

# Reactions

## 1. Metals and non-metals

### CONCEPT 3

#### METAL AND NON-METAL REACTIONS WITH OXYGEN

##### NOTES

The Reaction of Metals with Air (Oxygen).

More reactive metals such as Potassium, sodium, lithium, calcium and magnesium all react with oxygen and burn in air. Metals in the [reactivity series](#) from aluminium to copper react with oxygen in the air to form a metal oxide.

As Aluminium is the most reactive of these particular metals it reacts the fastest and copper is the slowest to react with oxygen.

Very unreactive elements such as silver, gold and platinum do not react with oxygen in the air, this is why these metals are good for making jewellery as they do not lose their shine.

The general word equation for a metal reacting with oxygen is;

METAL + OXYGEN  $\longrightarrow$  METAL OXIDE

Non-metals also react with oxygen to form non-metal oxides. Non-metal oxides are generally gases at room temperature (approx. 20C).

NON METAL + OXYGEN  $\longrightarrow$  NON METAL OXIDE

Metal/Non-metal oxides and water

When metal oxides are dissolved in water they form Alkaline solutions (pH 8-14).

When Non-metal oxides are dissolved in water they form Acidic solutions (pH 1-6).