Dimensional Analysis: Molar Mass, Particles, Ionic, & Covalent Compounds

Molar Mass (MM) = mass of one mole of a substance

Example 1) Molar Mass of $AlCl_3$ = molar mass of one Al + molar mass of three Cl
= (26.98) + (3 x 35.45)
Molar Mass of $AlCl_3$ = **133.33 g/mol**

Example 2) Molar Mass of $Ba(NO_3)_2$ = MM of one Ba + MM of two N + MM of six oxygens
= (137.33) + (2 x 14.01) + (6 x 16)
Molar Mass of $Ba(NO_3)_2$ = **261.35 g/mol**

	Formula	**I/M**	**Name**	**Molar Mass (g/mol)**
Example	$AlCl_3$			(26.98) + (3 x 35.45) = **133.33**
1.			Carbon tetrachloride	
2.	ZnS			
3.			Ammonium carbonate	
4.			Chlorine	
5.	Cu_2SO_4			
6.			Lead (II) phosphate	

*Also, instead of 1 mole = 6.02 x 10^{23} atoms it is **1 mole = 6.02x10^{23} particles***

Class example 1: How many moles are in 54.6 grams of lead (II) phosphate?

Class example 2: How many particles are in 321.2 grams of ammonium carbonate?

Part II: Solve each of the problems. Remember to use the grid.

1) How many moles are present in 34 grams of copper (II) hydroxide? **Formula=_____**

2) How many moles are present in 2.45×10^{23} particles of carbon tetrahydride? **Formula=_____**

3) How many grams are there in 4.5×10^{22} particles of Barium Nitrite? **Formula=_____**

4) How many particles are there in 9.34 grams of Lithium chloride? **Formula=_____**