

## 1. Key Words

Key Word	Definition
Reactivity series	The order of elements in terms of their reactivity
Oxidation	Loss of electrons from an atom
Reduction	Gain of electrons to an atom
Acid	Substance that releases H <sup>+</sup> ions
Base	Substance that neutralises an acid and has a pH above 7
Alkali	Substance that neutralises acids and releases OH <sup>-</sup> ions
Neutralisation	When an acid reacts with a base or alkali to produce a salt and water
Salt	Ionic (metal non-metal) compound formed when an acid reacts with a base
Indicator	Substance that changes colour when the pH changes
Soluble	Dissolves in a solvent such as water
Insoluble	Does not dissolve in a solvent

## 2. Naming Salts

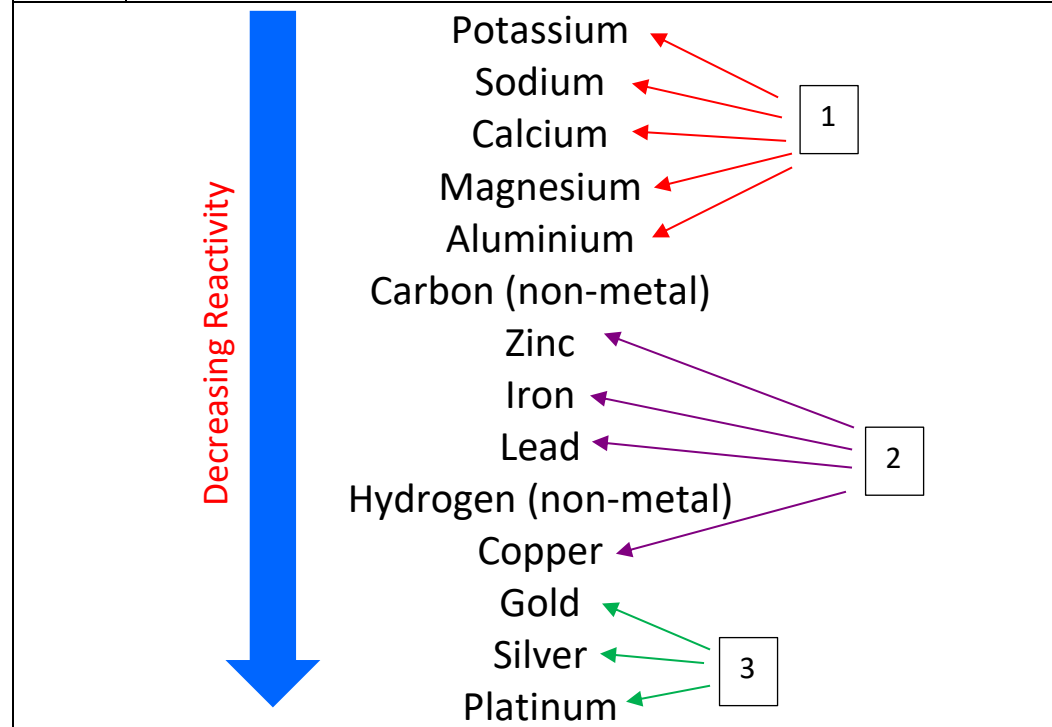
Name of acid	Second part of salt name
Hydrochloric acid	Chloride
Sulphuric acid	Sulphate
Nitric Acid	Nitrate

## 3. Equation Symbols

Symbol	Meaning
s	Solid
l	Liquid
g	Gas
aq	Aqueous (salt dissolved in a solvent)

## 4. Reactivity Series

1	Very reactive metals, need extracting from ores using electrolysis
2	Base metals, can be extracted from ores by smelting with carbon
3	Very low reactivity metals, found native as nuggets of metal

