

AS 90932

Demonstrate understanding of aspects of carbon chemistry

Use this to quickly identify the areas you need to study. Fold along the dotted line so that the answers are hidden. Try the questions and check your answers.

QUESTION	YOUR ANSWER	✓ or x	CORRECT ANSWER
What colour is carbon as soot?			black
What is the combustion called that occurs in a limited amount of oxygen?			incomplete
What state is carbon at room temperature?			solid
Which releases most energy, combustion of C to make CO or CO ₂			CO ₂
What is the chemical name for lime water?			calcium hydroxide
What is the family that methanol and ethanol belong to?			alcohol
What is another name for the anaerobic respiration where yeast convert sugar into alcohol?			fermentation
What type of combustion releases most energy per gram of fuel?			complete
Describe what happens when CO ₂ is first bubbled through lime water.			goes cloudy/milky
Put these fractions in order of increasing molecular size: bitumen, C1-4 gases, petrol, kerosene			C1-4 gases, petrol, kerosene, bitumen
Which alcohol is a good solvent, fuel and drink?			ethanol
CO is poisonous. Give 2 reasons why you might not know you are at risk, in an environment with CO.			colourless and odourless
Headache, fatigue, shortness of breath, nausea & dizziness are all symptoms of what?			CO poisoning
What in the red blood cell does toxic CO bind to?			haemoglobin
In the carbon cycle, what ONE process removes CO ₂ from the air, Combustion, photosynthesis or respiration?			photosynthesis
What is the (2 word) name for fuels like coal, oil and gas?			fossil fuels
The process where long chain alkanes are broken into smaller ones, some unsaturated, is known as			cracking
What change in state occurs when particles vibrate enough to just break away from each other?			melting
What type of bond forms between C and C and between C and H etc. when atoms share electrons?			covalent
What 3 things (apart from ethene) are needed to convert ethene monomers into poly(ethene)			heat, pressure and catalyst
Why should you never leave a car running in a garage, even with the garage door open?			CO formed (due to limited O ₂)

What "r" is the release of energy from food, which produces CO ₂ and H ₂ O and energy?		respiration
How is the C locked up in coal, oil and gas released into the atmosphere?		combustion / burning
The first 4 alkanes are methane _____ butane		ethane, propane
What is the combustion called that occurs in plentiful oxygen?		complete
What is the word used to describe when a gas turns into a liquid?		condenses / condensing
Give 2 examples of fossil fuels		2 from: coal, oil, gas
A hydrocarbon is a molecule that contains		H and C atoms ONLY
If an alkane is C ₉ H _x , what is x?		20
Saturated hydrocarbons such as methane and butane belong to the _____ family		alkane
What feature of the alkenes makes them more reactive than the alkanes		the C=C double bond
What polymer can be low density or high density and is used for plastic films, bags and bottles?		poly(ethene)
Hydrocarbons are separated in fractional distillation because they have different _____ points		boiling
What name is given to the reaction that converts propene into poly(propene)		polymerisation
In the equation $n\text{C}_2\text{H}_4 \rightarrow -[\text{C}_2\text{H}_4]_n$, what is n?		Number of monomers
The most volatile & flammable fraction from the distillation of crude oil has the {smallest / largest} molecules		smallest
A formula that shows all the bonds, showing how atoms are connected to each other is called a _____ formula		structural
What <u>toxic</u> alcohol is a component of methylated spirits?		methanol
What is the general formula for the alkene family?		C _n H _{2n}
The polymer used to make ropes, fibres, pipes and packaging for food is....		poly(propene)
In methanol manufacture, what is methane first reacted with, to make CO and H ₂		steam / H ₂ O
The molecule C ₅ H ₁₂ is called...		pentane
In anaerobic respiration, what does <i>anaerobic</i> mean?		without OXYGEN
A fuel burns with a yellowy-orange flame and makes a lot of soot; what type of combustion is this?		incomplete
In fractional distillation the temperature _____ as you go further up the tower.		decreases
What is the fraction from distillation of crude oil called bitumen is extensively used for?		road making / tar