

**Barnsley Academy – Y11- Combined Science C7- Scheme of work Week 1 – 2023-24**

Term – Week ...				
	1	2	3	4
<b>Lesson Focus</b>	Crude oil and Alkanes	Fractional distillation	Cracking	Using the products of crude oil
<b>Prerequisite Knowledge</b>	Covalent bonding Properties of covalent compounds	- Boiling points (C2) - Distillation (C1)	Alkanes (L1-C7)	- Complete and incomplete combustion
<b>Core Knowledge</b>	<ul style="list-style-type: none"> <li>▪ Describe the composition of crude oil</li> <li>▪ Draw the first five alkanes and write their chemical formula</li> <li>▪ Use the general chemical formula of alkanes</li> <li>▪ Describe and explain how alkane chain length affects its boiling point</li> </ul>	<ul style="list-style-type: none"> <li>• Describe how crude oil is separated into fractions</li> <li>• Describe trends in the physical and chemical properties of the fractions collected</li> </ul>	<ul style="list-style-type: none"> <li>▪ Describe the process and products of cracking</li> <li>▪ Describe the test for alkenes and its positive result</li> <li>▪ Explain why cracking is necessary</li> <li>▪ Represent cracking using equations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Draw and name polymers made from alkenes</li> <li>▪ Compare complete and incomplete combustion</li> <li>▪ Calculate reacting masses for combustion</li> </ul>
<b>Expert Model /Guided Practice/Agreed Approach</b> (Procedural Knowledge)	- How to calculate chemical formula of alkanes	- Steps for fractional distillation	Steps for cracking equations	- Steps for drawing and naming polymers - Calculating reacting masses steps
<b>Independent Practice</b>	IP1- Describe composition of alkanes IP2- Alkanes exam q IP3- Boiling point graphs exam q	IP1- Fractional distillation exam q	IP1- Describe what cracking is and why it is useful IP2- Cracking exam q	IP1- Polymer exam q IP2- Comparing complete and incomplete combustion IP3- Calculating reacting masses

<b>Assessment</b> (Informal/Formal)	<ul style="list-style-type: none"> <li>- Whiteboard checks</li> <li>- Circulation</li> <li>- Live marking</li> <li>- Exam q</li> </ul>	<ul style="list-style-type: none"> <li>- Whiteboard checks</li> <li>- Circulation</li> <li>- Live marking</li> <li>- Exam q</li> </ul>	<ul style="list-style-type: none"> <li>- Whiteboard checks</li> <li>- Circulation</li> <li>- Live marking</li> <li>- Exam q</li> </ul>	<ul style="list-style-type: none"> <li>- Whiteboard checks</li> <li>- Circulation</li> <li>- Live marking</li> <li>- Exam q</li> </ul>
<b>Resources</b>			<a href="https://www.youtube.com/watch?v=Ehcq4cARkMI">https://www.youtube.com/watch?v=Ehcq4cARkMI</a>	
<b>Specific SEN(D)/EAL support</b>				