

**GCSE
2011**

Accredited

**Science
Summary
Brochure**

WELCOME TO GCSE SCIENCES 2011

INTRODUCING GCSE SCIENCES FOR 2011

GCSE science specifications have been revised. From September 2011, students beginning a new course will need to be working towards the new science specifications.

There are five main changes to science GCSEs:

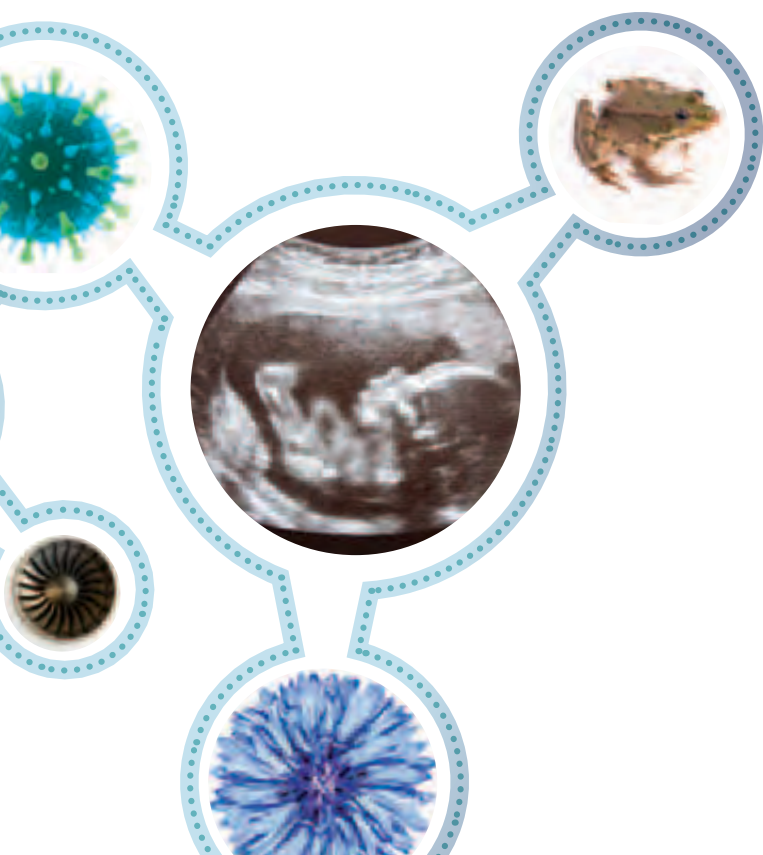
- Students must take at least 40% of the assessment of each specification in the final examination series when they certificate.
- Students may only re-sit a unit assessment once. The better result for the two attempts at a unit counts. If a re-sit is part of the 40% terminal requirement, that mark must count, even if the mark is lower than that achieved at a previous sitting.
- Each specification will have a maximum of four units, and each unit must carry a minimum weighting of 20%.
- Controlled assessment replaces coursework (see page 20).

GCSE Additional Applied Science will no longer be part of the Twenty First Century Science suite. We will continue to offer this specification but it will 'stand-alone' and will appeal to those offering any GCSE science qualification.



A FEW GOOD REASONS TO WORK WITH OCR

- You can enjoy the **freedom and excitement** of teaching science qualifications which have been developed to help you inspire students of all abilities.
- We've built specifications **with you in mind**, using a clear and easy-to-understand format, making them straightforward for you to deliver.
- Our **clear and sensible assessment** approach means that exam papers and requirements are clearly presented and sensibly structured for you and your students.
- **Pathways for choice** – we have the broadest range of science qualifications and our GCSEs provide an ideal foundation for students to progress to more advanced studies and science-related careers.
- **Working in partnership to support you** – together with teachers we've developed a range of practical help and support to save you time. We provide everything you need to teach our specifications with confidence and ensure your students get as much as possible from our qualifications.
- **A personal service** – as well as providing you with lots of support resources, we're also here to help you with specialist advice, guidance and support for those times when you simply need a more individual service.



TWENTY FIRST CENTURY SCIENCE SUITE – SCIENCE TODAY FOR SCIENTISTS TOMORROW

Explore the Science that underpins day-to-day life. Enthuse and motivate students using a mix of teaching strategies.

