Group3-12-Transition elements : Transition elements are metals, the transition elements are both ductile and malleable, and conduct electricity and heat. The interesting thing about transition metals is that their valence electrons, or the electrons they use to combine with other elements, are present in more than one shell. This is the reason why they often exhibit several common oxidation states.

Group 17 Halogens: These five toxic, non-metallic elements make up Group 17 of the periodic table and consist of: fluorine (F), chlorine (Cl), bromine (Br), iodine (I), and astatine (At). Because the halogen elements have seven valence electrons, they only require one additional electron to form a full octet. This characteristic makes them more reactive than other non-metal groups.

Groups 18 Noble Gases: These gases are non-reactive, because their outer shells are full, so they do not react with other elements.

Group 13-16 are known with the name of the first element, like Boron scoup, carbon group, Nitrogen group and Oxygen group.

Atoms are the basic unit of matter. Atoms are made of three sub particles.

The sub particles are **Electrons, protons and neutrons.**

<u>Electrons</u> are <u>negatively charged particles</u>. They are <u>very tiny</u> compared to the other sub particles. Electrons are always in motion and are located in an electron cloud, which is the area surrounding the nucleus of the atom. Electrons can abbreviated as e-.

Protons are **positively charged particles**. **Protons** are located in the **nucleus**.

An easy way to remember **proton both proton and positive start** with the **letter** "**P.**"

Neutrons have no electrical charge and are said to help hold the protons together.