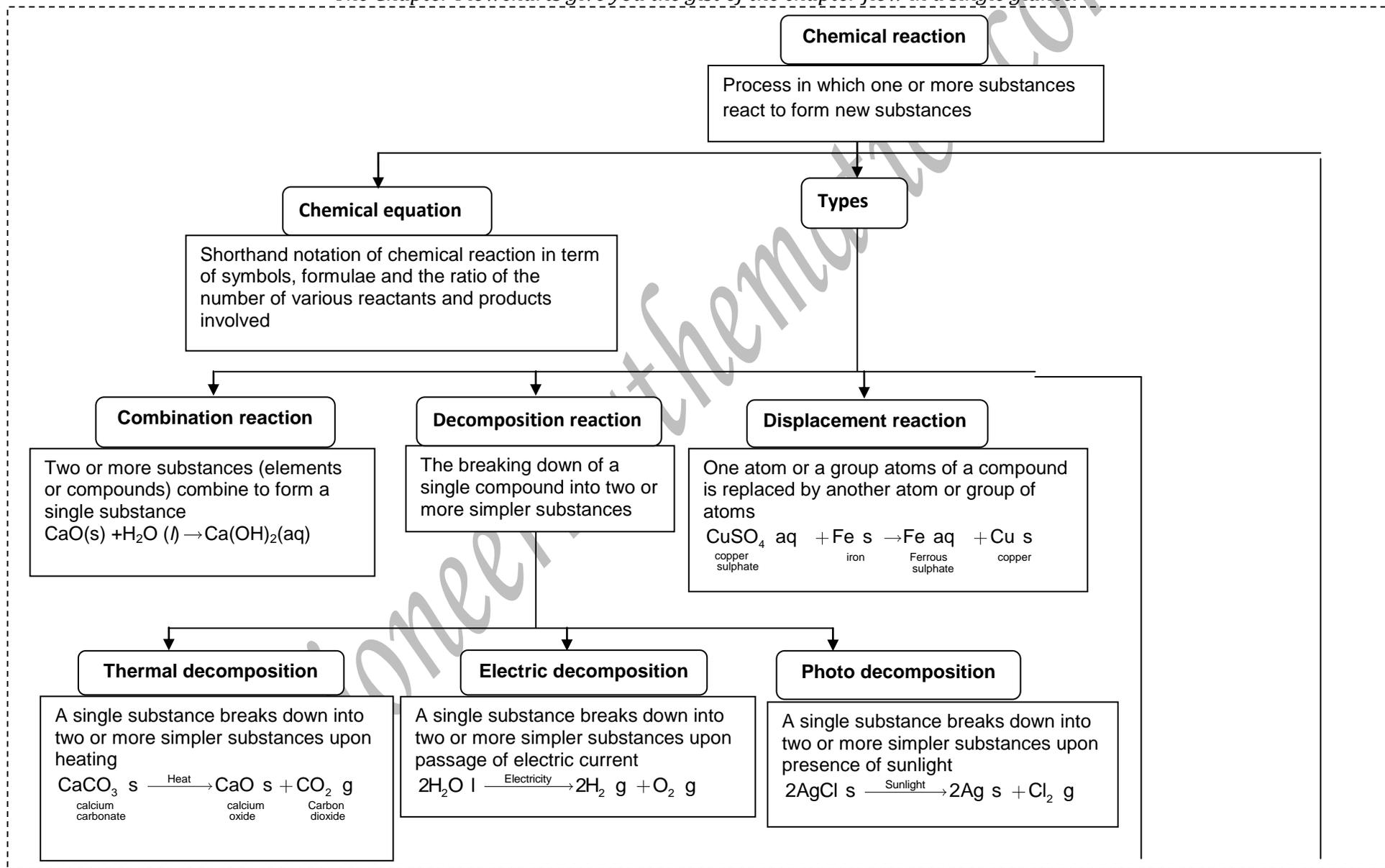
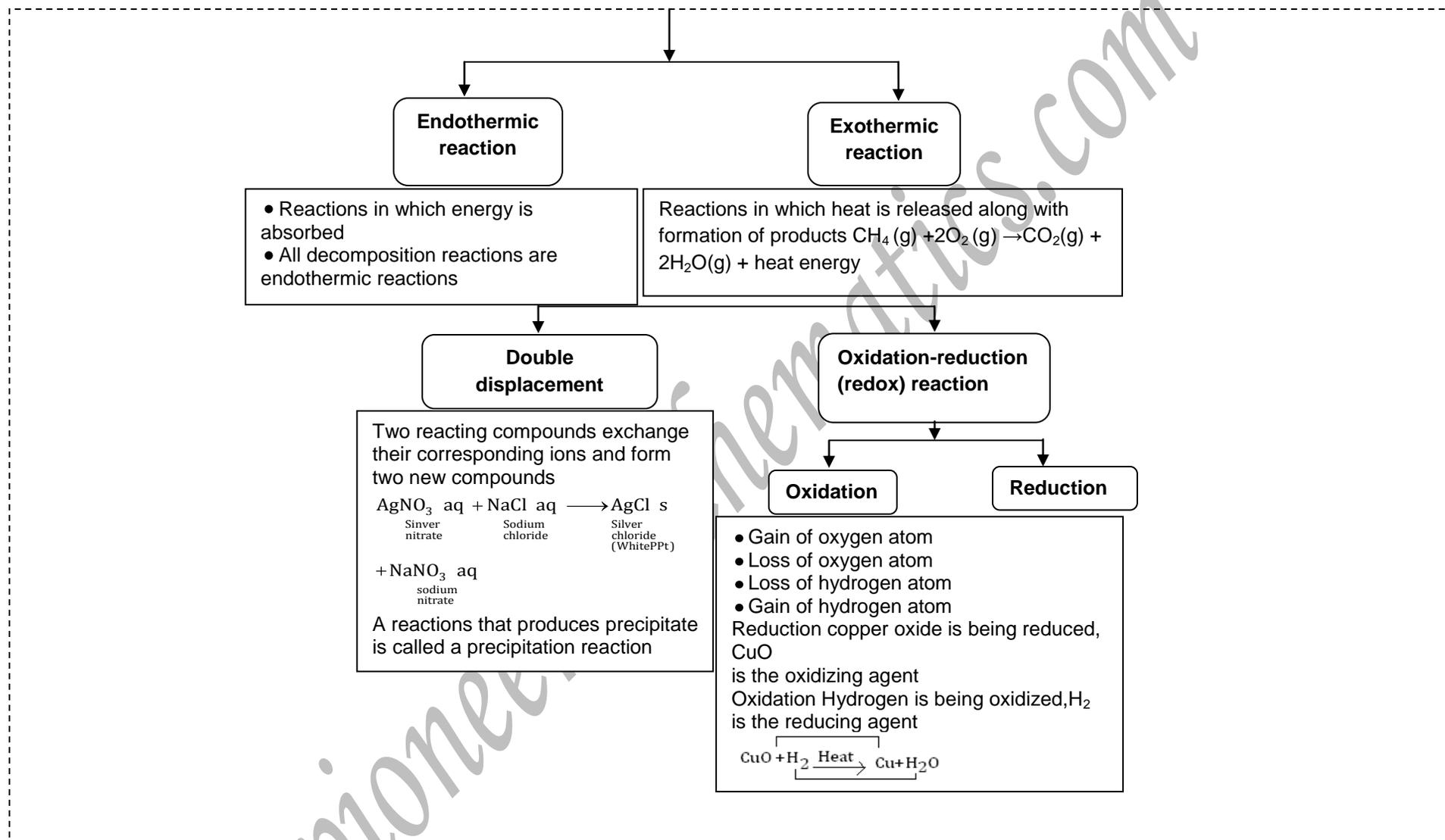