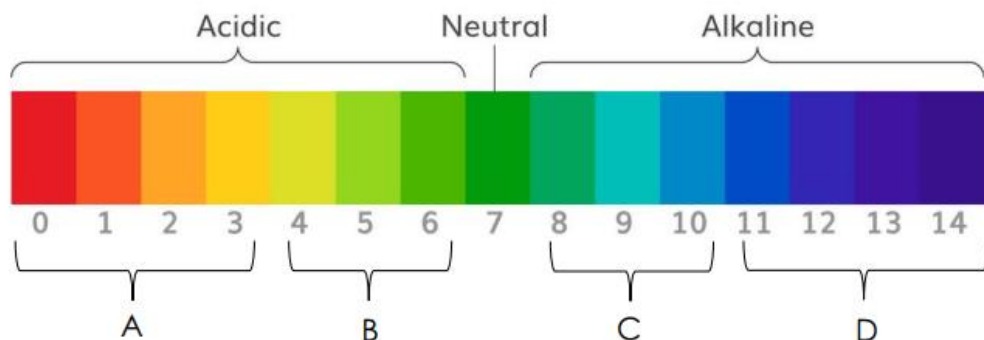
The diagram shows a vertical list of elements and a large blue arrow pointing downwards labeled 'Decreasing Reactivity'. The elements are grouped into three categories:

- Group 1:** Potassium, Sodium, Calcium, Magnesium, Aluminium. These are connected to a box labeled '1'.
- Group 2:** Carbon (non-metal), Zinc, Iron, Lead, Hydrogen (non-metal). These are connected to a box labeled '2'.
- Group 3:** Copper, Gold, Silver, Platinum. These are connected to a box labeled '3'.

## 5. Redox reactions

Change	In terms of oxygen	In terms of hydrogen	In terms of electrons (HT)
Oxidation	Gain of oxygen	Losing hydrogen	Loss of electrons
Reduction	Loss of oxygen	Gain of hydrogen	Gain of electrons

## 6. pH scale

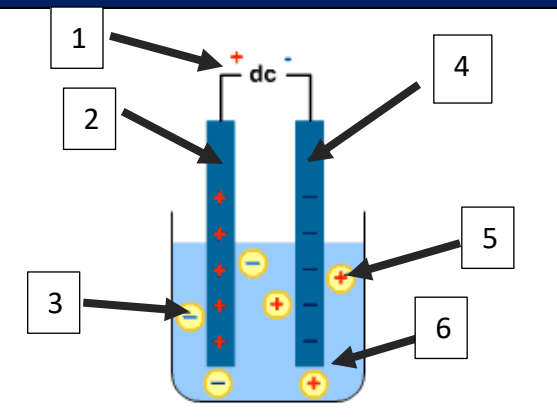


	Name	Level of ionisation in water
A	Strong acid	Fully dissociates in water (produces maximum number of H <sup>+</sup> ions)
B	Weak acid	Partially dissociates in water (only some H <sup>+</sup> ions are produced)
C	Weak alkali	Partially dissociates in water (only some OH <sup>-</sup> ions are produced)
D	Strong alkali	Fully dissociates in water (produces maximum number of OH <sup>-</sup> ions)

## 7. Electrolysis Key Words

Electrode	Conductor through which electricity enters or leaves an object or substance
Cathode	Negatively charged electrode
Anode	Positively charged electrode
Cation	Positively charged ion
Anion	Negatively charged ion
Electrolyte	Solution containing ions

## 8. Electrolysis

1	Battery	
2	Anode	
3	Anion	
4	Cathode	
5	Cation	
6	Electrolyte	

## 9. Products at the electrodes in solution

Cation in electrolyte	Anion in Electrolyte	Product at cathode	Product at anode
Metal less reactive than carbon e.g. Cu <sup>2+</sup>	Halogen e.g. Cl <sup>-</sup>	Metal e.g. copper	Halogen e.g. Chlorine
Metal more reactive than carbon e.g. Na <sup>+</sup>	Halogen e.g. F <sup>-</sup>	Hydrogen	Oxygen
Metal less reactive than carbon e.g. Zn <sup>2+</sup>	Non halogen e.g. SO <sub>4</sub> <sup>2-</sup>	Metal e.g. zinc	Halogen e.g. Fluorine
Metal more reactive than carbon e.g. K <sup>+</sup>	Non halogen e.g. SO <sub>4</sub> <sup>2-</sup>	Hydrogen	Oxygen