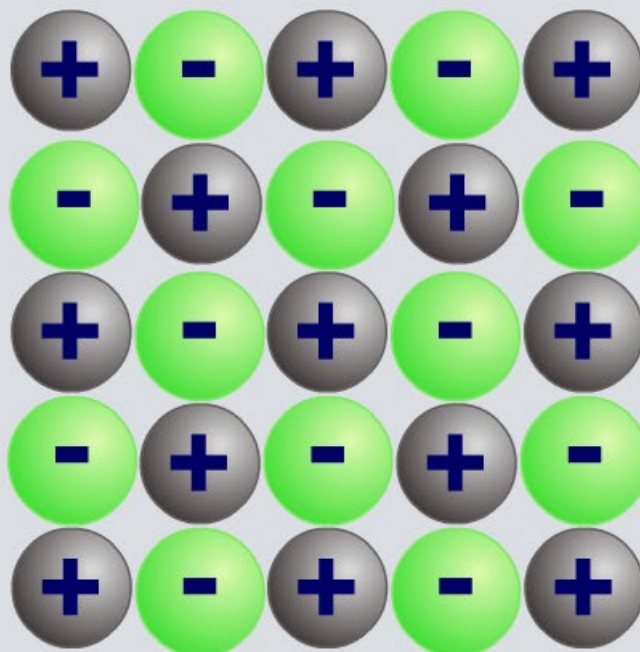
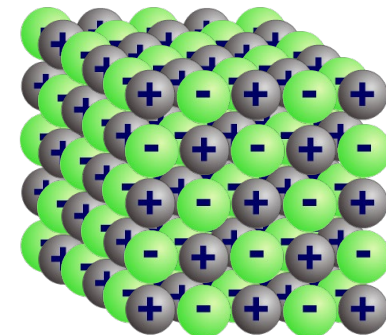


## Ionic Bonding



# What is ionic bonding?

Compounds that contain ions are called **ionic compounds**. These compounds are usually formed by a reaction between a **metal** and a **nonmetal**.



Why do these substances react together and form bonds?

The metal and nonmetal atoms have incomplete outer electron shells, and so are **unstable**.

Electrons are transferred from each metal atom to each nonmetal atom. The metal and the nonmetal atoms form ions with completely full outer shells and become stable.

The positive and negative ions are strongly attracted to each other. This **electrostatic** attraction is called **ionic bonding**.

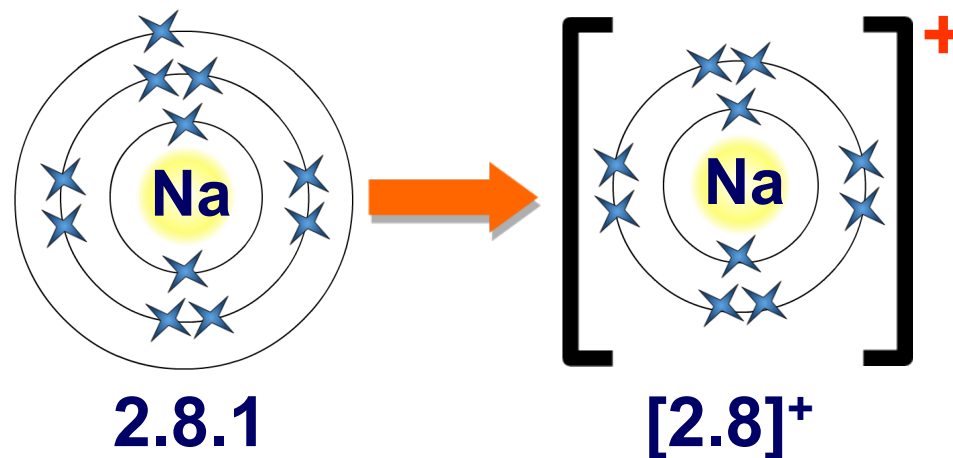


# How are ionic bonds formed?

Sodium chloride is an ionic compound formed by the reaction between the metal sodium and the nonmetal chlorine.

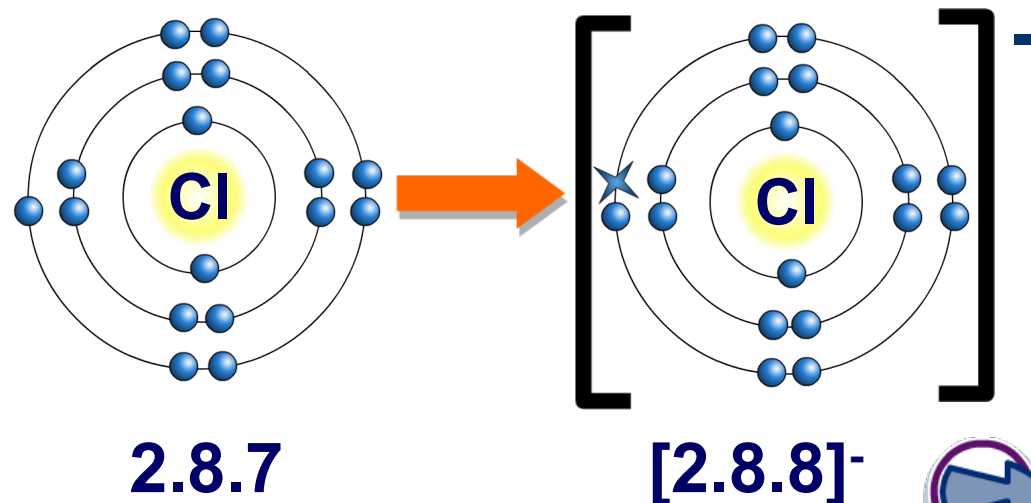
Sodium has 1 electron in its outer shell.

