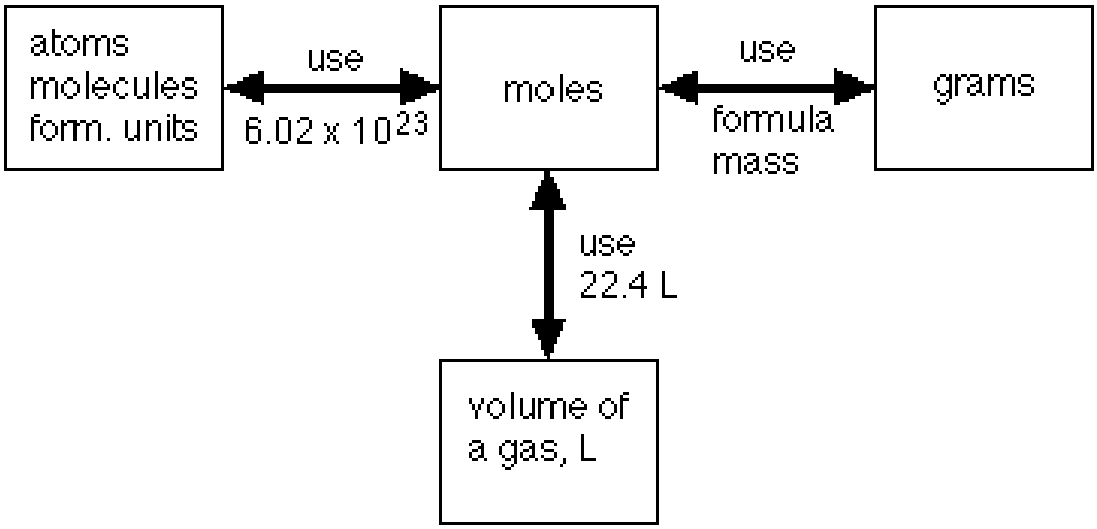
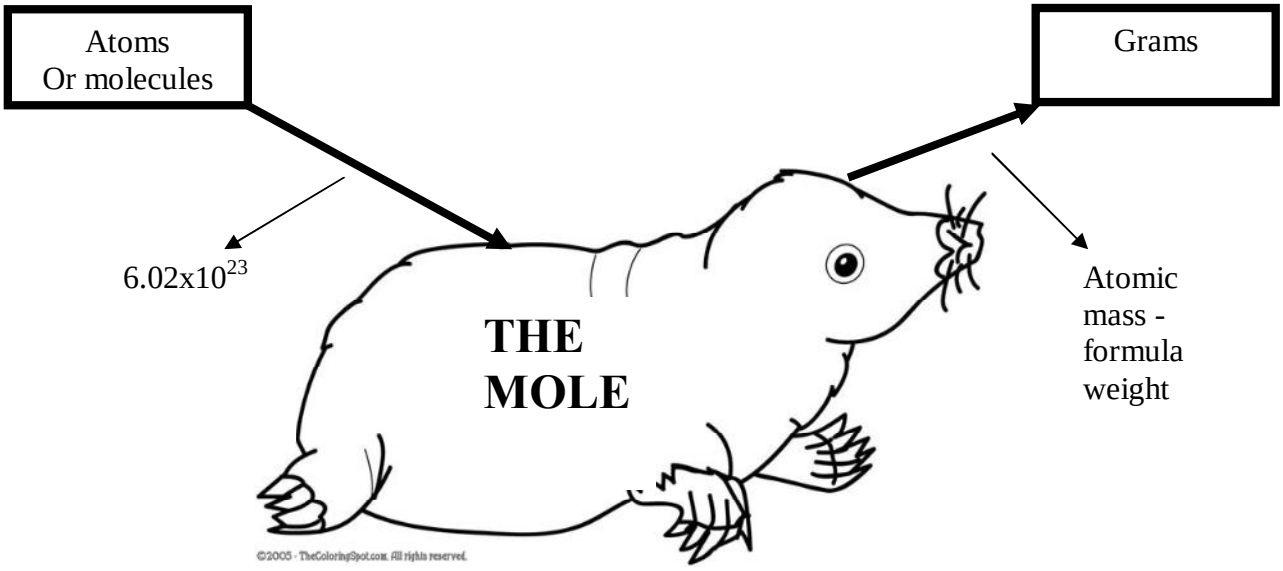
Mole Map



