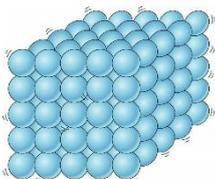


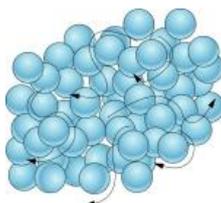
Chemistry

Basic concepts

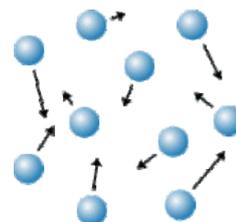
Type	Charge	Mass	Placement
Proton	+1	1	Nucleus
Neutron	0	1	Nucleus
Electron	-1	1	Shells



- Packed closely
- Fixed positions
- Low energy
- Keeps its own shape



- Take shape of container
- Closely packed
- Slide over each other
- Intermediate energy



- Fill volume
- Compressed easily
- High energy
- Collide

- Positive = cation
- Negative = anion
- -ide = only element given
- -ite/-ate = oxygen
- -ite = less oxygen

- Combustion = hydrocarbon + oxygen → carbon dioxide + water
- Isotopes = different atoms of the same element → same no. protons and electrons but different no. of neutrons from nuclei
- Period number = number of shells
- Group number = number of outer shell electrons

Relative Atomic Mass (AR)

- Weighted mean mass of electrons of each atom in an element on the scale where $^{12}\text{C} = 12$
- 1 atom of carbon = 1.992×10^{-26} Kg
- $\text{AR} = \frac{\text{sum of Isotope abundance} \times \text{isotope mass number}}{\text{sum of the abundances of all the isotopes}}$
- E.g Chlorine 75% ^{35}Cl 25% ^{37}Cl
- $\frac{75}{100} \times 35 + \frac{25}{100} \times 37 = 35.5$

- Atom = Smallest part of an element to exist. It is neutral as it has the same number of protons and electrons
- Ion = Charged particle that consists of 1+ atoms. It is not neutral as it has the same number of protons but a different number of electrons