Acidic Oxide	An oxide that increase the concentration of H+ in water.
Activation energy	Minimum energy required for colliding particles to react / minimum energy required for effective collisions between particles.
Alkane	Homologous series of hydrocarbons with only single bonds between the C atoms.
Alpha Particals	Radiation consisting of two protons and two neutrons having a mass of four units and a charge of +2. Similar to He nucleus

Amphoteric	Can behave either as an acid or as a base, depending on what it is mixed with.
Anode	The positively charged electrode
Aromatic	Contains a benzene ring
Atomic orbital	Region around the nucleus in which there is a high probability (99% probability) of finding an electron /the wave function of an electron got by solution of Schrodinger's equation

Atomic radius	Half the distance between the centres of two nuclei of atoms of the same element joined by a single covalent bond
Autoignition	Tendency to premature ignition or explosion (tendency towards "knocking") /ignition before spark / ignition before piston reaches top of its ascent
Avogadro's Law	Equal volumes of gases have equal numbers of molecules under the same conditions of temperature and pressure.
Balmer series	Lines on the emission spectrum for hydrogen when electrons fall from higher energy levels to n=2.

Beta emission	neutron changes to proton and electron Atomic number increases by one
Bond Energy	Average energy required to break 1 mole of bonds and to separate the atoms in a gaseous state
Bronsted-Lowry Acid	Proton donor
Bronsted-Lowry Base	Proton acceptor

Catalyst	Substance that alters the rate of a reaction but is not consumed in the reaction (is chemically unchanged at the end of the reaction)
Catalytic cracking	Large molecules are broken into shorter ones using heat and a catalyst. There is a higher demand for the shorter fraction in oil refining.
Cathode	The negatively charged electrode. Source of electrons.
Charles' Law	Volume of a gas varies directly with temperature measured on the Kelvin scale, for a given mass of gas at constant pressure.

Conjugate pair	Acid and a base that differ by a single proton. Acid donates a proton to become a conjugate base
Covalent bond	One or more pairs of electrons are shared between atoms.
Dalton's atomic theory	Atoms are small and indivisible. Atoms of an element are identical, having the same atomic mass.
Dehydrocyclisation	Process involving loss of hydrogen and formation of cyclic compound (to increase octane number)

Effective collision	A collision which reaches (exceeds) activation energy, resulting in reaction between colliding particles (molecules) (results in product formation)
Electron pair respulsion theory	Pairs of electrons repel other pairs Lone pair has strongest repelling power Bond pair has weakest repelling power. l.p. : l.p. > l.p. : b.p. > b.p. : b.p.
Electronegativity	The relative measure of attraction an atom has for the shared electrons in a covalent bond.
Empirical formula	The smallest whole number ratio of atoms of the different elements in a molecule or compound.

Energy level	The discrete energy of an electron in an atom.
Excited state	Electron has been promoted to a higher energy level after absorbing energy.
First ionisation energy	The minimum energy needed to remove a mole of the most loosely-bound electron from a mole of isolated gaseous atoms in their ground state.
Free radical	A species with an unpaired electron.

Gamma radiation	Electromagnetic radiation released by nuclei of radioactive elements
Gay Lussac's law of Combining Volumes	The volumes, measured at the same temperature and pressure, of reacting gases and their gaseous products are in small (simple) whole number ratios
Ground state	In the lowest energy state available.
Half-life	Time taken for half of the radioactive isotopes (atoms, nuclei, nuclides) in a sample to disintegrate (decay)

Heat of combustion	Heat released when one mole is burned completely / burned in excess oxygen.
Heat of formation	Heat change when 1 mole of a compound in its standard state is made from its elements in their standard states
Heat of neutralisation	The heat change when one mole of H+ (hydrogen ions) is neutralised by a base.
Heisenberg's Uncertainty Principle	It is not possible to measure the exact position and velocity (energy / momentum) of an electron in an atom simultaneously.

Heterogenous catalysis	Reactant and catalysts are in different phases. There is a boundary between the catalyst and the reactant.
Homogeneous catalysis	Reactant and catalysts are in different phases. There is a boundary between the catalyst and the reactant.
Homologous series	Series of chemicals with a general formula, with similar chemical properties, a gradation in physical properties and a similar method of preparation.
Hydrocarbons	Compounds of carbon and hydrogen only

Ideal gas	Perfectly obeys all the gas laws under all conditions of temperature and pressure.
Immiscible liquids	Liquids that do not mix, or do not dissolve in each other.
Instantaneous rate	Rate at a specific time, calculated by working out the slope of the tangent at that point.
Intermolecular forces	Attractive or repulsive forces between molecules.

Isomer (structural isomer)	Different forms of the same molecule. They have the same molecular formula, but the atoms are arranged differently (different structural formulae)
Isotope	Atoms of the same element, with the same atomic number, having different mass numbers, because of a different number of neutrons.
Kinetic theory of gases	A theory to explain the behaviour of gases in the gas laws assuming that :molecules of gas are in rapid, random motion; the volume of gas molecules is negligible; there are no forces of attraction or respulsion between gas molecules; the collisions between the gas molecules are perfectly elastic; the average kinetic energy of the molecules is proportional to Kelvin temperature
LPG	Liquefied petroleum gas

Mercaptans	Sulfur-containing compounds added to gas to give it an odour.
Milligram (mg)	1/1000 g (or 1 x 10-3 g)
Mole	Contains the Avogadro number of particles /Has the same number of particles as 12g of carbon-12
Monobasic (monoprotic)	Dissociates to give one H+ per molecule.

Octane number	Measure of the tendency of a fuel to auto-ignite / resist auto-ignition, based on a scale where 2,2,4-trimethylpentane is assigned a rating of 100 and heptane a rating of 0.
Oxygenate	Fuel with oxygen in its chemical formula.
%v/v	cm3 of solute in 100 cm3 solution
%w/v	grams of solute in 100cm3 solution

%w/w	grams of solute in 100g solution
Pi bond	Formed from "side-on" overlap of p-orbitals.
ppm	parts per million = mg/litre
Primary Standard	A chemically pure and stable chemical, that is anhydrous and has a high relative molecular mass. It can be made into a solution of exactly known concentration. Other properties include : not hygroscopic, does not effloresce, does not sublime.

Radioactivity	Spontaneous emission of radiation from the unstable nuclei of atoms, involving release of α, β and/or γ radiation.
Rate of a chemical reaction	Change in concentration of reactant or product per unit time.
Relative atomic mass	The average mass of the atoms of an element, taking abundances into account, relative to 1/12th mass of carbon-12 atom.
Second ionisation energy	Energy required to remove an electron from a mole of monopositive ions.

Sigma bond	Formed from "end-on" overlap of orbitals.
S.T.P.	Standard temperature (00C) and pressure (100 kPa)
Strong acid	Good proton donor. Complete or high dissociation into ions in aqueous solution.
Sub-level	A sub-division of a main energy level consisting of one or more orbitals of the same energy.

Transition element	An element that forms at least one ion with a partially filled d-sublevel. Transition elements from coloured compounds and show variable valencies. They are often used as catalysts.
Unsaturated	Having at least one multiple (double or triple) carbon-to-carbon bond, so can undergo addition reactions.
Volatile liquid	A liquid that is easily changed to a gas / has a low boiling point
Weak acid	Poor proton donor. Low or slight dissociation into ions in aqueous solution.