



A Level Chemistry

Available for first teaching
from September 2008

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Background to the changes

Following a review of 14–19 education, the Qualifications and Curriculum Authority (QCA) has revised the subject criteria for A Levels. These changes are intended to reduce the volume of marking for teachers, and the amount of assessment for learners – and to ensure that every young person has the opportunity to realise their full potential. Along with all awarding bodies, OCR has developed revised A Levels for first teaching from September 2008.

We've made sure it's a change for the better

QCA's decision to revise A Levels has given us a great opportunity to make further improvements to our qualifications. We've been talking to teachers, heads of departments, local authority advisers, subject experts and examiners to make sure the new specifications, support materials and schemes of work meet your needs.

OCR A Level Chemistry

The first choice for science

A level Chemistry retains its two key specifications:

Chemistry A – A modern and relevant Chemistry course, clearly structured for flexible delivery, with an integrated and concise practical assessment model, to aid teachers and learners.

Chemistry B (Salters) – A complete package for learners and their teachers in which cutting edge contexts and innovative learner activities provide a motivating framework for learning.

Both specifications have been redesigned to build solidly on their success to date while adapting to new QCA requirements and responding to changing needs. Each new specification demonstrates a clearer, more logical progression through units, with their relative lengths amended to take maximum advantage of the exam timetable. A number of enhanced benefits have been incorporated into each.

This brochure includes information on both specifications.

A Level Chemistry A

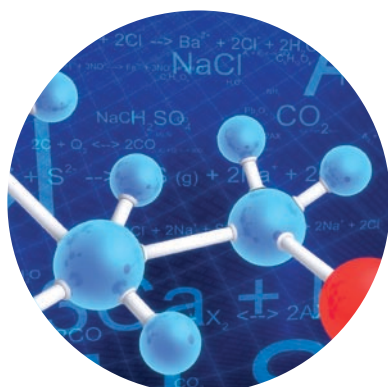
The redesigned A level reflects the success and popularity of the structure of the existing A level specification, but incorporates some important improvements.

Content structure has been redeveloped to provide a logical and coherent progression for every learner, and a smooth transition from GCSE. Units 1 and 4 are intentionally short, enabling learners to be entered for January exams, while the practical exam has been replaced by task-based internal assessment to conform to new QCA requirements.

Features of the new specification:

- The new, streamlined progression through units is appropriate for learners of varying aptitude. Its clear guidance is motivational for less able learners, yet remains rigorous and challenging for higher-achieving learners.
- Logical, well-defined structure appeals to less experienced teachers and those looking to broaden their repertoire.
- Accessible, logically grouped learning outcomes help teachers and learners to understand exactly what will be examined.
- Practical tasks, tested before first teaching, have comprehensive worksheets and mark schemes, reducing teachers' workload.
- Support includes a broad range of resources from our publishing partner, Heinemann.
- Question papers are clear, explicit and accessible.
- 'How Science Works' is integrated throughout, along with up-to-date topics.

"There is comprehensive coverage of all major topics, with an emphasis on relevance to everyday life, green issues and economic awareness."



A Level Chemistry A course details

For AS

Teaching units	Assessment method and weighting
F321: Atoms, Bonds and Groups <ul style="list-style-type: none">• Atoms and Reactions• Electrons, Bonding and Structure• The Periodic Table.	Mandatory unit 1 hour exam AS – 30% A Level – 15%
F322: Chains, Energy and Resources <ul style="list-style-type: none">• Basic Concepts and Hydrocarbons• Alcohols, Halogenoalkanes and Analysis• Energy• Resources.	Mandatory unit 1 hour 45 mins written exam AS – 50% A Level – 25%
F323: Practical Skills in Chemistry 1 AS internal assessment.	Mandatory unit Internal assessment AS – 20% A level – 10%

For A2

Teaching units	Assessment method and weighting
F324: Rings, Polymers and Analysis <ul style="list-style-type: none">• Rings, Acids and Amines• Polymers and Synthesis• Analysis.	Mandatory unit 1 hour written exam A Level – 15%
F325: Equilibria, Energetics and Elements <ul style="list-style-type: none">• Rates, Equilibrium and pH• Energy• Transition Elements.	Mandatory unit 1 hour 45 mins written exam A Level – 25%
F326: Practical Skills in Chemistry 2 A2 internal assessment.	Mandatory unit Internal assessment A Level – 10%

What stays the same, and what changes?

If you're already working with the current OCR A Level Chemistry A specification, you'll want to know which parts of this remain in the new specification – and what the main changes are.

The table below outlines the key points.

