

## 8.2 Modern Periodic Table of Elements

Drag and drop the correct answers.

GROUP

PERIOD

LANTHANOIDS

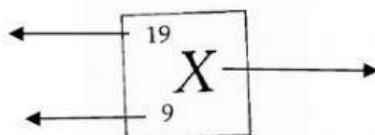
ACTINOIDS

1. Elements are arranged in the Periodic Table in the order of increasing .....
2. Drag and drop the correct answers

PROTON NUMBER

SYMBOL OF ELEMENT

RELATIVE ATOMIC MASS



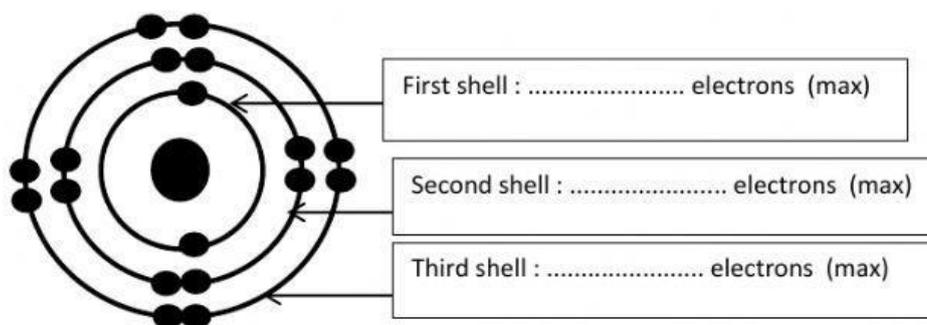
3. The vertical columns are called ..... while the horizontal rows are called ..... There are ..... groups and ..... periods in the Periodic Table.
4. Elements in the same group show the same ..... properties.
5. Some of the groups have special names :
  - i. Group 1 : .....
  - ii. Group 2 : .....
  - iii. Group 3 – 12 : .....
  - iv. Group 17 : .....
  - v. Group 18 : .....

6. Moving across a period from left to right, there is a change in:

- a) ..... in metallic properties and ..... in non-metallic properties.
- b) change in properties of oxides from ..... to .....
- c) ..... in electrical conductivity of the element.
- d) Physical state changes from ..... to ..... and to .....

Electron arrangements of the Elements

- 1. .... number = Number of protons.
- 2. In an atom, the number of proton is the same as the number of .....
- 3. Electrons are arranged around the nucleus in the ..... of an atom.
- 4. Each shells can occupy certain number of electrons:



5. Electrons in the outer most shell are known as ..... electrons. These will determine the group of the elements in the Periodic Table.

6. Number of shells determine the ..... number of the elements in the Periodic Group.

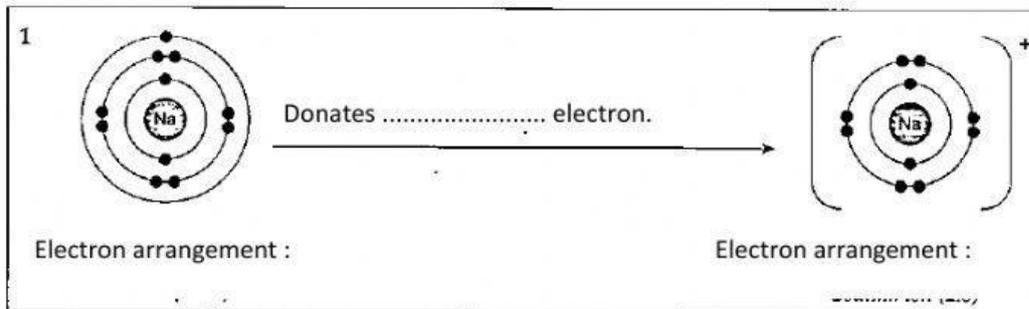
7. Complete the table below:

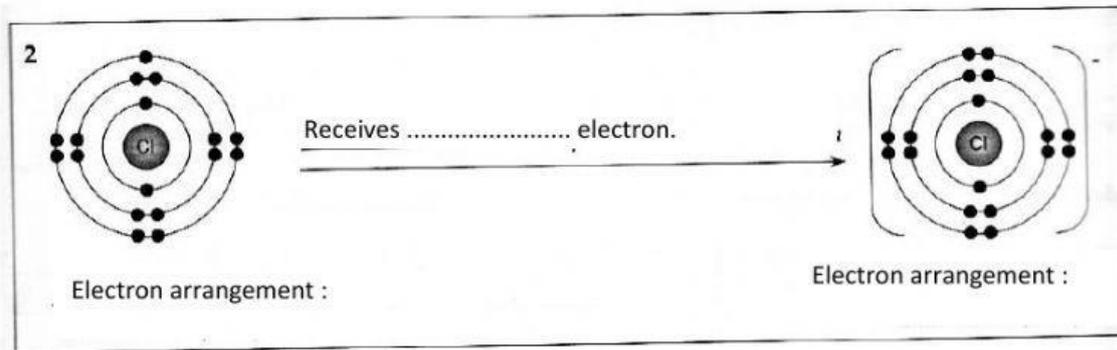
Element	Proton Number	Electron arrangements	Number of valence electrons	Group Number	Period Number
Sodium 11 <b>Na</b> 22.990					
aluminium 13 <b>Al</b> 26.982					

Fluorine 9 <b>F</b> 18.998					
Magnesium 12 <b>Mg</b> 24.305					
phosphorus 15 <b>P</b> 30.974					

Formation of Positive and Negative Ions

1. .... is a charged particle formed an atom gains or loses an electron.
2. .... ion is formed when the atoms of metals releases/donates electrons from the outermost shell.
3. .... ion is formed when the atoms of non-metals accepts electrons into the outermost shell.
4. An atom is stable when it has a ..... (2 electrons in the outermost shell) or .....(8 electrons in the outermost shell) electron arrangement.
5. Complete the diagram below to show how atoms achieve stable electron arrangement.





6. Metals such as iron can donate electrons to become a more stable iron ion. This phenomenon is known as rusting. The strength and hardness of iron will be reduced. Rusting can be prevented by :

- a) ..... with metals that do not rust.
- b) ..... the structure
- c) cover with .....
- d) replace metal with .....