

IONS: A charged atom.

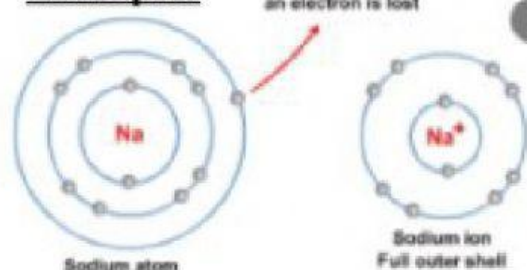
Neutral atoms can gain or lose electrons to become an ion.



Positive Charge Ion (CATION)

- Occurs when atoms LOSE electrons.
- Atom now has more (+) protons than (-) electrons.
- Are LESS reactive with other atoms.
- Metals have few VE and tend to LOSE ve to form a Positive Ion.

Example:



Sodium atom

11+ protons
11- electrons

0 Charge
Neutral Atom

Sodium ion (Na^+)

11+ protons
10- electrons

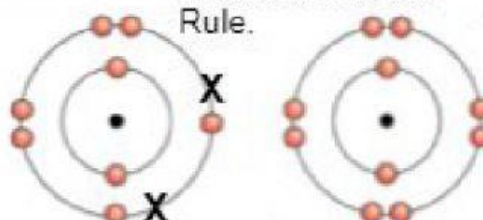
1+ Charge
Positively
Charged
Atom

Negative Charge Ion (ANION)

- Occurs when atoms GAIN electrons.
- Atom now has more (-) electrons than (+) protons.
- Anions are MORE likely to react with other atoms.
- Nonmetals' outer levels are almost full. They only need a few electrons to be full.

Example:

O needs to gain 2 VE to meet the Octet Rule.



Oxygen atom (O)

8+ protons
8- electrons
0 Charge
Neutral Atom

Oxide ion (O^{2-})

8+ protons
10- electrons
2- Charge
Negatively
Charged Atom

NOTICE: name of ion now ends with **-ide**.
Which means **negative**.

NOTICE:

The # of Energy Levels and # of VE have changed in the ion.

Oxidation Number: Ions are written with a number. It represents the number of electrons lost OR gained by an atom of an element. **Sodium ion (Na^+)** **Oxide ion (O^{2-})**