- All students study the content of GCSE Science which helps them to appreciate what science can tell them about themselves, the environment, and the Universe.

The suite consists of five specifications:

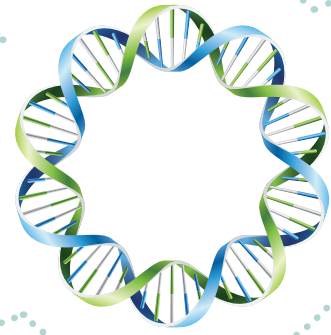
- GCSE Science A
- GCSE Additional Science A
- GCSE Biology A
- GCSE Chemistry A
- GCSE Physics A

Our Twenty First Century Science suite:

- introduces the relevance of science through practical application before exploring the scientific principles underneath
- is engaging to study and motivating for you to teach
- students engage with the course by making sense of the science they come across in everyday life
- well regarded and proven concept led teaching approach to science
- is an ideal foundation for students to progress to more-advanced studies and science-related careers
- flexible assessments, which can be arranged to suit your centre and your students – unit exams will be available twice a year, in January and June.

TWENTY FIRST CENTURY SCIENCE SUITE

GCSE SCIENCE A



GCSE Science A has an emphasis on scientific literacy – the knowledge and understanding that students need to recognise the impact of science and technology on everyday life.

There are two alternative routes to achieve GCSE Science A:

Route 1 using Unit A161 from Biology A, Unit A171 from Chemistry A and Unit A181 Physics A (separate science papers);

Route 2 using Units A141, A142 and A143 from Science A (mixed science papers).

		ROUTE 2			UNIT A144 (SCIENCE A CONTROLLED ASSESSMENT)
		UNIT A141 (SCIENCE A)	UNIT A142 (SCIENCE A)	UNIT A143 (SCIENCE A)	
ROUTE 1	UNIT A161 (BIOLOGY A)	Module B1: You and your genes <ul style="list-style-type: none"> What are genes? Why are families alike but not identical? How can genetic information be used? How is a clone made? 	Module B2: Keeping healthy <ul style="list-style-type: none"> How do our bodies resist infection? Vaccines and antibiotics What increases risks of heart disease? How do our bodies control water balance? 	Module B3: Life on Earth <ul style="list-style-type: none"> Systems in balance How has life on Earth evolved? The importance of biodiversity 	
	UNIT A171 (CHEMISTRY A)	Module C1: Air quality <ul style="list-style-type: none"> Chemicals and pollutants in the air What produces air pollutants? How can we improve air quality? 	Module C2: Material choices <ul style="list-style-type: none"> Measuring the properties of materials The importance of crude oil The molecular structure of materials What is nanotechnology? 	Module C3: Chemicals in our lives: risks & benefits <ul style="list-style-type: none"> UK minerals and their effect on our economy The importance of salt Making chemicals & why we need to Using chemicals safely & sustainably 	
	UNIT A181 (PHYSICS A)	Module P1: The Earth in the Universe <ul style="list-style-type: none"> The place of the Earth in the Universe What do we know about the Earth? 	Module P2: Radiation and life <ul style="list-style-type: none"> Types of electromagnetic radiation Which radiation harms living tissue and why? The evidence for global warming Uses of EM waves in communication 	Module P3: Sustainable energy <ul style="list-style-type: none"> How much energy do we use? How can electricity be generated? Which energy sources should we choose? 	
UNIT A144 (SCIENCE A CONTROLLED ASSESSMENT)					
J241 GCSE SCIENCE A					

ASSESSMENT – J241 GCSE SCIENCE A

Three written exams, assessed externally by OCR, each of which:

- is offered in Foundation and Higher tiers
- uses both objective style and free response questions (there is no choice of questions)
- assesses the quality of written communication.

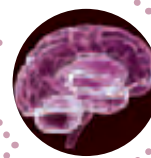
A controlled assessment unit:

- comprises Practical Investigation from a choice set by OCR
- is assessed by teachers, internally standardised and then moderated externally by OCR
- assesses the quality of written communication.