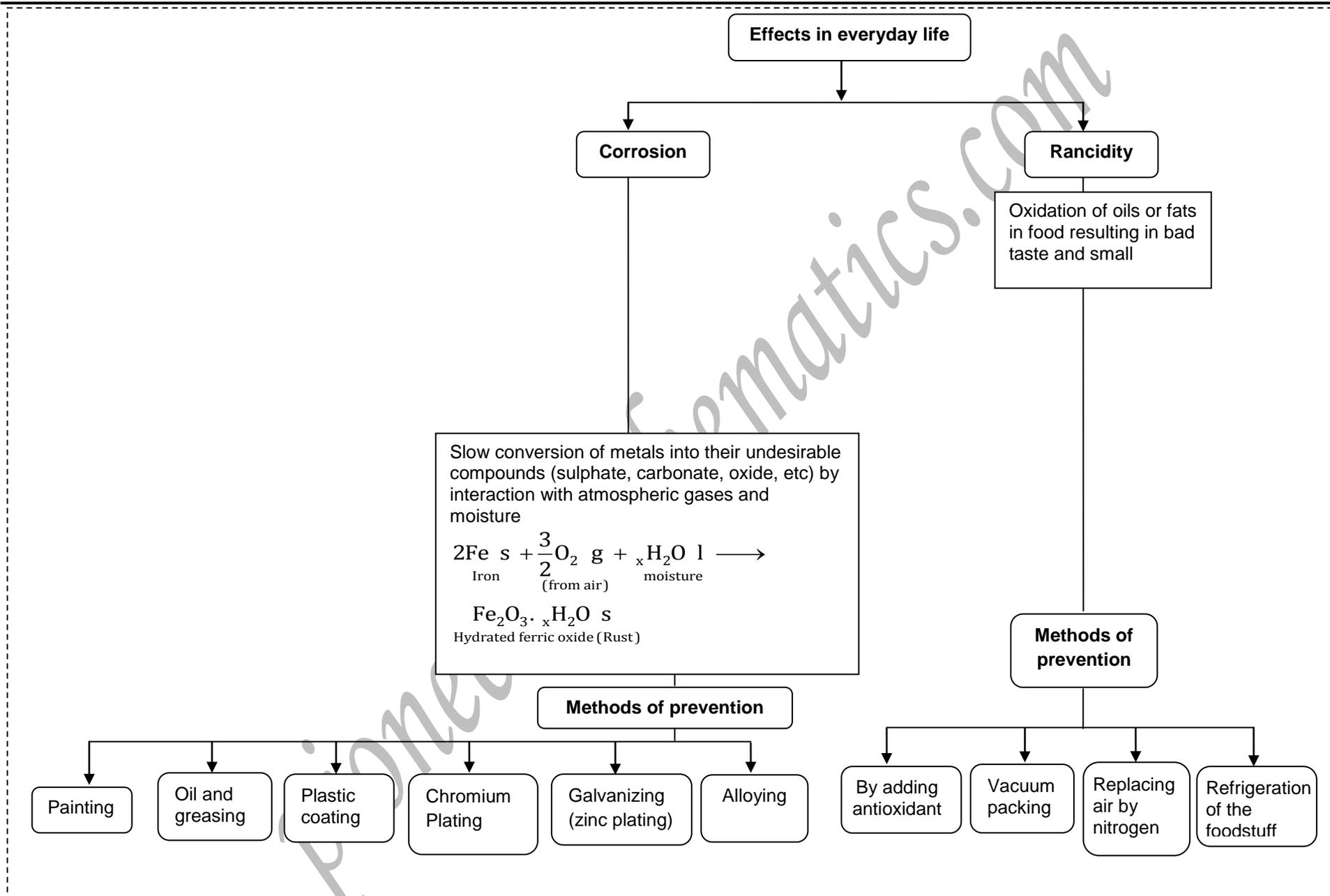
Chemical Reactions and acids, bases & salts

