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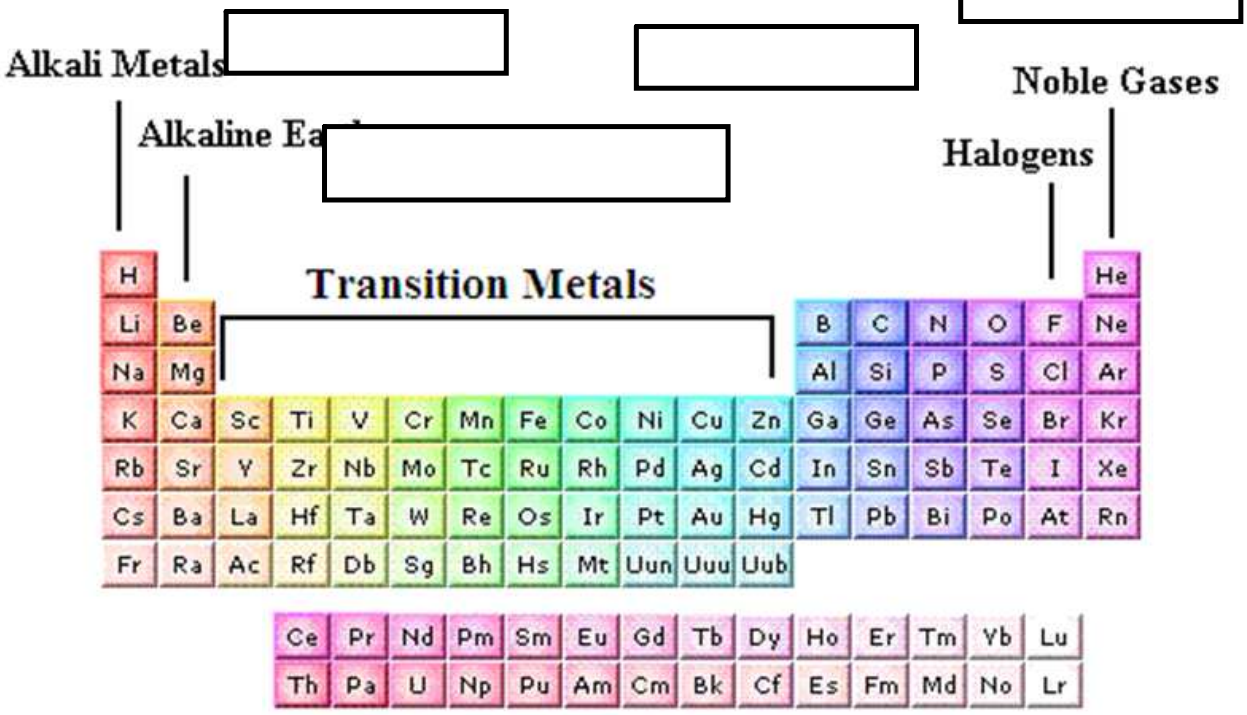
Trends in the Periodic Table



Every element is a part of a group and a period

1. **Group**- Vertical Column on the periodic table.
2. **Period**- horizontal rows on the periodic table

Trends in Periods and Groups

The outermost level of electrons is called the Valence shell.

This level is important because it determines how reactive an element will be.

Each element is always trying to fill its valence shell so it can be stable. It will react with other elements to make this happen.

An atom (element) can either lose or gain electrons to make this happen.

What patterns do you see in your Bohr-Rutherford Diagrams as you...

1. Move across a period?

As you move across a period the numbers of e⁻ in the valence shell increase. Elements in the same period have the same number of shells.

2. Move down a group?

As you move down a group, the number of shells increases. Elements in the same group have the same number of valence electrons.

Important Groups to Know

Group 1: Alkali metals

Alkali metals are very reactive since they really want to get rid of their one electron.

Group 17: Halogens

Halogens are also very reactive since they really want to get one electron to fill their valence shell.

Group 18: Noble gases

Noble gases have a full valence shell. They are very unreactive since their valence shell is already full.