A

Acid rain: Rainwater with a pH of less than 5.7 is acid rain. It is caused by the gases NO_2 (from car exhaust fumes) and SO_2 (from the burning of fossil fuels) dissolving in rain. Acid rain kills fish, kills trees, and destroys buildings and lakes.

Acid: An acid is a proton donor. It turns litmus red.

Activity Series: The activity series is a list of metals in order of decreasing reactivity.

Alkali metals: These are the elements in group one in the periodic table.

Alkaline earth metals: These are the elements in group two in the periodic table.

Alloy: An alloy is a mixture of metals. Bronze is an example of an alloy it is formed from copper and tin.

Atom: An atom is the smallest part of an element, which can exist.

Atomic number: The atomic number of an atom is the number of protons in the nucleus of the atom.

B

Base: A base is a proton acceptor. It turns litmus blue.

C

Capillarity: This is the rising of liquids up a narrow tube.

Chemical change: A chemical change is one in which there is a new substance formed.

Cobalt chloride paper: This paper is used to test for water. If water is present it changes colour from blue to pink.

Combustion: Combustion is also called burning. This is the combining of a substance with oxygen.

Compound: A compound is a substance made up of two or more elements chemically combined.

Corrosion: Corrosion is an undesired process where a metal is converted to one of its compounds, e.g. rusting.

Covalent bond: A covalent bond is a force of attraction between two atoms as a result of their sharing of electrons.

D

Distillation: The vaporisation of a liquid by heating and then the condensation of the vapour by cooling.

E

Electrode: An electrode is a conductor, which dips into an electrolyte and allows the electrons to flow to and from the electrolyte.

Electrolysis: This is the production of a chemical change using electricity. Electrolysis can be used to split up water into hydrogen and oxygen.

Electrolyte: An electrolyte is a substance which when dissolved in water conducts electricity.

Electroplating: This is where a metal is covered with a layer of another metal using electricity.

Element: An element is a substance, which cannot be split up into simpler substances by chemical means.

Endothermic reaction: An endothermic reaction is a reaction that takes in heat, e.g. adding water to ammonium chloride.

Exothermic reaction: An exothermic reaction is a reaction that gives out heat, e.g. burning of coal.

F

Fossil fuels: Fuels that were formed from the remains of plants and animals that lived millions of years ago.

Fuel: A fuel is any substance that burns in oxygen to produce heat.

H

Halogens: These are the elements in group seven in the periodic table.

Hard water: This is water that finds it difficult to form lather with soap.

I

Immiscible liquids: These are liquids that do not mix to form a solution, e.g. oil and water.

Indicator: An indicator is a substance, which shows by means of a colour change if a substance is acidic or basic.

Ion Exchange: This is a method of removing hardness from water. It replaces the positive ions that cause the hardness with H+ ions.

Ion: An ion is a charged atom or group of atoms, e.g. Na+.

Ionic bond: An ionic bond is a force of attraction that occurs between oppositely charged ions in a compound. It results from a transfer of electrons.

J

Joule: This is the unit of energy and work.

M

Malleable: Metals are malleable. This means they can be hammered into sheets.

Mass number: The mass number of an atom is the number of protons and neutrons in the nucleus of the atom.

Matter: Matter is anything which occupies space and has mass.

Miscible liquids: These are liquids that mix to form a solution, e.g. alcohol and water.

Mixture: A mixture consists of two or more different substances mingled together but not chemically combined.

Molecule: A molecule consists of two or more atoms chemically combined.

N

Neutralisation: This is the reaction between an acid and a base to give salt and water.

O

Octet rule: During bonding atoms tend to reach an electron arrangement with eight electrons in the outermost shell.

Oxidation: Oxidation is the addition of oxygen or the losing of electrons.

P

pH scale: This is a scale from 0 to 14.
If the pH of a solution is 7 it is neutral; if the pH of a solution is less than 7 it is acidic; if the pH of a solution is greater than 7 it is basic.

Permanent hardness: This is hardness in water that cannot be removed by boiling. It is caused by calcium sulphate.

Physical change: A physical change is one in which there is no new substance formed.

Products: These are the chemicals that are produced in a chemical reaction.

R

Reactants: These are the chemicals that react together in a chemical reaction.

Reduction: Reduction is the removal of oxygen or the gaining of electrons.

S

Salt: A salt is formed when the hydrogen of an acid is replaced by a metal.

Saturated Solution: A solution, which contains as much solute as it can hold at that temperature.

Solution: A solution is a mixture of a solute (usually a solid) and a solvent (usually a liquid).

Suspension: A suspension is a mixture of a liquid and a finely divided insoluble solid.

T

Temporary hardness: This is hardness in water that can be removed by boiling. It is caused by calcium hydrogencarbonate.

Titration: This is the process of adding one solution from a burette, to a measured amount of another solution to find out exactly how much of each is required to react.

V

Valency: The valency of an element is the number of electrons an atom of the element wants to gain, lose or share so as to have a full outer shell.