Chapter Flowchart

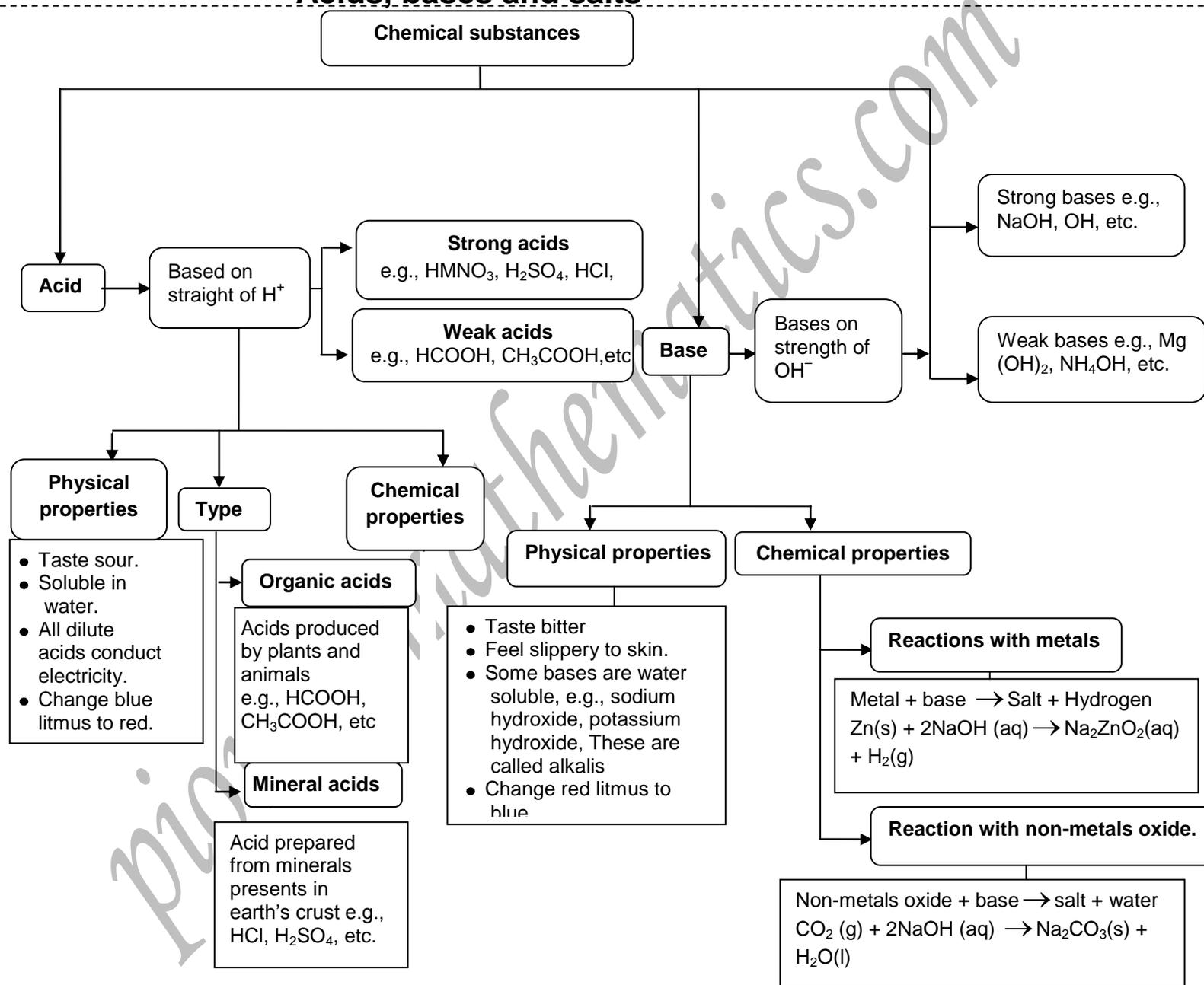
The Chapter Flowcharts give you the gist of the chapter flow in a single glance.