	UNIT	MODULES TESTED	WEIGHTING	ASSESSMENT & DURATION
ROUTE 1	A161: Biology A	B1, B2 and B3	25 % of the total GCSE	1 hour written paper; 60 marks
	A171: Chemistry A	C1, C2 and C3	25 % of the total GCSE	1 hour written paper; 60 marks
	A181: Physics A	P1, P2 and P3	25 % of the total GCSE	1 hour written paper; 60 marks
	A144: Science A	Controlled assessment set by OCR	25 % of the total GCSE	Approximately 6-7 hours; 64 marks
ROUTE 2	UNIT	MODULES TESTED	WEIGHTING	ASSESSMENT & DURATION
	A141: Science A	B1, C1 and P1	25 % of the total GCSE	1 hour written paper; 60 marks
	A142: Science A	B2, C2 and P2	25 % of the total GCSE	1 hour written paper; 60 marks
	A143: Science A	B3, C3 and P3	25 % of the total GCSE	1 hour written paper; 60 marks
A144: Science A	Controlled assessment set by OCR	25 % of the total GCSE	Approximately 6-7 hours; 64 marks	

TWENTY FIRST CENTURY SCIENCE SUITE

GCSE ADDITIONAL SCIENCE A



GCSE Additional Science A uses different contexts to relate science concepts to their applications. Focusing on scientific explanations and models, it gives students an insight into how scientists help develop our understanding of ourselves and the world we live in.

GCSE Additional Science A provides distinctive and relevant experience for students who wish to progress to Level 3 qualifications.

There are two alternative routes to achieve GCSE Additional Science A:

Route 1 using Unit A162 from Biology A, A172 from Chemistry A and Unit A182 from Physics A (separate science papers);

Route 2 using Units A151, A152 and A153 from Additional Science A (mixed science papers).

ROUTE 2				
		UNIT A151 (ADDITIONAL SCIENCE A)	UNIT A152 (ADDITIONAL SCIENCE A)	UNIT A153 (ADDITIONAL SCIENCE A)
ROUTE 1	UNIT A162 (BIOLOGY A)	Module B4: The processes of life <ul style="list-style-type: none"> Chemical reactions in living things How do plants make food? How do living organisms obtain energy? 	Module B5: Growth and development <ul style="list-style-type: none"> How do organisms develop? How does an organism produce new cells? How do genes control growth & development in a cell? 	Module B6: Brain and mind <ul style="list-style-type: none"> How do animals respond to changes? Passing information through the nervous system Can reflex responses be learned? How do humans develop complex behaviour?
	UNIT A172 (CHEMISTRY A)	Module C4: Chemical patterns <ul style="list-style-type: none"> What are the patterns in the properties of elements? How do chemists explain the patterns? The properties of Group 1 and Group 7 elements 	Module C5: Chemicals of the natural environment <ul style="list-style-type: none"> Chemicals that make up the atmosphere What reactions happen in the hydrosphere? Chemicals that make up the lithosphere Extracting useful metals from minerals 	Module C6 – Chemical synthesis <ul style="list-style-type: none"> Chemicals and why we need them Planning, carrying out and controlling a chemical synthesis
	UNIT A182 (PHYSICS A)	Module P4: Explaining motion <ul style="list-style-type: none"> How can we describe motion? What are forces? Connection between forces and motion Describing motion as energy changes 	Module P5: Electric circuits <ul style="list-style-type: none"> Electric current – a flow of what? What determines the current in circuits? Series and parallel circuits How is mains electricity produced? Electric motors 	Module P6: Radioactive materials <ul style="list-style-type: none"> Why are some materials radioactive? Handling and using radioactive materials safely
		UNIT A154 (ADDITIONAL SCIENCE A CONTROLLED ASSESSMENT)		

J242 GCSE ADDITIONAL SCIENCE A

ASSESSMENT – J242 GCSE ADDITIONAL SCIENCE A

Three written exams, assessed externally by OCR, each of which:

- is offered in Foundation and Higher Tiers
- uses both objective style and free response questions (there is no choice of questions)
- assesses the quality of written communication.

A controlled assessment unit:

- comprises Practical Investigation from a choice set by OCR
- is assessed by teachers, internally standardised and then moderated externally by OCR
- assesses the quality of written communication.

