



SC20 Fuels

Personal learning checklist | 1 of 1

GCSE Edexcel Separate Sciences | Chemistry Paper 2

Name _____ Class _____ Date _____

Tick one box for each statement. Red: need help. Amber: partly confident.
Green: can do independently.

I can	Red	Amber	Green
Crude oil and separation			
Describe hydrocarbons, crude oil mixtures and finite fossil resources used as fuels and petrochemical feedstocks.	☐	☐	☐
Explain fractional distillation using the temperature gradient, boiling ranges and condensation levels.	☐	☐	☐
Recall main crude-oil fractions in order and link each to its uses.	☐	☐	☐
Explain chain-length effects on boiling point, viscosity and ease of ignition.	☐	☐	☐
Hydrocarbon patterns and cracking			
Describe alkane homologous-series patterns and use the general formula for acyclic alkanes.	☐	☐	☐
Identify saturated alkanes and unsaturated alkenes and describe useful cracking products.	☐	☐	☐
Explain cracking conditions and demand, balance cracking equations and distinguish cracking from physical distillation.	☐	☐	☐
Combustion and pollution			
Write complete combustion equations and explain energy release and carbon dioxide production.	☐	☐	☐
Explain incomplete combustion products, reduced useful energy and carbon monoxide and soot hazards.	☐	☐	☐
Explain sulfur dioxide formation, acid rain and effects on ecosystems and carbonate buildings.	☐	☐	☐
Explain high-temperature nitrogen oxide formation and compare measures for reducing different pollutants.	☐	☐	☐
Fuel choices			
Evaluate hydrogen and petrol using storage, infrastructure, safety, energy supply and whole-life emissions.	☐	☐	☐
Distinguish hydrogen combustion from fuel cells and explain possible water and nitrogen oxide emissions.	☐	☐	☐

My next revision priority _____