

Subject:

Chemistry



HECKMONDWIKE
GRAMMAR SCHOOL

KS4 - Year 10 Curriculum Overview

Autumn Term

Topics being taught

C2 Structures and bonding-
Ionic, Covalent and Metallic bonding and the properties of materials

C4 Chemical changes-
Review of reactivity and displacement reactions and redox reactions. Electrolysis of melts and solutions

Term 1

What you will be assessed on

Explaining the properties of materials based on their structure and bonding e.g. why do simple molecules like oxygen boil at low temperatures

Being able to write chemical formulae, balance chemical equations and half equations.

Term 2

How you can support at home

Make sure you are familiar with the [AQA GCSE Chemistry](#) specification

[C2 Structures and bonding on bitesize](#)

[Overview of electrolysis](#) of [melts and solutions](#)

More videos on [balancing equations](#), [ionic formulae](#) and [half equations](#)

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Spring Term

Topics being taught

C5 Energy Changes- Endothermic and exothermic reactions and energy profiles. Cells, batteries and fuel cells

C7 Organic Chemistry
Crude oil and reactions of alkanes including combustion and cracking. Reactions of alkenes, alcohols, carboxylic acids and formation of esters.

Term 3

What you will be assessed on

Energy level diagrams for endo and exothermic reactions and calculation of energy changes using bond energies. Comparison of batteries and fuel cells.

Separation of crude oil and fractional distillation. Equations for combustion of alkanes and cracking of alkanes.

Term 4

How you can support at home

Overview of [Energetics topic](#) ignore the fact it's IGCSE)

[Simple cells and fuel cells](#) – make sure you know the pros/cons!

How [oil is formed](#) and the [products made from it](#).

Read [Organic chemistry notes on bitesize](#) and watch [free science lessons organic chemistry](#) videos....

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Summer Term

Topics being taught

C7 Organic Chemistry
Crude oil and reactions of alkanes (continued)
Polymerisation and biological molecules including proteins, carbohydrates and DNA.

Revision and consolidation of GCSE topics covered so far prior to Y10 Finals

Term 5

What you will be assessed on

Addition reactions of alkenes. Formation and reactions of alcohols with oxygen, water and sodium metal. Properties of carboxylic acids and formation of esters. Addition and condensation polymerisation including formation of proteins and DNA

Y10 Final Exam – covering units covered so far...
C1, C2, C4, C5, C6, C8, C9

Term 6

How you can support at home

Investigate the different types of [polymers formed](#) and their uses.

How [biological polymers](#) are formed and the monomers that make them.

Use revision checklists provided by your teacher to help you revise!

Remember you can set your own tests on [Educake](#) to revise the different GCSE units!