Reaction Part 1 Acids and Alkalis

Knowledge organiser

Yr7

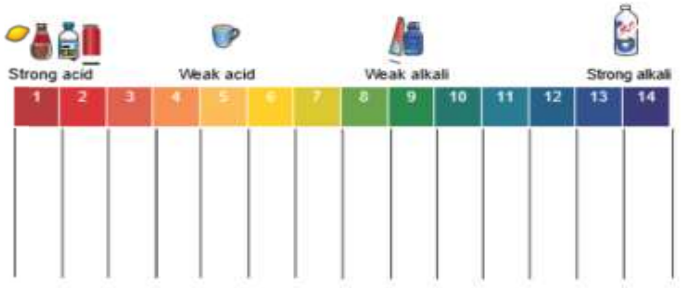
Chemical Reactions

- A chemical reaction is a change in which atoms are rearranged to make new substances
- A reversible reaction is one where the products can react to get back the substances which you started with, most chemical reactions are not reversible
- You can look for signs that a chemical reaction has taken place such as flames, smells, heat change, a loud bang or gentle fizz

Acids and Alkalis

- Acids and alkalis are the chemical opposites of one another
- Both acids and alkalis can be corrosive and irritants

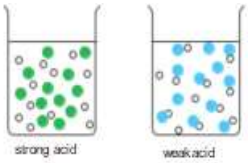
To see whether a substance is an acid or an alkali, we can use an indicator. Indicators show how acidic or how alkaline a solution is by showing its position on the pH scale, one example of this is universal indicator



- If the solution has a pH value of 1–6 it is acidic
- If the solution has a pH value of 8–14 it is alkaline
- If the solution has a pH value of 7 it is known as neutral

Acid Strength

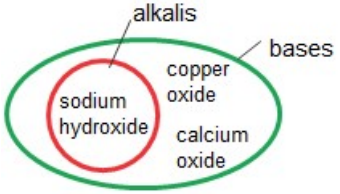
- The strength of an acid depends on how much of the acid has broken apart when it has dissolved in water
- Hydrogen chloride dissolves in water to form hydrochloric acid, this is a strong acid as all of the particles split up
- A weak acid will have particles that do not all split up



- The concentration of the acid is the amount of acid which has dissolved in 1 litre of water
- The more concentrated the acid, the lower the pH

Neutralisation

- Neutralisation reactions are any reaction in which acids react with a base to cancel out the effect of the acid
- These reactions form a neutral solution with a pH of seven
- A base is any substance which neutralises an acid
- An alkali is a base which has been dissolved in water



Salts

Salts are substances which are formed when an acid reacts with a metal or metal compound
Different acids form different types of salts:

- Hydrochloric acids form chloride
- Sulphuric acids form sulphates
- Nitric acids form nitrates

Make sure you can write deffinitions for these key terms

acidic	alkali	Alkaline	base	chemical	Chemical reaction	Concentration	concentrated
corrosive	hydroxide	indicator	irritant	neutral	neutralisation	pH scale	Strong acid
Weak acid	Universal indicator	reversible	salt				