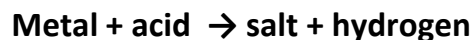


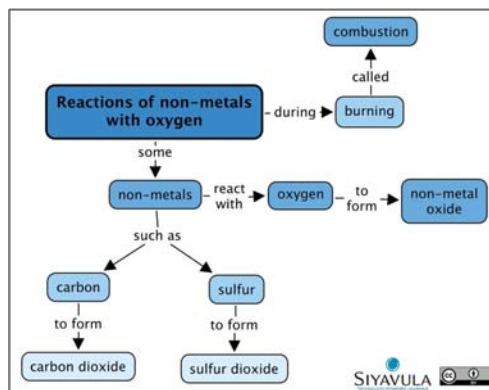
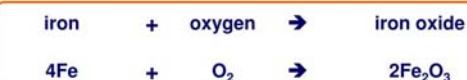
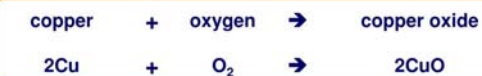
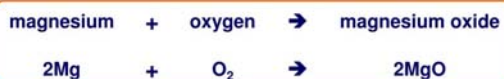
**Reactions of metals with acid**

The general equation for the reaction of a metal with acid is:



The test for hydrogen is sometimes called the squeaky pop test. Hydrogen makes a 'squeaky pop' when it is placed near a lit wooden splint.

Metals can be arranged as a **reactivity series** in order of how readily they react with other substances.



**How to remember the Reactivity Series?**

- |          |            |                     |
|----------|------------|---------------------|
| Please   | Potassium  | ↑<br>Most reactive  |
| Stop     | Sodium     |                     |
| Calling  | Calcium    |                     |
| Me       | Magnesium  |                     |
| A        | Aluminium  |                     |
| Careless | (Carbon)   |                     |
| Zebra    | Zinc       |                     |
| Instead  | Iron       |                     |
| Try      | Tin        |                     |
| Learning | Lead       |                     |
| How      | (Hydrogen) | ↓<br>Least reactive |
| Copper   | Copper     |                     |
| Saves    | Silver     |                     |
| Gold     | Gold       |                     |

Key words	
<b>Displacement</b>	Reaction where a more reactive metal takes the place of a less reactive metal in a compound.
<b>Metals</b>	Shiny, good conductors of electricity and heat, malleable and ductile, and usually solid at room temperature.
<b>Non-metals</b>	Dull, poor conductors of electricity and heat, brittle and usually solid or gaseous at room temperature.
<b>Oxidation</b>	Reaction in which a substance combines with oxygen.
<b>Reactivity</b>	The tendency of a substance to undergo a chemical reaction.

Properties of metals and non metals		
Property	Metals	Non-metals
<b>Appearance</b>	Shiny	Dull
<b>State at room temperature</b>	Solid (except mercury, which is a liquid)	About half are solids, about half are gases, and one (bromine) is a liquid
<b>Density</b>	High (they feel heavy for their size)	Low (they feel light for their size)
<b>Strength</b>	Strong	Weak
<b>Malleable or brittle</b>	Malleable (they bend without breaking)	Brittle (they break or shatter when hammered)
<b>Conduction of heat</b>	Good	Poor (they are insulators)
<b>Conduction of electricity</b>	Good	Poor (they are insulators, apart from graphite)
<b>Magnetic material</b>	Only iron, cobalt and nickel	None
<b>Sound when hit</b>	They make a ringing sound (they are sonorous)	They make a dull sound