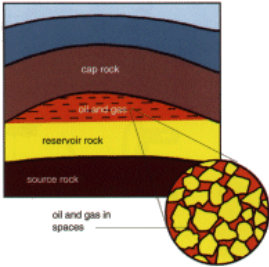


Topic	The life of a hydrocarbon	Level	GCSE (or any other course for students aged 11-16)
Outcomes	<ol style="list-style-type: none">1. To understand how the processes of crude oil extraction, fractional distillation, cracking, polymerisation, combustion, bromination and global warming are connected.2. To describe what happens in each of the stages above.		

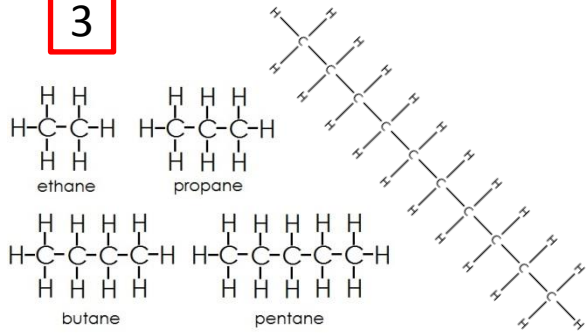
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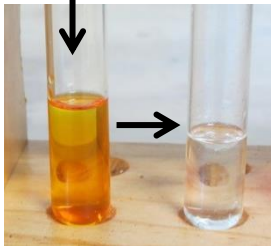
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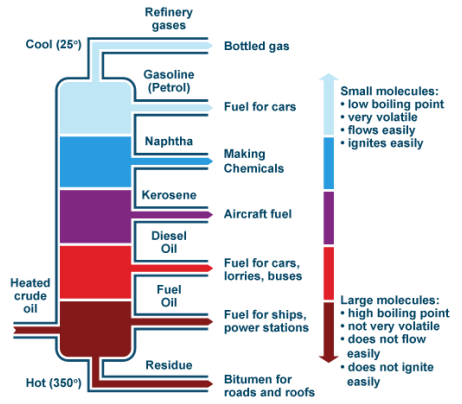


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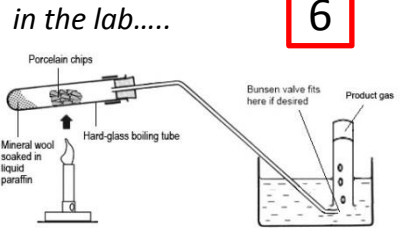


The journey of a hydrocarbon

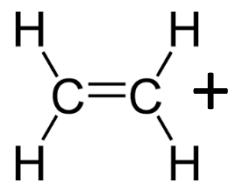
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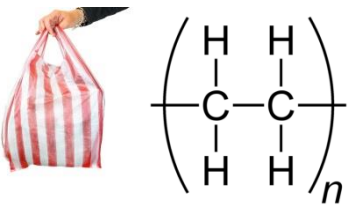
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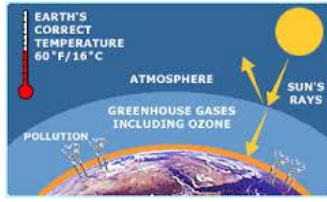
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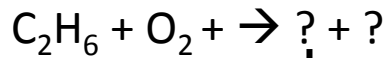
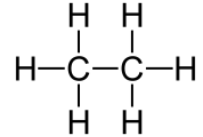
8



9



5



Number Stage	Describe each stage of the journey. Make sure you include answers to the questions below and include balanced chemical equations where possible
1	<i>e.g. Crude oil is a mixture of different length hydrocarbons. It is found deep under the ground and was formed from dead organisms that fell to the bottom of the sea and were then buried by mud, heated and compressed over millions of years, eventually forming crude oil.</i>
2	
3	How do long alkanes differ from short alkanes? Why do alkanes belong to the same homologous series?
4	What happens to the heated crude oil inside the column? What is a fraction?
5	$C_2H_6 + O_2 \rightarrow ? + ?$ Can you write the chemical equation for the incomplete combustion of ethane?
6	Why is cracking necessary? How is cracking carried out in industry? What is the catalyst, temperature and pressure?
7	$C_{10}H_{22} \rightarrow C_2H_4 + ?$
8	Can you draw the repeating unit for poly(propene)? How do we dispose of polymers?
9	What are the environmental problems of burning fossil fuels in cars?
10	Can you draw the product formed when ethene reacts with bromine water?