Main aspects that stay the same	Most important changes
The new, improved specification has a sound and logical continuity for current OCR Chemistry A centres	Units 1 and 4 have reduced content, allowing the maximum opportunity to enter learners in January.
	QCA rules now require that practical skills are internally assessed, under controlled conditions. Practical exams will no longer be available in the revised specifications.
	Modern and interesting topics previously offered as options are retained in compulsory content, while other options have been removed.

“With a much more rigorous structure, both teacher and learner recognise more clearly what is expected.”

“The centre-assessed units appear to be very structured and will reduce the work load on teachers and students alike. The idea of splitting between qualitative, quantitative and evaluative is very appealing. Taught units flow well and their organisation makes sense.”

'Stretch and Challenge'

A new Qualifications and Curriculum Authority (QCA) initiative for A Levels, 'Stretch and Challenge' is designed to give young people the opportunity to demonstrate their potential, and to help universities differentiate between applicants. It will be part of the A2 units, so it won't involve additional questions or exam papers.

We have always included 'Stretch and Challenge' style questions at A Level for all sciences so this won't have a noticeable effect on assessment other than that learners will have the opportunity to achieve an A* grade.

'Stretch and Challenge' is achieved through a new approach to exam questions:

- The questions invite a greater variety of thinking and type of answer. For example, the introduction could ask the learner to 'analyse', 'evaluate' or 'discuss'.
- The questions are structured to show more connections between different sections of the specification.
- Extended writing is encouraged in all subjects (except in areas such as Maths, where it is clearly inappropriate).
- There's a wider range of question types – such as case studies and open-ended questions – rather than just short-answer questions.
- There are more synoptic assessments – exploring connections between different areas and levels of a subject – over and above the superficial links within question types.

You'll find examples of 'Stretch and Challenge' style questions in your specimen assessment materials.



"The content is clear and in a logical order to develop knowledge and understanding of the subject."

A Level Chemistry B (Salters)

This context-led course remains well supported by the University of York Science Education Group. The new specification builds on the considerable success of the current course but takes account of progressive feedback. It has been improved to further enhance teachers' and learners' enjoyment, while complying with revised QCA requirements.

Features of the new specification:

- Strong similarity with the approach taken in GCSE Twenty First Century Science.
- Proven science in context approach links chemistry with its place in the world.
- A new, streamlined progression through units, which appeals to less experienced teachers and those looking to broaden their repertoire.
- Attractive and accessible to a wide variety of learners.
- Accessible, logically grouped learning outcomes help teachers and learners to understand exactly what will be examined.
- Practical tasks for AS Level, trialled with centres, and practical investigation opportunities for learners during A2.
- Units 1 and 4 are short enabling more learners to be entered for January exams.
- Full support available from our publishing partner, Heinemann, and from the University of York Science Education Group.
- Question papers are clear, explicit and accessible.
- 'How Science Works' is integrated throughout.



*“The new amendments
for the Salters course provide
an even better platform
on which to stand
as a chemist.”*

A Level Chemistry B (Salters) course details

For AS

Teaching units	Assessment method and weighting
F331: Chemistry for Life <ul style="list-style-type: none"> • Elements of Life • Developing Fuels. 	Mandatory unit 1 hour 15 mins written exam AS – 30% A Level – 15%
F332: Chemistry of Natural Resources <ul style="list-style-type: none"> • Elements from the Sea • The Atmosphere • Polymer Revolution. 	Mandatory unit 1 hour 45 mins written exam AS – 50% A Level – 25%
F333: Chemistry in Practice AS internal assessment.	Mandatory unit Internal assessment AS – 20% A level – 10%

For A2

Teaching units	Assessment method and weighting
F334: Chemistry of Materials <ul style="list-style-type: none"> • What's in a Medicine? • The Materials Revolution • The Thread of Life • The Steel Story. 	Mandatory unit 1 hour 30 mins written exam A Level – 15%
F335: Chemistry by Design <ul style="list-style-type: none"> • Agriculture and Industry • Colour by Design • The Oceans • Medicines by Design. 	Mandatory unit 2 hour written exam A Level – 20%
F336: Chemistry Individual Investigation A2 internal assessment.	Mandatory unit Internal assessment A Level – 15%

What stays the same, and what changes?

If you're already working with the current OCR A Level Chemistry B (Salters) specification, you'll want to know which parts of this remain in the new specification – and what the main changes are.

The table below outlines the key points.

