?
6. How many grams are in 11.9 moles of chromium?

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_

**Moles to Grams, Grams to Moles Conversion Worksheet**

***\*you must show your work***

1. How many moles are in 9.8 grams of calcium?
2. How many grams are in 238 moles of arsenic?
3. How many grams are in 4.5 moles of sodium fluoride, NaF?
4. How many moles are in 98.3 grams of aluminum hydroxide, Al(OH)3?
5. How many grams are in 0.02 moles of beryllium iodide, BeI2?
6. How many moles are in 68 grams of copper (II) hydroxide, Cu(OH)2?
7. How many grams are in 3.3 moles of potassium sulfide, K2S?
8. How many moles are in 1.2 x 103 grams of ammonia, NH3?
9. How many grams are in 2.3 x 10-4 moles of calcium phosphate, Ca3(PO3)2?
10. How many moles are in 3.4 x 10-7 grams of silicon dioxide, SiO2?