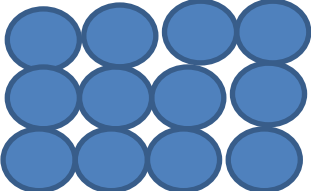
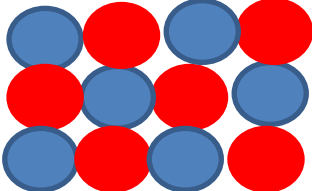


1. Key words

Atom	Basic single unit of matter.
Element	Substance containing only one type of atom.
Compound	Substance containing 2 or more types of atoms that are chemically combined.

2. Particle diagrams

Particle diagrams can be used to represent the atoms in a substance using a single circle to represent each atom.

Element	Compound
	

3. Chemical Reactions

Chemical reaction	A change in which atoms are rearranged to create new substances.
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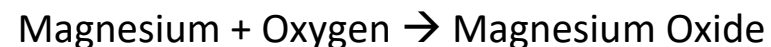
Signs of a chemical reaction:

- change in colour
- change in temperature
- gas given off




4. Reactions with metals

Reactions	Products
Metals and oxygen	Metal oxide e.g. magnesium oxide

When a metal burns in air, it reacts with oxygen. This often produces a change in colour of the metal and or a bright flame when burning.



For Example: Magnesium

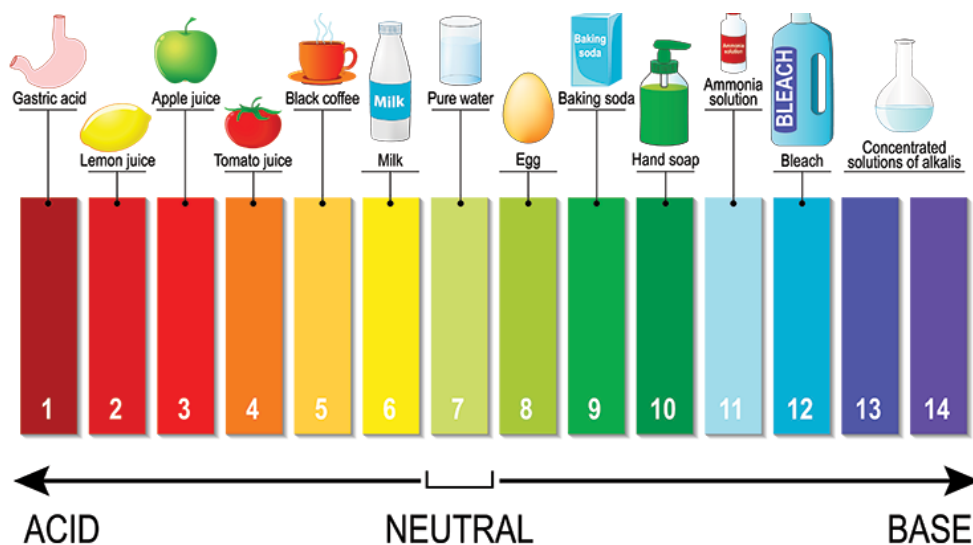
Before burning	During burning	After burning
		

5. Acids and alkali

Acid	A solution with a pH value less than 7.
Alkali	A soluble base with a pH value more than 7
Neutral	A solution with a pH of 7
pH Scale	A measure of how acidic or alkaline a solution is.
Indicator	A solution that can show whether a substance is acidic, alkaline, or neutral by changing colour.

6. pH Scale

Universal Indicator

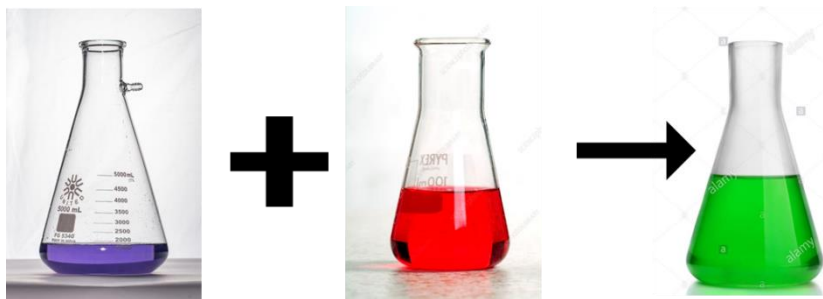


7. Neutralisation

Reactions in which acids react with a base (or alkali) to form a neutral solution with a pH of 7



E.g.



8. Types of indicators

Indicator	Colour in acid	Colour in neutral	Colour in Alkali
Universal indicator	Red to yellow	Green	Dark green to Purple
Methyl orange	Red	Yellow	Yellow
Litmus blue	Red	Blue	Blue
Phenolphthalein	Colourless	Colourless	Pink
Red cabbage juice	Red	Purple	Green-Yellow

9. Making red cabbage indicator

Step	Instruction
1	Cut 2 leaves of red cabbage in to small pieces
2	Use a pestle and mortar to grind the cabbage and release the purple pigment
3	Add the ground up cabbage to 150ml of boiling water
4	Stir until the water turns a deep purple
5	Filter the mixture to remove the solid cabbage
6	Add 5 drops of the filtrate to a range of solutions and record the colour changes

