

activation energy

the minimal amount of energy that reactant molecules must possess in order

alkane

simple hydrocarbon, such as methane or ethane, consisting of carbon and hydrocarbon atoms only with single bonds between carbon atoms

allotropes

different forms of the same element in the same physical state; the atoms are arranged in different crystalline or molecular structures; consequently their physical properties, such as density, colour and hardness are different

carbohydrates

organic compounds that contain carbon, hydrogen and oxygen; examples are glucose starch and cellulose; they are produced in plants by photosynthesis; respiration breaks them down within the body

catalyst

a substance that alters the rate of a chemical reaction but itself remains unchanged at the end of the reaction; since it remains effectively the same at the end of a reaction, only a small amount is required to catalyse the reaction; catalysts are specific for particular reactions

coal	a fossil fuel formed millions of years ago; it is burnt as fuel, usually in power stations
combustion	the burning of a fuel; heat and usually light are produced
dispersion forces	weak intermolecular forces between molecules
distillation	liquid is the process boiling, collecting and then cooling of the vapour to turn it back into liquid; it is used to purify liquids such as water
endothermic reaction	a chemical reaction in which energy is absorbed from the surroundings (positive)

exothermic reaction	a chemical reaction in which energy is released from the surroundings (negative)
explosion	the very rapid combustion of a substance producing a sudden expansion of hot gases, accompanied by a shock wave that can shatter nearby objects
fossil fuels	energy rich substances formed in the earth's crust over millions of years through the action of heat and pressure on decaying plant and animal remains
fractional distillation	the distillation of a liquid to separate the fractions with different boiling points present in the liquid; crude oil is fractionally distilled to obtain the various fractions, petrol, kerosene etc.
fullerenes	a group of carbon structures with spherical or cylindrical shapes; they are an allotrope of carbon

functional group

a group of atoms forming part of the organic compound that influences the physical and chemical properties of the compound

homologous series

a series of compounds, such as alkanes, that can represent a general molecular formula; they have similar and chemical properties

hydrocarbons

molecules that contain only carbon and hydrogen; the carbon chains can be of different lengths with different structure; straight chains, branching chains or rings

ignition temperature

the lowest temperature at which a combustible substance will ignite and continue burning

isomers

molecules that have the same molecular formula but different structural formulae (the atoms are arranged differently in the molecules)

IUPAC	the international union of pure and applied chemistry; this body draws up rules for systemic naming of compounds
natural gas	a gas formed naturally on earth and consists mainly of methane, with small amounts of ethane and other compounds; it is used as a fuel
petroleum	a fossil fuel that is a mixture of mainly hydrocarbons; it is separated into the different fractions, which have different uses as fuel and for the synthesis of other compounds such as plastics
photosynthesis	the process by which plants use the energy from sunlight to convert carbon dioxide and water into oxygen and the energy-rich sugar, glucose; energy is stored as carbohydrates
pollution	caused by the burning of fossil fuels; the oxides of carbon, nitrogen and sulfur are formed and these are harmful

rate of reaction

also referred to as the speed of a reaction, and may be expressed as the rate of decrease in the concentration of any reactant, or the rate of increase in the concentration of any product

respiration

a process occurring in living cells whereby stored energy is released and made available for use by the organism; glucose reacts with oxygen giving carbon dioxide and water; energy is released in the process; it is the reverse of the photosynthesis reaction

volatility

the readiness of a liquid to vaporise or evaporate, especially at ordinary temperatures