ASSESSMENT – J242 GCSE ADDITIONAL SCIENCE A				
	UNIT	MODULES TESTED	WEIGHTING	ASSESSMENT & DURATION
ROUTE 1	A162: Biology A	B4, B5 and B6	25 % of the total GCSE	1 hour written paper; 60 marks
	A172: Chemistry A	C4, C5 and C6	25 % of the total GCSE	1 hour written paper; 60 marks
	A182: Physics A	P4, P5 and P6	25 % of the total GCSE	1 hour written paper; 60 marks
	A154: Additional Science A	Controlled assessment set by OCR	25 % of the total GCSE	Approximately 4.5-6 hours; 64 marks
ROUTE 2	UNIT	MODULES TESTED	WEIGHTING	ASSESSMENT & DURATION
	A151: Additional Science A	B4, C4 and P4	25 % of the total GCSE	1 hour written paper; 60 marks
	A152: Additional Science A	B5, C5 and P5	25 % of the total GCSE	1 hour written paper; 60 marks
	A153: Additional Science A	B6, C6 and P6	25 % of the total GCSE	1 hour written paper; 60 marks
	A154: Additional Science A	Controlled assessment set by OCR	25 % of the total GCSE	Approximately 4.5-6 hours; 64 marks

TWENTY FIRST CENTURY SCIENCE SUITE

GCSE BIOLOGY A

GCSE Biology A provides the opportunity to further develop understanding of scientific explanations, how science works, and aspects of biology relevant to careers in science.

GCSE Biology A provides distinctive and relevant experience for students who wish to progress to Level 3 qualifications.



UNIT A161 (MODULES B1, B2 AND B3)	UNIT A162 (MODULES B4, B5 AND B6)
<p>Module B1: You and your genes</p> <ul style="list-style-type: none"> • What are genes? • Why are families alike but not identical? • How can genetic information be used? • How is a clone made? 	<p>Module B4: The processes of life</p> <ul style="list-style-type: none"> • Chemical reactions in living things • How do plants make food? • How do living organisms obtain energy?
<p>Module B2: Keeping healthy</p> <ul style="list-style-type: none"> • How do our bodies resist infection? • Vaccines and antibiotics • What increases risks of heart disease? • How do our bodies control water balance? 	<p>Module B5: Growth and development</p> <ul style="list-style-type: none"> • How do organisms develop? • How does an organism produce new cells? • How do genes control growth & development in a cell?
<p>Module B3: Life on Earth</p> <ul style="list-style-type: none"> • Systems in balance • How has life on Earth evolved? • The importance of biodiversity 	<p>Module B6: Brain and mind</p> <ul style="list-style-type: none"> • How do animals respond to changes? • Passing information through the nervous system • Can reflex responses be learned? • How do humans develop complex behaviour?
UNIT A163 (MODULE B7)	UNIT A164 (CONTROLLED ASSESSMENT)
<p>Module B7: Further biology</p> <ul style="list-style-type: none"> • Peak performance – movement and exercise • Peak performance – circulation • Peak performance – energy balance • What can we learn from natural ecosystems? • New technologies 	<p>This controlled assessment unit:</p> <ul style="list-style-type: none"> • comprises a Practical Investigation from a choice set by OCR • is assessed by teachers, internally standardised and then externally moderated by OCR • assesses the quality of written communication.

ASSESSMENT – GCSE BIOLOGY A J243

One internally assessed unit (controlled assessment) plus three written exams, assessed externally by OCR, each of which:

- is offered in Foundation and Higher tiers
- uses both objective style and free response questions (there is no choice of questions)
- assesses the quality of written communication.

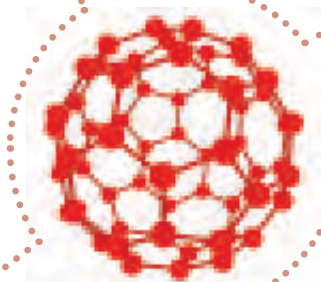
UNIT	MODULES TESTED	WEIGHTING	ASSESSMENT & DURATION
A161	B1, B2 and B3	25 % of the total GCSE	1 hour written paper; 60 marks
A162	B4, B5 and B6	25 % of the total GCSE	1 hour written paper; 60 marks
A163	B7	25 % of the total GCSE	1 hour written paper; 60 marks
A164	Controlled assessment set by OCR	25 % of the total GCSE	Approximately 4.5-6 hours; 64 marks

TWENTY FIRST CENTURY SCIENCE SUITE

GCSE CHEMISTRY A

GCSE Chemistry A provides the opportunity to further develop understanding of scientific explanations, how science works and aspects of chemistry relevant to careers in science.

