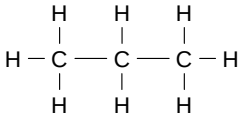
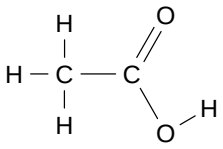
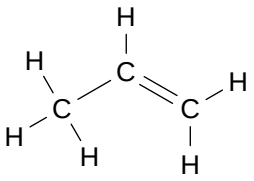
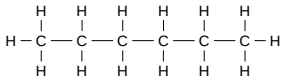
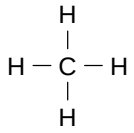
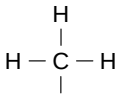
Name the family with the general formula C_nH_{2n+2}	Name this alkane 	What is the molecular formula for butane?	Name this carboxylic acid 
alkanes	propane	C_4H_{10}	Ethanoic acid
What family do methanol and ethanol belong to?	Alkanes and alkenes are soluble in water, true or false?	The short chain alcohols and acids are soluble in water, true or false?	What is this equation? $C_6H_{12}O_6 \rightarrow 2C_2H_5OH + 2CO_2$
Alcohols	False	True	Fermentation/ anaerobic respiration by yeast
What gas produces the “fizz” in fizzy drinks?	Why do fizzy drinks fizz when they are opened?	How do we test for CO_2 gas & what is the positive test result?	What name is given to combustion that occurs in plentiful O_2?
Carbon dioxide / CO_2	The CO_2 that was dissolved under pressure can escape	Bubble through limewater which turns milky / cloudy	Complete combustion
What would the products be when a hydrocarbon burns in plentiful O_2?	What kind of combustion produces C and CO as well as some CO_2 & H_2O?	Give the chemical name and symbol for soot.	What effect does C as soot have on a) buildings b) human health?
Carbon dioxide & water	Incomplete combustion / combustion in limited O_2	Carbon, C	a) makes them dirty b) increases asthma & bronchitis

What oxide of C is colourless, odourless & poisonous?	What gas is thought to contribute to global warming?	What do increased levels of CO_2 increase the ability of our atmosphere to retain?	What does CO bind to in the blood, reducing its ability to carry Oxygen?
Carbon monoxide	Carbon dioxide	Heat	Haemoglobin (in the red blood cells)
Give three things that global warming might lead to.	Which allotrope of carbon is able to conduct electricity?	Which allotrope of carbon has delocalised electrons between its layers?	Which allotrope of carbon is slippery and why?
Melting polar ice / rising sea levels / flooding / climate change etc	graphite	graphite	Graphite - layers weakly bonded to each other & slide over each other
What do we call a large organic molecule made up of many joined monomers?	What is the monomer used to make polypropene?	What structure in a monomer like ethene allows it to polymerise?	What conditions are needed for polymerisations?
Polymer	Propene	The C=C double bond	Pressure & a catalyst
What 2 chemicals are mixed to prepare CO_2 in the lab	CO_2 can be collected by displacement of water method because….	CO_2 can be collected by downward delivery method because…	Balance this: $CaCO_3 + HCl \rightarrow CaCl_2 + H_2O + CO_2$
Calcium carbonate (marble chips) and dilute hydrochloric acid	CO_2 is not very soluble in water	CO_2 is denser than air	$CaCO_3 + 2HCl \rightarrow CaCl_2 + H_2O + CO_2$

Why is diamond unable to conduct electricity?	Give 2 reasons why CO_2 is used in fire extinguishers	Does CO_2 dissolved in water make the solution acidic or basic?	What colour does Universal indicator go in a weak acid?
Diamond has no mobile electrons to carry a current	It doesn't support combustion. It's denser than air & smothers fire.	Acidic (weak acid)	orange
What colour is a) red litmus b) blue litmus, in acid?	$H_2O + CO_2 \rightarrow H_2CO_3$ What is the name of H_2CO_3 ?	Name this 	Alkanes have single C-C bonds & all C atoms bond to 4 other atoms – we call this
Red litmus is (stays) red, blue litmus turns red.	Carbonic acid	Propene	Saturated
What 2 elements are present in hydrocarbon molecules?	What do ethene and propene contain that make them unsaturated?	What is the main use of alkanes?	The larger alkanes are not so useful. What process breaks them into smaller ones?
Carbon & hydrogen!	A C = C double bond	As fuels	cracking
Name the process that splits crude oil or petroleum into a number of fractions	Fractional distillation separates molecules based on their ___ points	Large hydrocarbons have higher boiling points than short ones – True or False	What is the molecular formula for ethanol?
Fractional distillation	boiling	true	C_2H_5OH

