Chemistry

Atoms

- Atoms or tiny particles that make up everything around us
- We cannot see atoms from our naked eyes
- We can use microscope to see them
- Size of atom is around 0.1 nano metre

Structure of atom

Atom has two parts

- nucleus
- electrons

Nucleus

- It is the centre of atom
- It contains protons and neutrons
- Proton has positive charge
- neutron has zero charge and it is neutral

Electrons:

- Electrons are tiny particles with negative charge
- electrons move around the nucleus in shell
- electrons have almost no mass

Subatomic Particle	Relative Charge	Relative Mass
Proton	1	1
Neutron	0	1
Electron	-1	Negligible (1/2000)

Fig 1. Relative Masses and Charges of Subatomic Particles.

Charges in an atom:

If Protons are equal to electrons then atom is neutral

If an atom has 6 protons and 6 electrons

+6-6

0

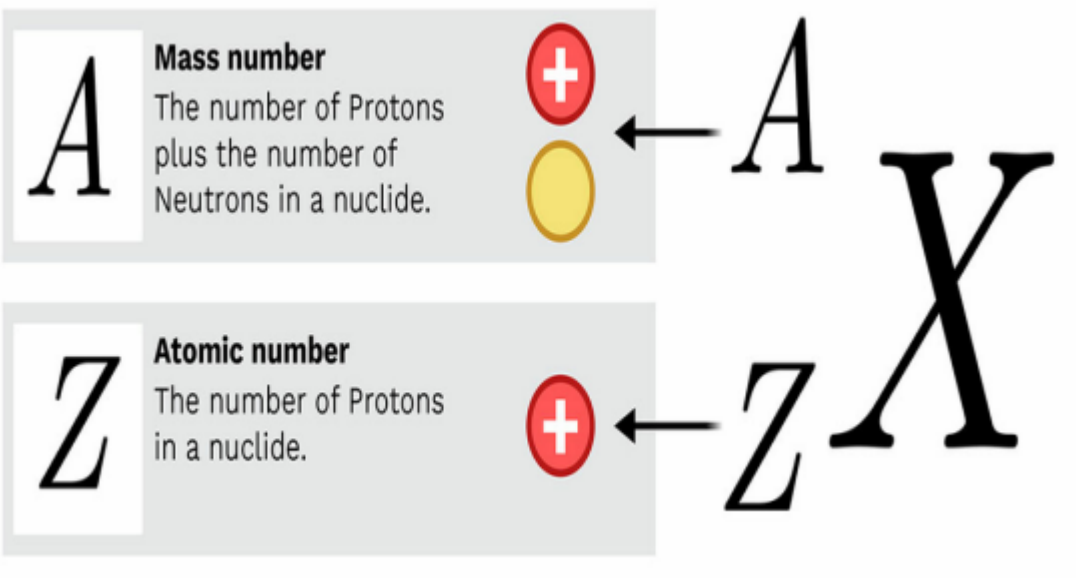
Atomic number

- **Number of protons is called atomic number**
- **It is at the bottom of element**
- **It is denoted by Z**
- **Same element has same atomic number**
- **Sodium has 11 protons so atomic number will be 11**

Mass number

- Sum of protons and neutrons is called mass number
- it is on the top of element
- It is denoted by A

Mass number= Protons + Neutrons



How to calculate subatomic particles

Protons are atomic numbers

electrons are also atomic numbers

Mass number= Protons + Neutrons

Atomic number of sodium is 11

There are 11 protons and 11 electrons

The mass number is 23

Find number of neutron

Neutrons= 23- 11 = 12