GCSE Chemistry A provides distinctive and relevant experience for students who wish to progress to Level 3 qualifications.



UNIT A171 (MODULES C1, C2 AND C3)	UNIT A172 (MODULES C4, C5 AND C6)
<p>Module C1: Air quality</p> <ul style="list-style-type: none"> Chemicals and pollutants in the air What produces air pollutants? How can we improve air quality? 	<p>Module C4: Chemical patterns</p> <ul style="list-style-type: none"> What are the patterns in the properties of elements? How do chemists explain the patterns? The properties of Group 1 and Group 7 elements
<p>Module C2: Material choices</p> <ul style="list-style-type: none"> Measuring the properties of materials The importance of crude oil The molecular structure of materials What is nanotechnology? 	<p>Module C5: Chemicals of the natural environment</p> <ul style="list-style-type: none"> Chemicals that make up the atmosphere What reactions happen in the hydrosphere? Chemicals that make up the lithosphere Extracting useful metals from minerals
<p>Module C3: Chemicals in our lives: risks and benefits</p> <ul style="list-style-type: none"> UK minerals and their effect on our economy The importance of salt Making chemicals & why we need to Using chemicals safely & sustainably 	<p>Module C6: Chemical synthesis</p> <ul style="list-style-type: none"> Chemicals and why we need them Planning, carrying out and controlling a chemical synthesis
UNIT A173 (MODULE C7)	UNIT A174 (CONTROLLED ASSESSMENT)
<p>Module C7: Further chemistry</p> <ul style="list-style-type: none"> Green chemistry Alcohols, carboxylic acids and esters Energy changes in chemistry Reversible reactions and equilibria Analysis 	<p>This controlled assessment unit:</p> <ul style="list-style-type: none"> comprises a Practical Investigation from a choice set by OCR is assessed by teachers, internally standardised and then externally moderated by OCR assesses the quality of written communication.

ASSESSMENT – GCSE CHEMISTRY A J244

One internally assessed unit (controlled assessment) plus three written exams, assessed externally by OCR, each of which:

- is offered in Foundation and Higher tiers
- uses both objective style and free response questions (there is no choice of questions)
- assesses the quality of written communication.

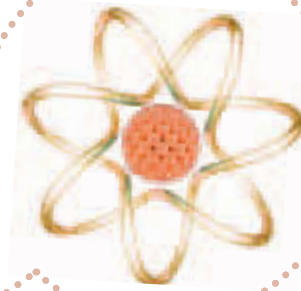
UNIT	MODULES TESTED	WEIGHTING	ASSESSMENT & DURATION
A171	C1, C2 and C3	25 % of the total GCSE	1 hour written paper; 60 marks
A172	C4, C5 and C6	25 % of the total GCSE	1 hour written paper; 60 marks
A173	C7	25 % of the total GCSE	1 hour written paper; 60 marks
A174	Controlled assessment set by OCR	25 % of the total GCSE	Approximately 4.5-6 hours; 64 marks

TWENTY FIRST CENTURY SCIENCE SUITE

GCSE PHYSICS A

GCSE Physics A provides the opportunity to further develop understanding of scientific explanations and how science works and aspects of physics relevant to careers in science.

GCSE Physics A provides distinctive and relevant experience for students who wish to progress to Level 3 qualifications.



UNIT A181 (MODULES P1, P2 AND P3)

Module P1: The Earth in the Universe

- The place of the Earth in the Universe
- What do we know about the Earth?

Module P2: Radiation and life

- Types of electromagnetic radiation
- Which radiation harms living tissue and why?
- The evidence for global warming
- Uses of EM waves in communication

Module P3: Sustainable energy

- How much energy do we use?
- How can electricity be generated?
- Which energy sources should we choose?

