

Acids

- Acids are corrosive/harmful substances that taste sour.
- Common acids include citric acid, vinegar, fizzy drinks and stomach acid.
- Acids can be found at the bottom of the pH scale from the number 1 to 6.
- Strong acids are found at the bottom of the scale (1) and weak acids are found nearer the middle (6).
- Strong acids appear red, medium acids appear orange and weak acids appear yellow when universal indicator is added.

Diluted means that the substance has been mixed with water.
 Dilute acids/alkalis are harmful which could mean they cause irritation of skin or eyes.
 Concentrated means that there is less water and more acid or alkali.
 Concentrated acids/alkalis are corrosive and very dangerous with some able to destroy skin or even metal.

Alkalis

- Alkalis are corrosive/harmful substances that appear soapy to touch.
- Common alkalis include washing up liquid, toothpaste, washing powder and soap.
- Alkalis can be found at the top of the pH scale from 8-14.
- Strong alkalis can be found at the top of the scale (14) while weak alkalis are found near the middle (8).
- Strong alkalis appear purple, medium alkalis appear blue and weak alkalis appear dark green when universal indicator is added.

Indicators

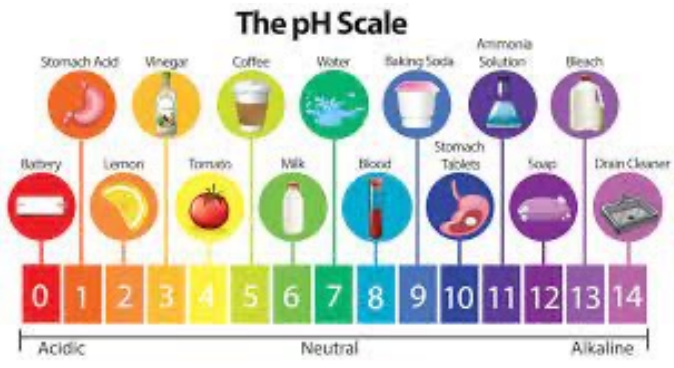
- Indicators are chemicals that change colour when they come into contact with acids or alkalis.
- Liquid universal indicator can be used with lightly coloured liquids.
- Universal indicator paper gives slightly more accurate results and is less affected by the colour of the liquid.
- Strong acids appear red, medium acids appear orange and weak acids appear yellow.
- Strong alkalis appear purple, medium alkalis appear blue and weak alkalis appear dark green.

Neutralisation

- Acids and alkalis can neutralise each other when added in the correct quantities to produce water and a salt.
- Acids and alkalis are neutralised when the number of acid particles and the number of alkali particles in solution are equal.
- Neutral substances are neither acid or alkali and are found at pH 7.
- Water and salts are neutral substances.



The pH scale
 Acids and bases/alkalis form each end of a linear scale called a pH scale which is marked from 0-14.
 Neutral substances are found in the middle (7).



Reactions

metal + acid → salt + hydrogen
 acid + alkali → salt + water

- The name of the salt is created by combining the name of metal with the name of the acid:
 - nitric acid makes nitrate salts
 - hydrochloric acid makes chloride salts
 - sulphuric acid makes sulphate salts.

magnesium + nitric acid → magnesium + hydrogen nitrate
 copper + hydrochloric acid → copper + water chloride
 oxide

Acids and Alkalis

