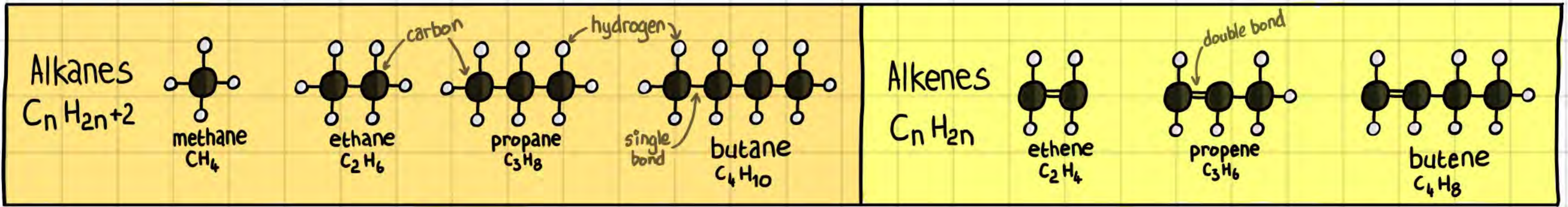


Unit 7: Hydrocarbons

1 Alkanes and alkenes



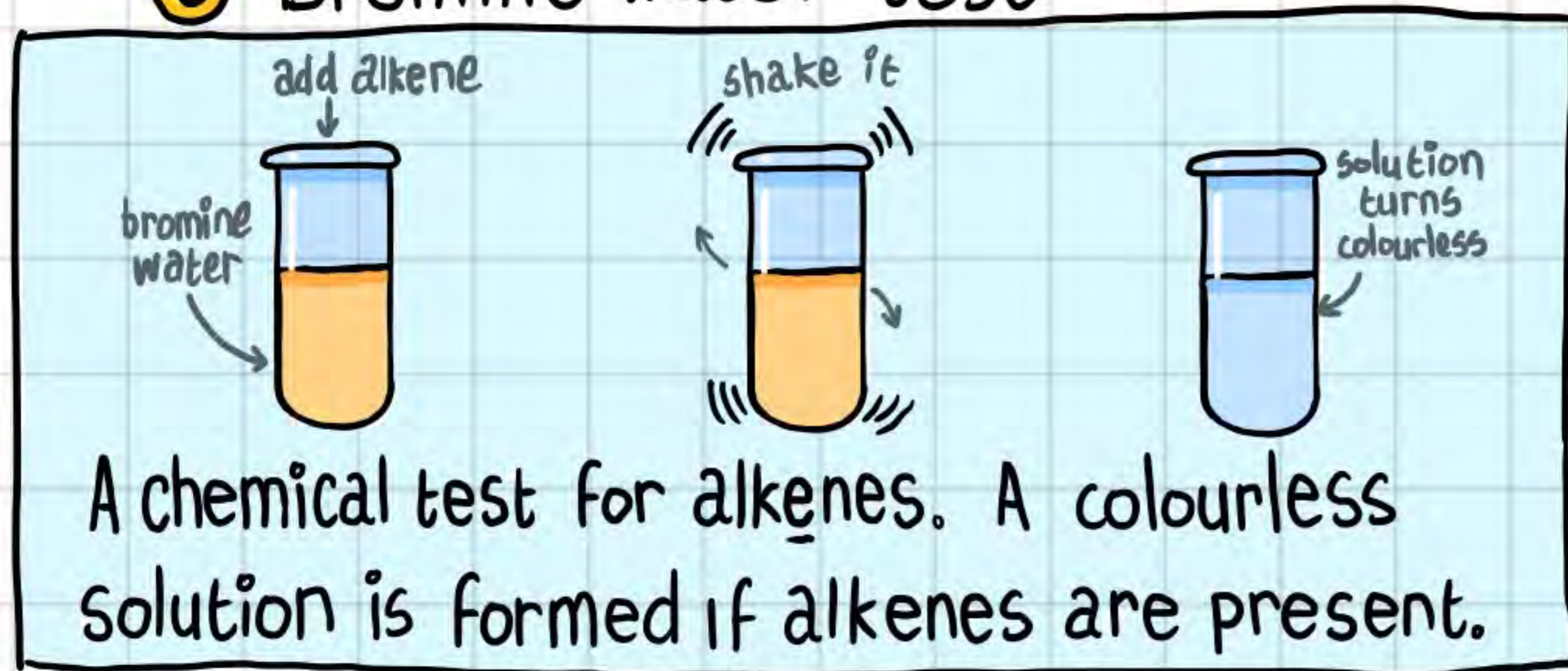
2 Properties of alkanes and chain length

