





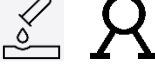



Acids & Bases

Keywords

pH	A number between 0-14 which shows how strongly acidic or alkaline a solution is.
Indicators	Substances used to identify whether unknown solutions are acidic or alkaline.
Base	A substance that neutralises an acid. Usually oxides, hydroxides and carbonates. Has a pH value more than 7.
Alkali	A base that dissolves in water. Has a pH value more than 7.
Acid	A substance that reacts with a base. Has a pH value less than 7.
Neutral	A solution with a pH of 7, which is neither acidic nor alkaline.
Neutralisation	The chemical reaction of an acid and a base in which a salt and water are formed. If the base is a carbonate, carbon dioxide is also produced.

Colour	Dark Red	Red	Red	Orange Red	Orange	Orange yellow	Greenish yellow	Green	Greenish blue	Blue	Navy blue	Purple	Dark purple	Violet	Violet
pH	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

1. General Word Equations (Neutralisation)

Acid + Metal	→ Salt + Hydrogen
	
Acid + Base	→ Salt + Water
	
Acid + Alkali	→ Salt + Water
	
Acid + Carbonate	→ Salt + Water + Carbon Dioxide
	

2. Uses and strengths of acids and bases

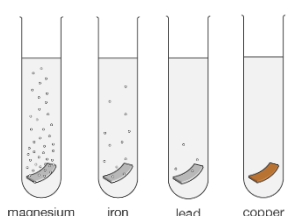
Hydrochloric acid	Strong acid	Stomach; to digest food
Sulphuric acid	Strong acid	Car batteries and fertilizers
Nitric acids	Strong acid	Fertilizer and paints
Ethanoic acid	Weak acid	Pickle foods and vinegar
Sodium hydroxide	Strong alkali	Oven cleaner and caustic soda
Calcium carbonate	Weak base	Indigestion tablets

Metals and Non-Metals

Keywords

Malleable	Can be hammered or pressed into shape without breaking or cracking.
Brittle	Easily broken or shattered.
Ductile	Able to be stretched out a lot.
Conductor	A material that transmits heat or electricity.
Sonorous	Makes a sound like a bell when hit.
Reactivity	The tendency of a substance to undergo a chemical reaction.
Displacement	A chemical reaction in which a more reactive metal take the place of a less reactive metal in a compound.
Oxidation	Chemical reaction in which a substance combines with oxygen

4. Reactivity of metals

Magnesium	Vigorous bubbling	 <p>magnesium iron lead copper</p>
Iron	Some bubbles	
Lead	Few bubbles	
Copper	No bubbles	

3. Properties and uses of metals and non-metals

Metals	<ul style="list-style-type: none"> Conduct electricity Ductile Malleable Sonorous 	Iron – Buildings, cars Copper – Wires and water pipes Steel – alloy of iron
Non metals	<ul style="list-style-type: none"> Poor conductors Dull 	Chlorine – swimming pools Sulphur – Rubber, tyres Neon – Glowing lights

5. Displacement reactions

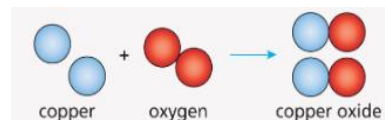
	Magnesium sulphate	Zinc sulphate	Iron sulphate	Copper sulphate
Magnesium		✓	✓	✓
Zinc	✗		✓	✓
Iron	✗	✗		✓
Copper	✗	✗	✗	

6. Oxidation reactions

Metal + oxygen → Metal oxide

Example:

Copper + oxygen → Copper oxide



Rusting

Example:

Iron + oxygen → Iron oxide

