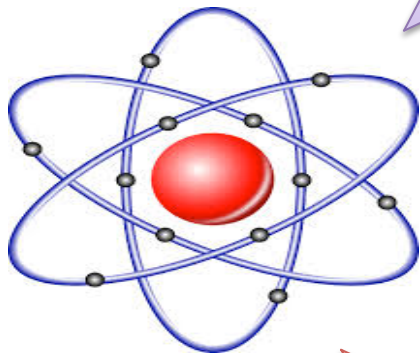


# Moles and Avogadro number



**ATOM**

Small

Difficult  
to weigh

Large in  
number

Difficult  
to count

**SO WE NEED A  
LARGER UNIT FOR  
SMALLER PARTICLES**

**Mole**

One mole of substance is the amount of substance that has the same number of particles as there are in 12g of Carbon-12.

Like :

1 dozen = 12

1 pair = 2

Similarly:

1 mole =  $6.022 \times 10^{23}$  of anything

*What is Avogadro  
number?*

*Avogadro number =  $6.022 \times 10^{23}$*

*What is Atomic  
Mass in terms of  
moles?*

*Mass of 1 mole of atoms =  
Atomic mass*

*What is Molecular mass in terms of moles?*

*Mass of 1 mole of molecules = molecular mass*

# Conversions- Mole and Mass

$$\text{Number of moles} = \frac{\text{Mass of the substance}}{\text{Molar mass of the substance}}$$



# Conversions- Mole and Mass

*How many moles of Carbon are present in 24 grams of Carbon?*

# Conversions- Mole and Number of atoms/molecules

$$\frac{1 \text{ mole}}{6.022 \times 10^{23}}$$

$$\frac{6.022 \times 10^{23}}{1 \text{ mole}}$$

# Conversions- Mole and Number of atoms/molecules

*How many atoms of Carbon are present in  
2 moles of Carbon?*

**THANK YOU**