

Units for Chemical Quantities

1. Average Atomic Mass

- Matter is measured by its mass
- Relative atomic mass : the mass of any atom compared with the mass of carbon (C-12)
- Average Atomic Mass: the atomic mass of the mixture of isotopes of an element found in nature (values on the periodic table)

2. Calculating Average Atomic Mass

- Write the abundance of each isotope as a decimal instead of a percentage
- Multiply the relative atomic mass by the abundance and add all the isotopes together

Eg. an element has two isotopes in nature, half of the atoms have a relative atomic mass of 8, others have 6

$$\text{Mass} = (8 \times 0.5) + (6 \times 0.5) = 7$$

3. The Mole

- Symbol = n, unit = mol
- A particular number of particles
- N_a = Avogadro's number: the number of particles in one mole of a substance (6.02×10^{23})

Eg. Calculate the number of atoms in 3.75 mol of an element