Main aspects that stay the same	Most important changes
The new, improved specification has a sound and logical continuity for current Chemistry B (Salters) centres.	Units 1 and 4 have reduced content, allowing the maximum opportunity to enter learners in January.
	The open book paper has now been replaced by an Advance Notice article incorporated in Unit 2.

“Unit 1 is excellent. Its content is reduced, so it’s easier to learn. Unit 2 is good because the chemistry links with real-life issues, like extracting copper, and Unit 3 offers more opportunities to do the practicals. The content in Unit 4 is helpful as it overlaps with other units, reinforcing your knowledge. The organic chemistry in Unit 5 is extremely good.”



'Stretch and Challenge'

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- Extended writing is encouraged in all subjects (except in areas such as Maths, where it is clearly inappropriate).
- There's a wider range of question types – such as case studies and open-ended questions – rather than just short-answer questions.
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You'll find examples of 'Stretch and Challenge' style questions in your specimen assessment materials.



"Provides excellent opportunities for deepening chemical knowledge, essential in today's fast-moving, technologically oriented industry."

"The practicals will definitely excite and engage students. They give them the opportunity to apply their knowledge and analyse what happens."

Support for A Level Chemistry teachers

To help you get started with the new A Levels in Chemistry, OCR will run a number of training courses. We will also provide a range of detailed support materials and resources – some produced by OCR, some by our publishing partners.

Training

The following INSET courses will be available from September 2007:

Get ready – introducing the new A level specifications (first teaching from September 2008)

These **free** half-day (morning) sessions will cover both Chemistry A and Chemistry B (Salters), giving you an overview of the new OCR specifications.

They will:

- **Look at the structure of the new specifications**
- **Compare the new specification content with the old, including coursework and ‘Stretch and Challenge’ implications**
- **Discuss the support and resources available from OCR**
- **Summarise the benefits of the OCR specifications.**

Get started – towards successful delivery of the new A level specifications (first teaching from September 2008)

These full-day sessions will give you guidance and support in planning to teach the new AS/A Level specifications.

They will:

- **Give an introduction to the structure and content of the new specifications**
- **Consider approaches to first teaching, and suggest best practice**
- **Look at coursework and ‘Stretch and Challenge’ implications**
- **Review the support and resources available from OCR.**

This course will have some similarity to the half-day ‘Get ready’ sessions, but will look at the new specifications in more depth, with the emphasis on first teaching

Places are allocated on a first come, first served basis – so if you’re interested in attending one of these events, visit www.ocr.org.uk/training to find out the dates of the events nearest to you.

Support materials

OCR is producing the following materials to help you prepare for the new A Level in Chemistry:

Schemes of Work and Lesson Plans

Schemes of work are being produced for Chemistry. We have adopted a 'by teachers for teachers' approach to development of the materials. We have been working with teachers from a number of different centres. The centre involved in the materials can be identified by the use of the centre logo in the top right hand corner of all relevant documents.

For each scheme of work that is produced, a set of accompanying lesson plans will also be available.

These materials will be available on the OCR website from autumn 2007. The materials will be available in fixed pdf format, for reference purposes, and also in Word format, so that you can adapt the materials for your own use.

Exemplar Candidate Work

For a number of units within Chemistry A we will produce Exemplar Candidate Work. This will be available on the OCR website in spring 2008.

We're also working with publishing partner Heinemann to provide further resources to support both Chemistry A and B specifications.

Learner books, teaching resources and assessment for each course will be published in early spring 2008.



Other OCR science qualifications

As a Chemistry teacher, you may be interested to know about OCR's range of GCSE science qualifications, as well as the OCR Level 2 Nationals in science subjects, which offer an excellent grounding for progression to GCE Chemistry.

We also offer GCEs in sciences such as Biology, Human Biology, Physics A, Physics B (Advancing Physics), Geology, Electronics and Psychology.

AS Science

The OCR AS GCE Science specification extends GCSE Science and contains elements of Biology, Chemistry and Physics, as well as Earth Science and Environmental Science. It is purpose-built for those learners who wish to continue with a broad study of science beyond GCSE, but who choose not to specialise in the separate science disciplines.

GCE Applied Science

This is a new broad-based qualification in Applied Science which may be used to give a general vocational introduction to science. The qualification provides appropriate progression from GCSE Applied Science (Double Award) and from GCSE Additional Applied Science for learners wishing to follow a vocational pathway.

For more information on these qualifications, visit www.ocr.org.uk



Want to find out more?

For more information on the new OCR A Levels in Chemistry –
and on all our science qualifications –
visit www.ocr.org.uk or call **01223 553998**

www.ocr.org.uk

OCR customer contact centre

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