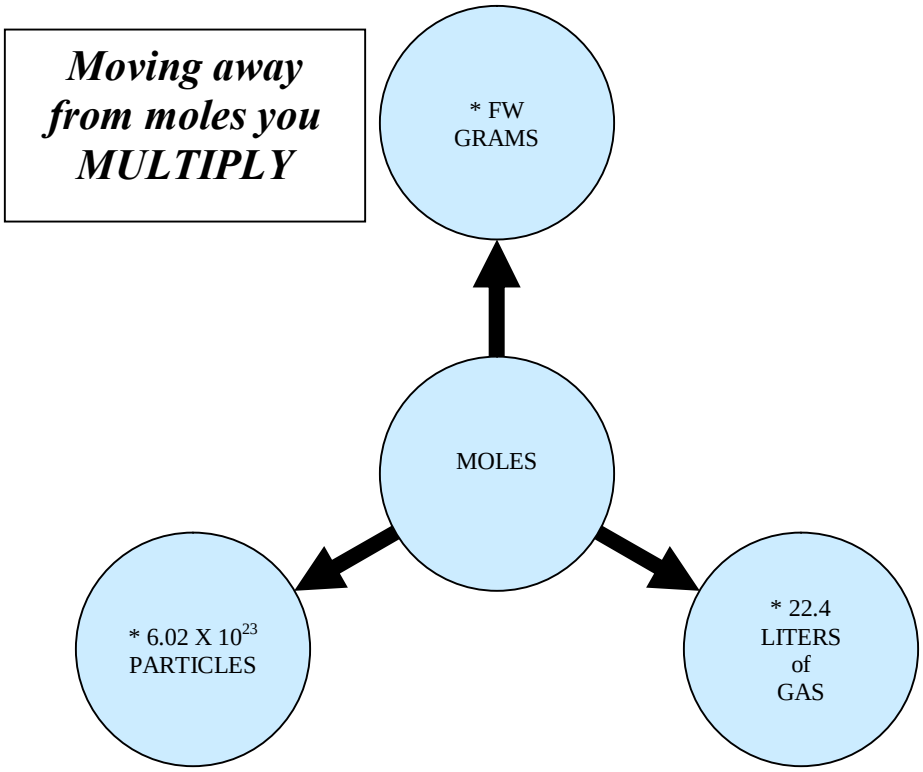
- Towards the mole you divide by ($6.02X10^{23}$, 22.4L or Formula mass)
- Away from the mole you multiply by ($6.02X10^{23}$, 22.4L or Formula mass)
- Formula mass = add up the atomic mass of all the elements (from periodic chart) in the molecule or formula unit
    - Examples:
        - Mg = 24.3g per mole
        - $MgCl_2$ = 95.1g per mole
        - $NaNO_3$ = 85g per mole

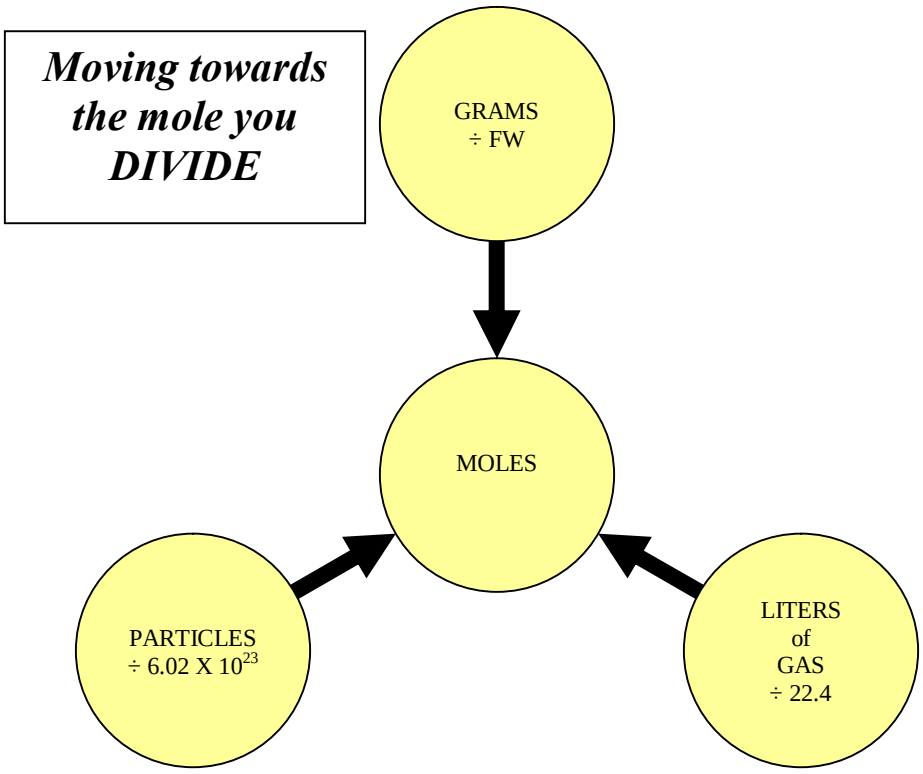


		FW	Moles	Atoms/molecules	Grams
1	He		3.4		
2	CH_4			$4.2x10^{32}$	
3	NaOH				140g
4	O_2				32g
5	C_2H_5OH			$7.8x10^{20}$	
6	$Pb(NO_3)_4$		12.3		

How many grams of lead are there in 12.3 moles of lead IV nitrate?

How many moles of Oxygen are there in $7.8x10^{20}$ molecules of C_2H_5OH?


Moving away from moles you MULTIPLY
* FW GRAMS
MOLES
* 6.02 X 10^23 PARTICLES
* 22.4 LITERS of GAS


Moving towards the mole you DIVIDE
GRAMS
÷ FW
MOLES
PARTICLES
÷ 6.02 X 10^23
LITERS
of
GAS
÷ 22.4