WHAT IS A MOLE?

One mole is the amount of a substance that contains exactly $6.02214076 \times 10^{23}$ atoms, molecules or ions. This number is also known as ‘Avogadro’s Number’ ($N_A$). It is named after the Italian scientist Amedeo Avogadro (left), which was a suggestion put forward by French scientist Jean Perrin to recognise Avogadro’s work.

One mole is essentially

$602,214,076,000,000,000,000,000,000$

of something - in chemistry, atoms or molecules

One mole is a different mass for different elements & compounds

This may seem confusing; however, it’s similar to comparing a dozen elephants to a dozen mice. Although their masses may be very different, you still have a dozen of each!

A mole is often referred to as ‘a chemist’s dozen’

It’s just an easier way to count large numbers of atoms & molecules

No. of moles = Mass (g) ÷ Mass of 1 mole (g)