

SC20a Hydrocarbons in crude oil and natural gas

Word	Pronunciation	Meaning
crude oil		A fossil fuel, in the liquid state, formed from the remains of microscopic dead plants and animals that lived in the sea.
feedstock		Raw material, a substance used to make other substances.
finite resource		Something useful that is no longer made or which is being made very slowly.
fossil fuel		A fuel formed from the dead remains of organisms over millions of years (e.g. coal, oil or natural gas).
hydrocarbon	<i>hi-drO-car-bon</i>	A compound containing hydrogen and carbon only.
natural gas		A fossil fuel, in the gas state, formed from the remains of microscopic dead plants and animals that lived in the sea.
non-renewable		Something that is being used up faster than it is being formed, so it will run out one day if we keep using it.
petrochemical		Substance made from crude oil.

SC20b Fractional distillation of crude oil

Word	Pronunciation	Meaning
condense		When a gas turns into a liquid.
evaporate		When a liquid turns into a gas.
fraction		A component of a mixture that has been separated by fractional distillation.
fractional distillation		A method of separating a mixture of liquids with different boiling points into individual components (fractions).
fractionating column		Tower in which fractional distillation takes place.
ignite		To start burning.
viscosity		How thick or runny a liquid is. Low viscosity is very runny, high viscosity is thick.

SC20c The alkane homologous series

Word	Pronunciation	Meaning
alkane		A hydrocarbon in which all the bonds between the carbon atoms are single bonds.
general formula		A type of formula that represents the composition of any member of an homologous series.
homologous series		A family of compounds with similar chemical properties and gradual variation in physical properties. They have the same general formula, with successive members differing in their molecular formulae by CH_2 .

molecular formula		Chemical formula that shows the actual number of atoms of each element in a unit of a substance.
structural formula		A diagram showing information about the positions of the atoms in a molecule and the bonds between them.

SC20d Complete and incomplete combustion

Word	Pronunciation	Meaning
carbon monoxide		A poisonous gas produced from carbon burning without enough oxygen.
combustion		A chemical reaction in which a compound reacts with oxygen.
complete combustion		Combustion of hydrocarbons with enough oxygen present to convert all the fuel into carbon dioxide and water.
haemoglobin	<i>hee-mow-glow-bin</i>	The red, iron-containing pigment found in red blood cells.
incomplete combustion		When a substance reacts only partially with oxygen, such as when carbon burns in air producing carbon monoxide and soot (unburnt carbon).
oxidation		A reaction in which oxygen is added to a substance; loss of electrons by an atom or negative ion.
red blood cell		A biconcave disc containing haemoglobin that gives blood its red colour and carries oxygen around the body to the tissues. Also known as an erythrocyte.
soot		A form of carbon, which is produced as very fine particles when hydrocarbon fuels undergo incomplete combustion.
toxic	<i>tox-ic</i>	Poisonous.

SC20e Combustible fuels and pollution

Word	Pronunciation	Meaning
acid rain		Rainwater that is more acidic than usual due to air pollution, usually caused by sulfur dioxide and nitrogen oxides.
impurity		Unwanted substance found mixed into a useful substance.
oxide of nitrogen		Any one of a variety of gaseous compounds consisting of only nitrogen and oxygen atoms. Together they are often represented as NO _x .
pollutant		A substance that harms living organisms when released into the environment.
weathering		When rocks are broken up by physical, chemical or biological processes.

SC20f Breaking down hydrocarbons

Word	Pronunciation	Meaning
alkene		A hydrocarbon in which there are one or more double bonds between carbon atoms.
catalyst	<i>cat-a-list</i>	A substance that speeds up the rate of a reaction without itself being used up.
cracking		A chemical reaction in which large alkane molecules are split into two or more smaller alkanes and alkenes.
greenhouse gas		A gas that helps to trap 'heat' in the atmosphere. Carbon dioxide, methane and water vapour are greenhouse gases.
saturated		A molecule that contains only single bonds between the carbon atoms in a chain.
unsaturated		A molecule that contains one or more double bonds between carbon atoms in a chain.

SC21a The early atmosphere

Word	Pronunciation	Meaning
atmosphere	<i>at-moss-fear</i>	The layer of gases that surrounds the Earth.
composition	<i>comp-o-zi-shun</i>	The combination of parts that add up to make something. For example, the composition of today's atmosphere is 78% nitrogen, 21% oxygen, 1% argon and other gases.
volcanic activity		The release of gases and/or molten rock by volcanoes.

SC21b The changing atmosphere

Word	Pronunciation	Meaning
hypothesis	<i>hi-poth-e-sis</i>	A scientific explanation that is thought up and suggested to explain something. It is used to make predictions that can be tested scientifically.
photosynthesis	<i>fOh-toh-sinth-e-sis</i>	A series of enzyme-catalysed reactions carried out in the green parts of plants. Carbon dioxide and water combine to form glucose. This process requires energy transferred by light.

SC21c The atmosphere today

Word	Pronunciation	Meaning
absorb		To soak up or take in.
causal link		A relationship between two variables, where scientists can show that a change in one variable makes a change occur in the other. For example, burning more fossil fuels (change in first variable) increases the amount of carbon dioxide in the atmosphere (change in another variable, caused by the first).
climate change		Changes that happen to the global weather patterns as a result of global warming.
correlation	<i>cor-a-lay-shun</i>	A relationship between two variables, so that if one variable changes so does the other. This can be positive or negative.
emit		To give out.
global warming		The rise in mean surface temperatures on the Earth, thought to be due to increasing amounts of greenhouse gases such as carbon dioxide.
greenhouse effect		The 'trapping' of warmth by greenhouse gases in the Earth's atmosphere due to radiation from the atmosphere warming the surface of the planet.
greenhouse gas		A gas that helps to trap 'heat' in the atmosphere. Carbon dioxide, methane and water vapour are greenhouse gases.
infrared		Electromagnetic radiation that we can feel as heat.
resolution		The smallest change that can be measured by an instrument. For example, in a thermometer it is the smallest temperature change that can be measured.