you only need to learn the first four names

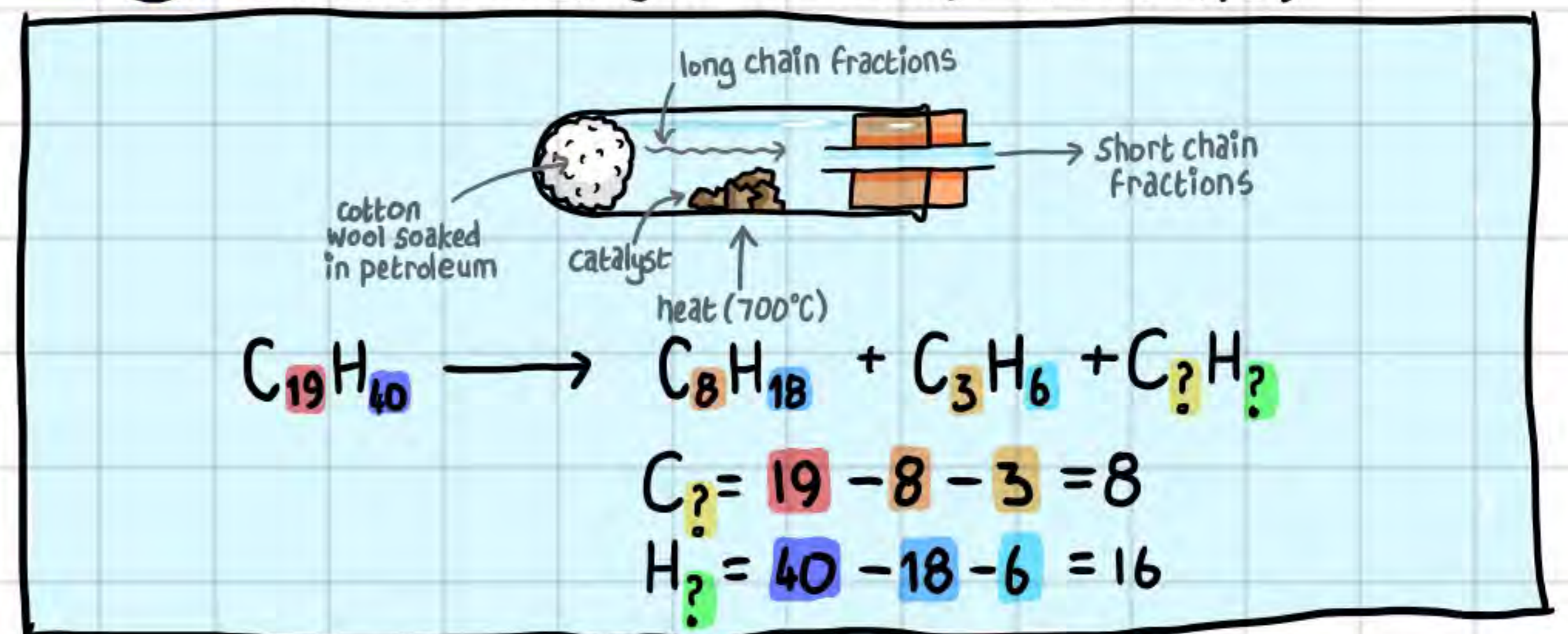
	methane	ethane	propane	butane	pentane	hexane	heptane	octane	nonane	decane
alkane	CH_4	C_2H_6	C_3H_8	C_4H_{10}	C_5H_{12}	C_6H_{14}	C_7H_{16}	C_8H_{18}	C_9H_{20}	$C_{10}H_{22}$
BP(°C)	-162	-89	-42	1	36	69	98	125	150	174