Acids, bases and salts



Salts

Indicator	Colour in acid	Colour in Alkali
Litmus	Red	Blue
Methyle orange	Pinkish red	Yellow
Phenolphthalein	Colourless	Pink

Formed by neutralization reaction Acid + Base \rightarrow Salt + Water
 $HA + MOH \rightarrow MA + H_2O$
 $NaOH(aq) + HCl(aq) + H_2SO_4(l) + HNO_3(l) + KOH(aq) \rightarrow KNO_3(aq) + H_2O(l)$

Important compounds	Chemical name	Chemical formula	Preparation	Uses
Common Salt	Sodium chloride	NaCl	By combination reaction of sodium hydroxide and hydrochloric acid $NaOH(aq) + HCl(aq) \rightarrow NaCl(aq) + H_2O(l)$	(i) As raw material for making many chemicals (ii) In cooking food.
Caustic Soda	Sodium hydroxide	NaOH	By passing electricity through concentrated sodium chloride (brine) solution $2NaCl(aq) + 2H_2O(l) \rightarrow 2NaOH(aq) + Cl_2(g) + H_2(g)$	(i) In detergents and soap (ii) In paper making, (iii) In bleach manufacture (iv) In bauxite purification extract aluminium.
Washing Soda	Sodium carbonate decahydrate	$Na_2CO_3 \cdot 10H_2O$	By recrystallisation of sodium carbonate in water. $Na_2CO_3 + 10H_2O \rightarrow Na_2CO_3 \cdot 10H_2O$	(i) Softening hard water, (ii) In washing clothes. (iii) In paper, paint and textile industry, (iv) Manufacturing glass, borax and caustic soda extract.
Baking Soda	Sodium hydrogen carbonate	$NaHCO_3$	On reacting cold concentrated sodium chloride (brine) solution with ammonia and carbon dioxide $NaCl + NH_3 + CO_2 + H_2O \rightarrow NaHCO_3 + NH_4Cl$	(i) Preparing baking powder (ii) Manufacture of soda water (iii) In fire extinguishers, (iv) As an antacid in medicine
Bleaching Powder	Calcium oxychloride	$CaOCl_2$	By passing chlorine gas over dry slaked lime. $Ca(OH)_2 + Cl_2 \rightarrow CaOCl_2 + H_2O$	(i) For bleaching cotton textile (ii) For disinfecting Drinking water. (iii) As an oxidizing agent in chemical industry.

				(iv) Manufacturing chloroform
Plaster of Paris	Calcium sulphate hemihydrates	$\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O}$	By heating gypsum at 373K. $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ Gypsum \downarrow 373K $\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O} + 1\frac{1}{2} \text{H}_2\text{O}$	(i) For making statues, models, toys, etc. (ii) For making fireproof materials. (iii) For setting fractured bones.

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