

**THIRUVANANTHAPURAM EDUCATIONAL DISTRICT**  
**CHAPTER 2 (MODULE 2)**

**CHEMISTRY**  
**STANDARD X**

**MODULE 2 – RELATIVE ATOMIC MASS AND GRAM ATOMIC MASS**



[KITE VICTERS STD 10 Chemistry Class 8 \(First Bell-ഫസ്റ്റ് ബെൽ\)](#)

[Please click to see related First Bell online class](#)

- Fill in the blanks  
 1 Dozen = 12 No.s  
 1mole = .....No.s

[KITE VICTERS STD 10 Chemistry Class 09 \(First Bell-ഫസ്റ്റ് ബെൽ\)](#)

**2. Relative atomic mass**

The atomic mass of elements are expressed by considering 1/12 mass of an atom of carbon-12 as one unit.

**Gram Atomic Mass**

The mass of an element in grams equal to its atomic mass is called 1 Gram Atomic Mass (1 GAM) of the element. This may also be shortened as 1 Gram Atom.

Element	Relative atomic mass	GAM (Relative atomic mass in gram)	No.s of atoms in 1GAM
Hydrogen	1	1g	$6.022 \times 10^{23}$
Helium	4	4g	$6.022 \times 10^{23}$
Nitrogen	14	14g	$6.022 \times 10^{23}$
Oxygen	16	16g	$6.022 \times 10^{23}$

### Complete the table

Element	Relative atomic mass	GAM (Relative atomic mass in gram)	No.s of atoms in 1GAM
Carbon	12	12g	$6.022 \times 10^{23}$
Neon	20	20g	..... (a).....
Calcium	..(b)...	40g	$6.022 \times 10^{23}$
Sulphur	..(c)...	32g	$6.022 \times 10^{23}$

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### 3. Avagadro number ( $N_A$ )

One gram atomic mass of any element contains  $6.022 \times 10^{23}$  atoms.

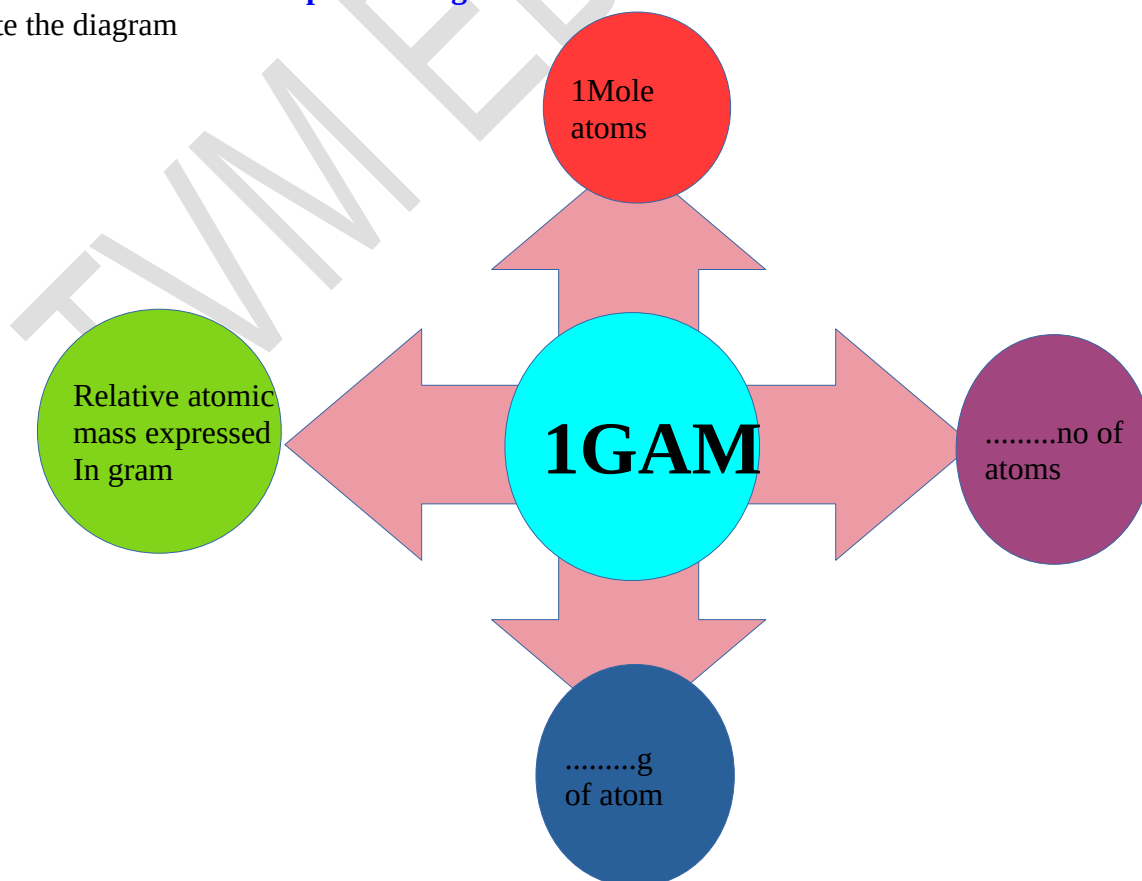
This number is known as Avagadro number. This is indicated as  $N_A$

Find out the pairs having equal no.s of atoms

- 10 g Hydrogen
- 140 g Nitrogen
- 16 g Oxygen
- 60 g Carbon
- 230g Sodium

### 4. One mole of any atom contains $6.022 \times 10^{23}$ no.s of atoms and its mass is equal to relative atomic mass expressed in gram ie GAM

Complete the diagram



5.

- **Number of Gram Atomic Mass = Given Mass in grams / GAM of element**
- **Number of GAM = Given Mass in grams / GAM of element**
- **Number of Atoms = Number of GAM  $\times 6.022 \times 10^{23}$**

Find out no. of atoms present in following samples

- (a) 240g of carbon
- (b) 460g Sodium

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