UNIT A182 (MODULES P4, P5 AND P6)

Module P4: Explaining motion

- How can we describe motion?
- What are forces?
- Connection between forces and motion
- Describing motion as energy changes

Module P5: Electric circuits

- Electric current – a flow of what?
- What determines the current in circuits?
- Series and parallel circuits
- How is mains electricity produced?
- Electric motors

Module P6: Radioactive materials

- Why are some materials radioactive?
- Handling and using radioactive materials safely

UNIT A183 (MODULE P7)

Module P7: Further Physics – studying the Universe

- Naked eye astronomy
- Light telescopes and images
- Mapping the Universe
- The sun, the stars and their surroundings
- The astronomy community

UNIT A184 (CONTROLLED ASSESSMENT)

This controlled assessment unit:

- comprises a Practical Investigation from a choice set by OCR
- is assessed by teachers, internally standardised and then externally moderated by OCR
- assesses the quality of written communication.

ASSESSMENT – GCSE PHYSICS A J245

One internally assessed unit (controlled assessment) plus three written exams, assessed externally by OCR, each of which:

- is offered in Foundation and Higher tiers
- uses both objective style and free response questions (there is no choice of questions)
- assesses the quality of written communication.

UNIT	MODULES TESTED	WEIGHTING	ASSESSMENT & DURATION
A181	P1, P2 and P3	25 % of the total GCSE	1 hour written paper; 60 marks
A182	P4, P5 and P6	25 % of the total GCSE	1 hour written paper; 60 marks
A183	P7	25 % of the total GCSE	1 hour written paper; 60 marks
A184	Controlled assessment set by OCR	25 % of the total GCSE	Approximately 4.5-6 hours; 64 marks

TWENTY FIRST CENTURY SCIENCE SUITE – OVERVIEW OF CHANGES

	WHAT STAYS THE SAME?	WHAT CHANGES?
STRUCTURE	<p>Biology A, Chemistry A & Physics A</p> <ul style="list-style-type: none"> The course can be taught in a modular or linear fashion. Four units, comprising three externally assessed units and one internally assessed unit. Externally assessed units are tiered – Foundation and Higher Tier. <p>Science A</p> <p>Two routes to the GCSE are retained, following <i>either</i> separate sciences Unit 1 papers (route 1) <i>or</i> Science Unit 1, 2 and 3 papers (route 2).</p> <p>Additional Science A</p> <p>Two routes to the GCSE are retained, following <i>either</i> separate sciences Unit 2 papers (route 1) <i>or</i> Additional Science Unit 1, 2 and 3 papers (route 2).</p>	<ul style="list-style-type: none"> Science A and Additional Science A reduced from five to four units, comprising three externally assessed units and one internally assessed unit Unit weightings have been altered – all four units have equal weightings of 25%. Controlled assessment replaces coursework. No 'Ideas in Context' paper, and no pre-release material for externally assessed units.
CONTENT	<p>Biology A, Chemistry A & Physics A</p> <ul style="list-style-type: none"> Content is divided into seven modules. Modules B7, C7 and P7 are equivalent in length to any three modules from B1-B6, C1-C6 and P1-P6 respectively. The original modules <ul style="list-style-type: none"> B1, B2, B3, B5 and B6 C1, C2, C4, C5, C6 and C7 P1, P2, P4, P5 and P7 are updated. <p>Science A</p> <p>Content is divided into 9 modules, comprising Biology modules B1-B3, Chemistry modules C1-C3 and Physics modules P1-P3.</p> <p>Additional Science A</p> <p>Content is divided into 9 modules, comprising Biology modules B4-B6, Chemistry modules C4-C6 and Physics modules P4-P6.</p>	<ul style="list-style-type: none"> New module B4, 'The processes of life', replaces 'Homeostasis'. Module B7, 'Further biology', significantly updated and includes aspects of the original modules B4 and B7. New module C3 'Chemicals in our lives', replaces 'Food Matters'. Module P3, 'Radioactive materials' is reorganised, some content retained in new P3 'Sustainable energy' and the rest transferred to the new P6 'Radioactive materials'. Parts of the original P6, 'The wave model of radiation' are transferred to the updated P2, 'Radiation and life'.
ASSESSMENT	<ul style="list-style-type: none"> In Science A the internally assessed unit is based on a Case Study and Practical Data Analysis for Science. In Additional Science, Biology, Chemistry and Physics, the internally assessed unit is based on a Practical Investigation. Modules are externally assessed within written examination papers. Ideas about Science (How Science Works) are written into the specification content. January and June assessments are available for written papers. Controlled assessment available in June series only. 	<ul style="list-style-type: none"> There will be a choice of controlled assessment tasks set by OCR, each valid for entry in a single examination series. New terminal and re-sit rules apply to all science GCSEs. The controlled assessment for Biology, Chemistry and Physics will be based on a Practical Investigation only; there will be no option to complete a Practical Data Analysis and Case Study. Controlled assessment is worth 25%, and will be simpler to mark and administer. Ideas about Science are associated with all units, and taught and assessed within contexts spanning the three modules in the unit (rather than within tight contexts in specific specification statements). Externally assessed papers are each 1 hour long, with a total of 60 marks divided equally between objective and free-response style questions.

