



Most reactive



Potassium

Sodium

Calcium

Magnesium

Aluminium

**Carbon**

Zinc

Iron

Tin

Lead

Copper

Silver

Gold

Platinum

Least reactive

## 1. Keyword

Reactivity	How easily a substance takes part in a chemical reaction
Acidic	pH value less than 7
Alkaline	pH value more than 7
Oxide	Compound containing oxygen and another element
Displacement reaction	Where a more reactive element takes the place of a less reactive element in a compound

## 2. Reactions of Metals and Acids

Metal + acid → a salt + hydrogen  
The reaction between metal and acid gets faster when more reactive metals are used.

## 3. Reactions of Metals and water

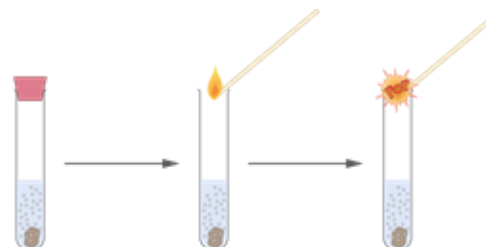
Alkali Metal + Water → Alkali metal hydroxide + hydrogen

Calcium, Magnesium, zinc, iron and lead react with steam to form a metal oxide and hydrogen gas

E.g. Calcium + Water → Calcium oxide + hydrogen

## 4. Test for Hydrogen

Lit splint  
Makes a squeaky pop sound



## 5. Metal oxides

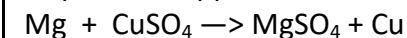
Bases – they dissolve to form alkaline solutions

## Non-metal oxides

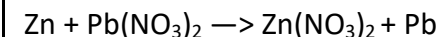
They dissolve in water to form acidic solutions

## 6. Displacement Reactions

Magnesium + copper sulphate → magnesium sulphate + copper



Zinc + lead nitrate → zinc nitrate + lead



The more reactive metal replaces the less reactive metal

## 7. Extraction of Metal

less reactive than carbon:

Extracted from their metal oxide by carbon.

Metal oxide + carbon → metal + carbon dioxide

More reactive than carbon:

Extracted from their metal oxide by electrolysis

Gold, Silver and Platinum found in their native state (they are unreactive)