C5.1 Knowledge Quiz: Carbon Chemistry

Describe what crude oil is and where it is found.	
Define a hydrocarbon.	
State the general formula of the alkanes.	
Name the first four alkanes.	
State the chemical formula of ethane.	
Describe how crude oil is separated into fractions.	
Compare the temperature at the top and bottom of a fractionating column.	
State the order of the fractions that make up crude oil in order of increasing hydrocarbon chain length.	
Describe the pattern of viscosity and hydrocarbon chain length.	
Describe the pattern of flammability and hydrocarbon chain length.	
Describe the pattern of boiling point and hydrocarbon chain length.	
State the general equation for the combustion of alkanes.	
Give one disadvantage of burning hydrocarbons.	
Explain when incomplete combustion happens.	
Compare the products of complete and incomplete combustion.	
Explain why large hydrocarbon molecules are cracked.	

Describe what happens when large hydrocarbon molecules are cracked.	
Explain how bromine water can be used to tell the difference between an alkane and an alkene.	
What are polymers?	
What is the name of the units that make up polymers?	
What links the atoms in polymers together?	
In the displayed formula for a polymer, what does the *n* outside the brackets represent?	
Why are polymers generally solids at room temperature?	
What do the properties of polymers depend on?	
What does LDPE stand for?	
What does HDPE stand for?	
What is the monomer that makes up both LDPE and HDPE?	
What are thermosoftening polymers?	
What are thermosetting polymers?	

Chemistry only

State the general formula for alkenes.	
Explain why alkenes are described as unsaturated.	

How many pairs of electrons are shared when a double covalent bond is formed?	
Write the chemical formula for propene.	
Predict what will be produced when ethene reacts with hydrogen (in the presence of a catalyst).	
State the functional group found in alcohols.	
Name the functional group found in alcohols.	
State the chemical formula of ethanol.	
Give a use of methanol.	
Give a use of ethanol.	
Write a word equation for the reaction between sodium and ethanol.	
Describe how ethanol is produced through fermentation.	
Describe the conditions required for fermentation.	
State the word equation for fermentation.	
Describe how ethanol can be produced from ethene.	
Describe the conditions required for producing ethanol from ethene.	
Give an advantage of using fermentation to produce ethanol rather than ethene.	
Give an advantage of using fermentation to produce ethanol rather than ethene.	

State the functional group found in carboxylic acids.	
Name the functional group found in carboxylic acids.	
State the chemical formula of propanoic acid.	
Name the carboxylic acid found in vinegar.	
State the pH range of aqueous solutions of carboxylic acids.	
Write the general equation for the reaction between a carboxylic acid and a metal carbonate.	
Describe how an ester is formed.	
Write the general equation for how an ester is formed.	
State the functional group found in esters.	
Give two uses of esters.	
Name the ester produced through the reaction between ethanol and ethanoic acid.	
Describe the process of addition polymerisation.	
Name the monomer used to produce poly(propene).	
Name the polymer made through addition polymerisation of ethene.	
Describe the process of condensation polymerisation.	
Compare the products of addition polymerisation and condensation polymerisation.	
Give three naturally occurring polymers.	

Describe the structure of DNA.	