

Keyword	Definition
Acid	Corrosive substance which has a pH lower than 7. Acidity is caused by a high concentration of hydrogen ions.
Acidic	Having a pH lower than 7.
Alkali	A base which is soluble in water.
Alkaline	Having a pH greater than 7.
Base	A substance that reacts with an acid to neutralize it and produce a salt.
Neutralise	To be made neutral by removing any acidic or alkaline nature.
Neutral	When a substance is neither acidic nor alkaline, and has a pH of 7.
Litmus Paper	An indicator that can be red or blue. Red litmus paper turns blue in alkalis, while blue litmus turns red in acids.
pH	A scale of acidity or alkalinity. A pH value below 7 is acidic, a pH value above 7 is alkaline.
Universal Indicator Paper	Paper stained with universal indicator, a chemical solution that produces many different colour changes corresponding to different pH levels.
Salt	chemical compound formed through the reaction of an acid and a base

Acids

If you look around your kitchen, you may find some acids to eat or drink.



Vitamin C – Ascorbic Acid



Vinegar – Ethanoic Acid

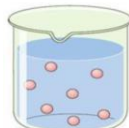


Lemons – Citric Acid



Fizzy Drink – Carbonic Acid

Some acids are more dangerous. Hydrochloric Acid (HCl), Sulfuric Acid (H₂SO₄) and Nitric Acid (HNO₃) are acids which we use in the Science Lab. These acids can come as dilute or more concentrated.



Dilute solution



Concentrated solution

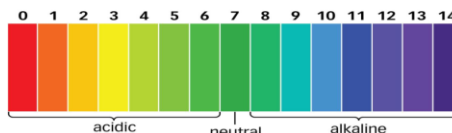
Dilute acids are not as dangerous as concentrated acids. This is because there are fewer acid particles in the same volume.



Irritant hazard sign, used for substances that are not corrosive but are irritants. Usually found on more dilute acids and alkali.



Corrosive hazard sign. Usually found on more concentrated acids and alkali.

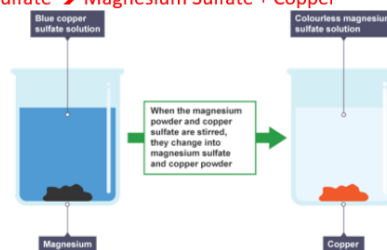


Displacement Reactions

Displacement reactions involve a metal and a compound of a different metal. In displacement reactions, a more reactive metal will displace a less reactive metal from its compound.



Magnesium is more reactive than copper, so it displaces (pushes out) the copper within the compound.



Bases

A base is a substance that can react with acids and neutralise them. Metal oxides, metal hydroxides and metal carbonates are examples of bases.

Many bases are insoluble – they don't dissolve in water. However, if a base does dissolve in water, we also call it an alkali.

Some alkalis are harmful. However, many are harmless and useful. Many cleaning products such as bleach, washing powder and oven cleaner contain alkalis.

The most dangerous alkalis in our homes are oven cleaners and caustic soda (used to unblock drains).

Soap and washing up liquid are safe alkalis.



Oven cleaner is a very strong alkali which is very corrosive.



Metals	Non-Metals
Shiny in colour, solids at room temperature (except mercury), high density, strong, malleable, good conductor of heat and electricity.	Dull in colour, can be solids, liquids or gases at room temperature, low density, brittle, poor conductors of heat and electricity.