By losing this electron, it has a filled outer shell and forms a positive ion.



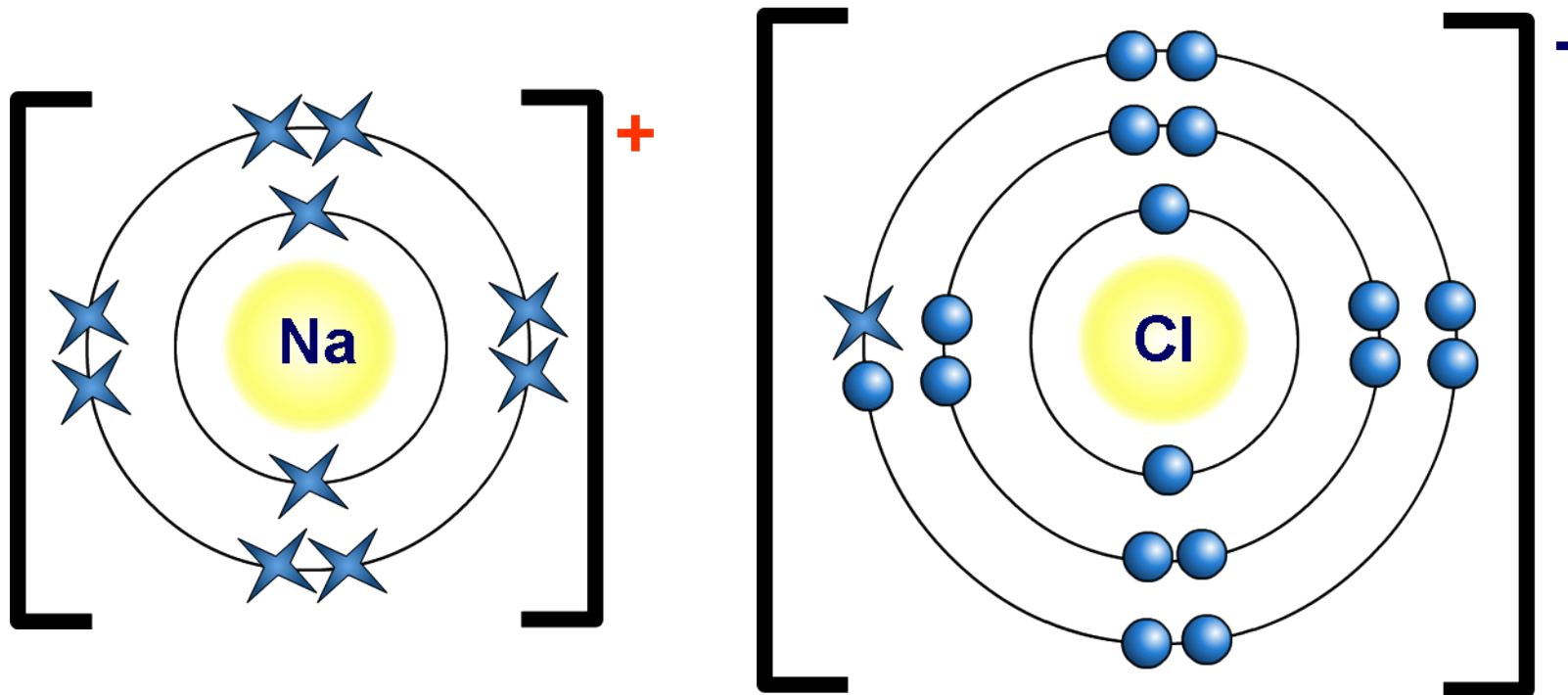
Chlorine has 7 electrons in its outer shell.

By gaining an electron from sodium, it has a filled outer shell and forms a negative ion.



# How are ionic bonds formed?

The **positive** sodium ions and the **negative** chloride ions are strongly attracted to each other.



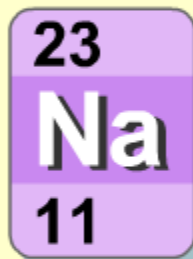
It is this electrostatic attraction that forms **ionic bonds** in sodium chloride and other ionic compounds.



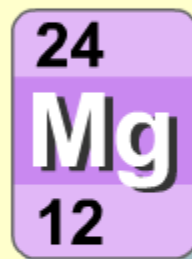


## How does an ionic bond form?

Click on the compounds below to find out more.



sodium chloride



magnesium oxide



# Ions and ionic bonding – summary

