CLASS: VIII HANDOUT

MODULE: 3/3 SUB: SCIENCE

METALS AND NON-METALS

CHEMICAL PROPERTIES OF METALS AND NON-METALS

SLIDE 1:

CHEMICAL PROPERTIES OF METALS AND NON-METALS

Reaction with water:

Potassium and sodium reacts with water vigorously.

Sodium metal reacts vigorously with oxygen and water and lot of heat is generated, hence it's stored in kerosene.

Phosphorous is very reactive non-metal therefore stored in water.

SLIDE 2:

CHEMICAL PROPERTIES OF METALS AND NON-METALS

Reaction with acids:

Metals react with acids to form hydrogen gas with a pop sound.

Non –metals generally do not react with acids.

Eg: Copper doesn't react with dilute hydrochloric acid but it reacts with sulphuric acid.

SLIDE 3:

CHEMICAL PROPERTIES OF METALS AND NON-METALS

Reaction with bases:

Metals react with sodium hydroxide to produce hydrogen gas with a pop sound.

Pop sound indicates the presence of Hydrogen gas.

The reaction of non-metals with bases is very complex.

SLIDE 4:

CHEMICAL PROPERTIES OF METALS AND NON-METALS

Displacement reaction:

More reactive metals replace less reactive metals.

One metal displaces another metal from its compound in aqueous solution.

Example 1:

Copper sulphate + Zinc ----------→ ZincSulphate + Copper.

Here, Zinc is more reactive than Copper, therefore Zinc displaces Copper.

Example 2:

Copper Sulphate + Iron ----------→Iron Sulphate + Copper.

Here, Iron is more reactive thanCopper, therefore Iron displaces Copper.

Uses of metals:

Metals are used in:

- Making machinery,

- Automobiles,
- Airplanes,
- Trains,
- Satellites,
- Industrial gadgets,
- Cooking utensils etc

Uses of non-metals:

Non-metals are used in;

- Fertilizers,
- Water purification,
- To manufacture antiseptics,
- Crackers etc

Summary:

- Metals are lustrous, malleable, ductile and good conductors
- Non-metals are brittle, poorconductors, non lustrous etc
- Metals react with oxygen to form its oxides.
- Non metals do not react with water.
- Metals react with acids to produce hydrogen gas.
- More reactive metals displace less reactive metals.
- Metals and non-metals are used widely every day.