

The modern world makes use of many new and exciting forms of matter: non-stick surfaces, bullet-proof vests, tailor-made medicines and biodegradable polymers - to name but a few.



Are you interested in:

- practical chemistry
- applications of science
- problem solving
- scientific research
- application of Maths

Leading to a career in:

- Analytical chemistry
 - Biochemistry
 - Vet Science
 - Chemical Engineer
 - Pharmacologist
- and many more

Teacher to contact:

Miss K Forrest

Exam Board: OCR B

A-level

The **Salters Chemistry B** course concentrates on the applications of the chemical concepts studied. Building on your experience at GCSE, this is a very practical course, and looks at a range of issues including some of the following: pollution due to the burning of fuels, how halogens can be extracted from the sea, our changing atmosphere and the relevance of polymers in our lives.

The following modules are covered:

Module 1: Elements of Life

This looks at elements and compounds in the Universe, the human body and recaps quantitative chemistry.

Module 2: Developing Fuels

This looks at the composition of fuels, the energy released in their combustion, issues linked to pollution and the development of more sustainable fuels.

Module 3: Elements from the Sea

This module covers the extraction of halogens from minerals in the sea, together with a study of their properties and uses of these elements and their compounds.

Module 4: The Ozone Story

This module discusses the important processes that occur in the ozone layer and how CFCs caused ozone depletion.

Module 5: What's in a Medicine

This module focuses on the synthesis and purification of aspirin.

It discusses different functional group chemistry and methods of analysis of organic compounds.

Module 6: The Chemical Industry

This covers the importance of rates of reaction and equilibria to chemical processes used in industry.

Module 7: Polymers and Life

This focuses on condensation polymers, proteins and enzymes. It also covers DNA and its role in synthesising proteins. Plus, it extends knowledge of spectroscopic techniques.

Module 8: Oceans

This module looks at the role of oceans in dissolving substances and maintaining pH levels. It also looks at how global warming is happening.

Module 9: Developing Metals

This module develops ideas about the reactions and properties of transition metals plus electrochemistry.

Module 10: Colour by Design

This final module covers why organic compounds are coloured and the use of chemistry to provide different dyes to order.

Alongside these modules, there is an emphasis on developing chemical literacy and the separate Practical Endorsement provides students with lots of opportunities to develop and practise their investigative and problem-solving skills, through practical activities.

Assessment of the A-level course

2a. Overview of A Level in Chemistry B (Salters) (H433)

Learners must complete all components (01, 02, 03 and 04).

Content Overview	Assessment Overview	
Development of practical skills in chemistry (Section 2c) Storylines (Section 2d) • Elements of life • Developing fuels • Elements from the sea • The ozone story • What's in a medicine? • The chemical industry • Polymers and life • Oceans • Developing metals • Colour by design Chemical literacy (Section 2e) Practical Endorsement	Fundamentals of chemistry (01) 110 marks 2 hours 15 minutes written paper	41% of total A level
	Scientific literacy in chemistry (02) 100 marks 2 hours 15 minutes written paper	37% of total A level
	Practical skills in chemistry (03) 60 marks 1 hour 30 minutes written paper	22% of total A level
	Practical Endorsement in chemistry (04)	Reported separately

Entry requirements:

It is expected that you would achieve a GCSE Level 6 in Chemistry and Maths, or Double Science and Maths.

ORGANIC FUNCTIONAL GROUPS

FUNCTIONAL GROUPS ARE GROUPS OF ATOMS IN ORGANIC MOLECULES THAT ARE RESPONSIBLE FOR THE CHARACTERISTIC CHEMICAL REACTIONS OF THOSE MOLECULES. IN THE GENERAL FORMULAE BELOW, 'R' REPRESENTS A HYDROCARBON GROUP OR HYDROGEN, AND 'X' REPRESENTS ANY HALOGEN ATOM.

