

Acids and Bases

Summary Notes

1 & 2	Acids are compounds which contain the element hydrogen. They have a sour taste
3	The three most common lab acids are hydrochloric acid sulphuric acid nitric acid
4	Sources of everyday acids include Vinegar lemons car batteries milk Oranges tomatoes apples
5	Uses of acids include Flavouring and preserving of food Manufacture of plastics, fertilisers, detergents, paper and paint
6	The test for hydrogen gas Burns with a "pop"
7	Bases are compounds which react with acids. There are 3 types Metal oxides e.g. copper oxide Metal hydroxides e.g. sodium hydroxide Metal carbonate e.g. copper carbonate
8	An alkali is a soluble base e.g. sodium hydroxide
9	Soluble means able to dissolve in water

10	Three most common alkalis Sodium hydroxide Potassium hydroxide Calcium hydroxide
11	Uses of bases Often used in household cleaners e.g toothpaste, oven cleaner, drain cleaner Also found in medicines for indigestion and in bicarbonate soda which is used in baking as a rising agent and to soothe acidic bee stings

12	The pH scale runs from 1 to 14.
13	Acids have a pH from 1 to 6
14	Alkalis have a pH from 7 to 14
15	Neutral substances have a pH of 7. Distilled water is an example of a neutral substance
16	Dilute means adding water. Like diluting orange. This makes the solution less concentrated
17	The pH of an acid INCREASES towards 7 when it is diluted with water
18	The pH of an alkali DECREASES towards 7 when it is diluted with water
19	When a Base is added to any Acid a chemical reaction takes place. This chemical reaction is called a NEUTRALISATION reaction.

20	Everyday examples of neutralisation Gardeners add a base to soil which is too acidic for plants to grow. This base is calcium oxide - common name LIME If your stomach is producing too much acid you can take a base to neutralise some of the excess acid. The base that present in medicine contain magnesium hydroxide If you get stung by a bee. The bee has injected some acid into your skin. We add a base to neutralise the acid. The base used is bicarbonate of soda
21	When an acid is neutralised by a base SALT and WATER are always produced METAL + any acid → SALT + WATER OXIDE

	METAL + any acid → SALT + WATER HYROXIDE METAL + any acid → SALT + WATER + CARBON CARBONATE DIOXIDE
22	If the base used in a neutralisation reaction is a metal carbonate then CARBON DIOXIDE GAS is produced METAL + any acid → salt + water + CARBON CARBONATE DIOXIDE

23	The names of salts are based on the base and acid used to make them If the acid used is - hydrochloric acid then the salt is called _____ CHLORIDE - sulphuric acid then the salt is called _____ SULFATE - nitric acid then the salt is called _____ NITRATE If the base used is - Copper oxide then the salt is called COPPER _____ - Sodium hydroxide then the salt is called SODIUM _____
24	The test for carbon dioxide gas - it turns lime water cloudy
25	The test for oxygen gas - it relights a glowing splint