

## THE MOLE

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$6.02 \times 10^{23}$  atoms (particles)= 1 mole

1 mole = the atomic mass in grams

The atomic mass is the weighted average of the relative mass of the isotopes of an element.

Relative mass is a comparative mass in the unit atomic mass units or amu. An atomic mass unit is defined as  $1/12^{\text{th}}$  the mass of  $^{12}\text{C}$ .

# The Mole

❖ SI unit for amount of substance

1 mole =  $6.02 \times 10^{23}$  particles

1 mole = 1 gram-molecular weight



A **mole** (also known as Avogadro's Number) is the number that is used in making calculations involving atoms and molecules. Given the relatively microscopic size of the particles, it would be rather difficult (read: utterly pointless) to calculate amounts in terms of numbers of atoms. So, we use the mole.

A mole, (mol for short) is equal to (all together now)  $6.022 \times 10^{23}$  atoms or molecules.

The **atomic mass** given for an element on the periodic table measured out in grams is equal to one mole of atoms of that element.

Thus, the **Molar Mass (MM)** of elements and compounds is the mass, in grams, equal to the atomic and formula masses of those elements and compounds. The unit of Molar Mass is **grams/mole**.

