## Chemistry

## Ions

ion is an atom or a group of atoms that has positive or negative charges

## When ions are form

Ions form when atoms lose or gain electrons to get a full outer shell

- Metal loose electrons so it will get positive ions
- non metal gains electron so it will get negative ions

## Positive ions ( Cation)

## How they are formed

a metal atom lose electrons from its outer shell

it becomes positively charged because it has more protons than electrons

Group number

Group 1 metals lose one electron

Group 2 metal used two electrons

**Example**

**sodium group 1**

- **Group one has the sodium**
- **electronic configuration of sodium is 2, 8, 1**
- **it loses one electron and become positive Na+**

**Negative ions- anions**

**How they are form**

- **A non metal atom gains electron in its outer shell**
- **It becomes negatively charged because it now has more electrons than protons**
- **it is than has electronic configuration of noble gases**

**Example**

**oxygen In group six oxygen**

- **If it has six electrons in the outer shell**
- **it gives two electrons**

**Ionic bonding**

- **Ionic bonding happens when a metal reacts with nonmetal**

- the metal loses electron to form positive Ion
- The non metal gains electron and forms the negative ion
- Oppositely charged ions attract each other by strong electrostatic force
- This attraction is called ionic bonding

NaCl

Sodium Na

Atomic number = 11

Electronic conf = 2, 8, 1

It loose 1 electron to get stable $Na^{+1}$

Chlorine Cl

A.N = 17

Elech = 2, 8, 7.

It gain 1 and beome $Cl^{-1}$

Na = 2, 8, 1 Cl = 2, 8, 7