Complete the equation for the complete combustion of C. C + $O_2 \rightarrow$	Give 2 uses of CO_2	When CO burns to form CO_2 what colour is the flame?	What process removes CO_2 from the atmosphere in the carbon cycle?
CO_2	Any 2 from: fizzy drinks, fire extinguishers, as dry ice for cooling or stage effects etc	blue	photosynthesis
What 2 processes return CO_2 to the atmosphere in the carbon cycle?	Name 2 ways carbon from animals is returned to the atmosphere by microbes	What name do we use to describe coal, oil and gas?	What is the formula for the "buckyball" allotrope of C?
2 from: Respiration Combustion volcanoes	Respiration by microbes as they feed on excretion or dead animals	Fossil fuels	C_{60}
What is the name of C_5H_{12} ?	What is it's molecular formula? 	What happens to the melting & boiling points as alkanes get bigger?	Why has pentane got a higher boiling point than methane?
pentane	C_6H_{14}	Melting points and boiling points increase	It's a bigger molecule with stronger attractive forces <u>between</u> the molecules
Name the polymer made from ethene.	What reaction joins many monomers to make a polymer?	Which alcohol causes blindness, liver and brain damage?	What's another name for fermentation of sugar by yeast?
polyethene	polymerisation	methanol	anaerobic respiration

Is the boiling point of ethanol higher or lower than that of water?	Going from methanol to ethanol to propanol to butanol, the boiling points ___	Yeast work best at temperatures of above 50^{o}C. True or false?	What process turns ethanol into ethanoic acid? Reduction, combustion or oxidation?
Lower (ethanol boils at 78^{o}C)	Increase	False	oxidation
Wine left exposed to air may become oxidised and taste sour – why?	What household acid is a dilute solution of ethanoic acid?	Is ethanoic acid a weak acid or a strong acid?	Which reacts more vigorously with Mg, ethanoic or hydrochloric acid?
The ethanol is oxidised to ethanoic acid - vinegar	vinegar	Weak acid	Hydrochloric acid (assuming both acids are of equal concentration)
Name this molecule CH_3COOH	Name the carboxylic acid with 2 carbon atoms	Which 2 allotropes of C have HIGH melting points	Allotropes are different forms of the same element in the same ___
ethanoic acid	ethanoic acid	diamond and graphite	state
Which allotrope of C has a 2D layer structure with C atoms strongly bonded in hexagonal layers?	Why is diamond so hard?	What allotrope of C has each C atom bonded to 4 other C atoms in a 3D network structure	Write an equation for limewater turning cloudy with CO_2
graphite	strong covalent bonding between its atoms in 3 dimensions	diamond	$Ca(OH)_2 + CO_2 \rightarrow CaCO_3 + H_2O$

What's the chemical name for limewater?	What's the chemical formula for limewater, calcium hydroxide?	Dry ice, solid CO_2, turns directly to a gas, without becoming a liquid first – what is this called?	C atoms bond to other atoms by covalent bonds – how many bonds does C always form?
Calcium hydroxide	$Ca(OH)_2$	sublimation	4
In a formula such as  what are the lines?	 Is a structural or molecular formula?	What type of formula shows you the type and number of atoms BUT not how they are arranged?	What feature makes alkenes more reactive than alkanes?
covalent bonds	structural	molecular formula	The C = C double bond
What chemical is important as a starting point for many polymers?	Name the alkane found in natural gas, marsh gas and flatulent farm animals.	What does LPG stand for?	What 2 gases make up most of LPG, liquid petroleum gas?
ethene	methane	liquid petroleum gas	propane & butane
What commonly used fuel is mostly octane?	Why is incomplete combustion "inefficient"?	If alkanes have a general formula C_nH_{2n+2}, how many H in the alkane with C_{10}	What 3 things are needed to for the process of polymerisation
petrol	Not all the possible energy is released from the fuel (wasteful & uneconomical)	22 (2 x 10) + 2	Heat Pressure Use of a catalyst