← learn the trend

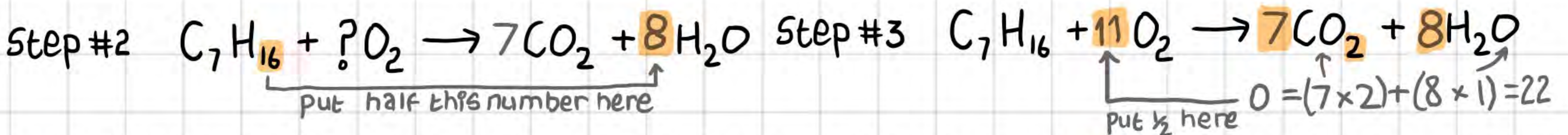
3 Bromine water test



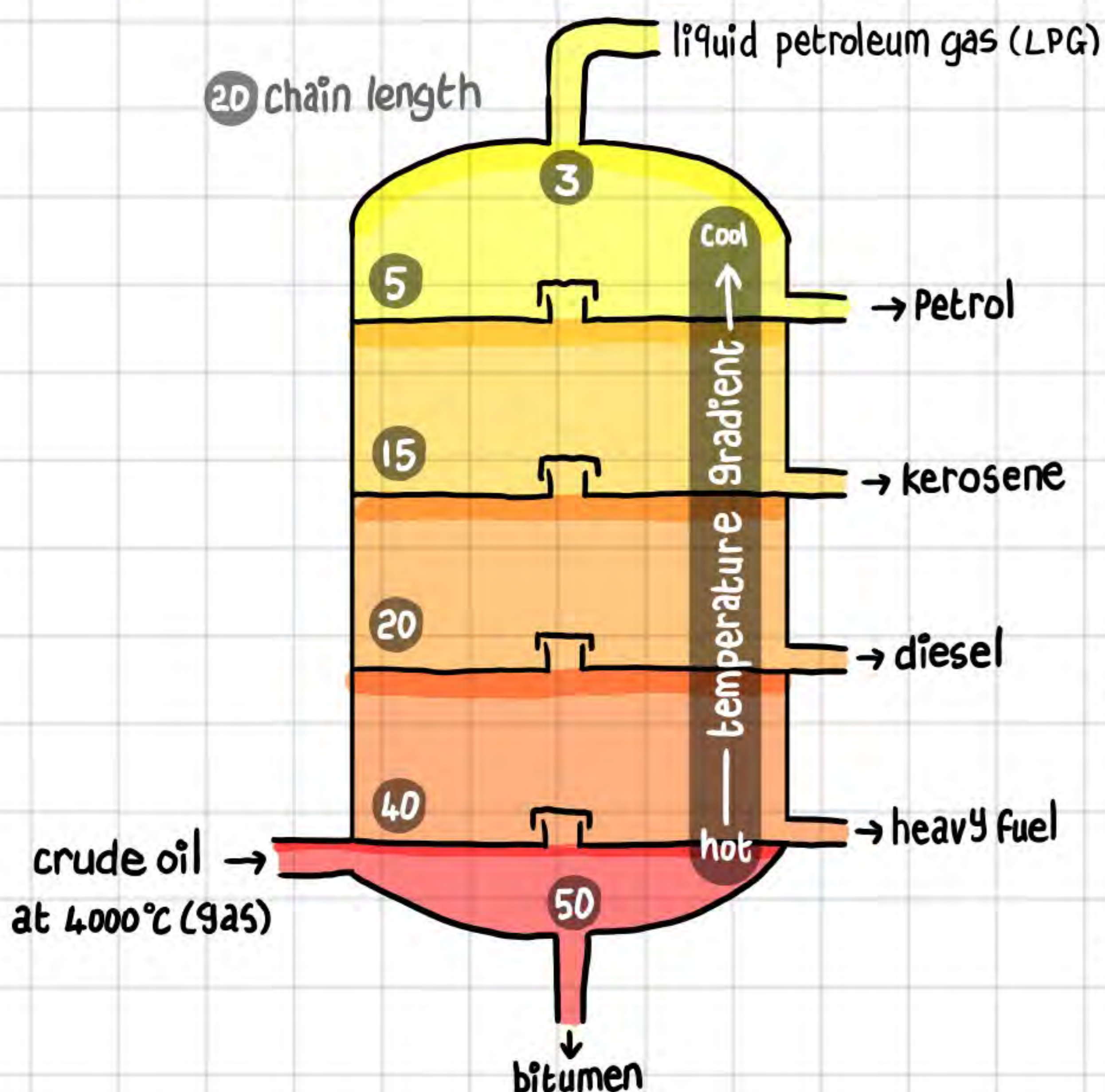
4 Cracking (cheese, Gromit)



5 Complete combustion of hydrocarbons



6 Fractional distillation



extended answer **Learn**

- Crude oil is a mixture of **hydrocarbons** with different **chain lengths**
- The hydrocarbons are separated by fractional distillation using their **boiling points**
- Oil is heated to **400°C** until most is a gas
- The gases enter the column at the **base**
- The column contains a **temperature gradient** (i.e. the column is hot at the bottom cold on top)
- longer** hydrocarbons have **high** boiling points. They **condense** at the **bottom** (e.g bitumen and fuel oil)
- Shorter** hydrocarbons have **low** boiling points. They **condense** at the **top** (e.g petrol and LPG)