GATEWAY SCIENCE SUITE – SCIENCE IN ACTION

Understand the questions that science can answer. Unpick the scientific concepts and investigate their familiar applications through active learning.

The suite consists of:

- GCSE Science B
- GCSE Additional Science B
- GCSE Biology B
- GCSE Chemistry B
- GCSE Physics B

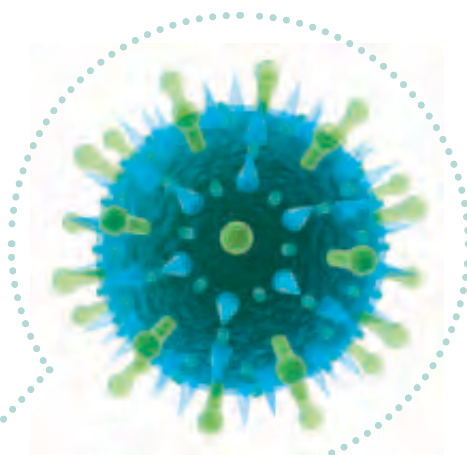
Our Gateway Science Suite:

- encourages active learning through practical work for students to gain scientific knowledge, understanding and skills
- identifies links to scientific ideas and their implications for society
- develop a critical approach to scientific evidence and methods
- acquire and apply skills, knowledge and understanding of how science works and its essential role in society
- flexible assessments, which can be carried out at the end of the course or at times during the course when students' understanding is at its best.

GATEWAY SCIENCE SUITE

GCSE SCIENCE B

GCSE Science B identifies the activities and experiences students will come across in everyday life, and links these to scientific ideas and their implications for society. It provides the opportunity to acquire the scientific skills, knowledge and understanding necessary for life as a citizen.



UNIT B711 (MODULES B1, C1 AND P1)

Module B1: Understanding Organisms

- Fitness and health
- Human health and diet
- Staying healthy
- The nervous system
- Drugs and you
- Staying in balance
- Controlling plant growth
- Variation and inheritance

Module C1: Carbon Chemistry

- Making crude oil useful
- Using carbon fuels
- Clean air
- Making polymers
- Designer polymers
- Cooking and food additives
- Smells
- Paints and pigments

Module P1: Energy For The Home

- Heating houses
- Keeping homes warm
- A spectrum of waves
- Light and lasers
- Cooking and communicating using waves
- Data transmission
- Wireless signals
- Stable Earth

UNIT B712 (MODULES B2, C2 AND P2)

Module B2: Understanding Our Environment

- Classification
- Energy flow
- Recycling
- Interdependence
- Adaptations
- Natural selection
- Population and pollution
- Sustainability

Module C2: Chemical Resources

- The structure of the Earth
- Construction materials
- Metals and alloys
- Making cars
- Manufacturing chemicals:– making ammonia
- Acids and bases
- Fertilisers and crop yields
- Chemicals from the sea: the chemistry of sodium chloride

Module P2: Living For The Future (Energy Resources)

- Collecting energy from the Sun
- Generating electricity
- Global warming
- Fuels for power
- Nuclear radiations
- Exploring our Solar System
- Threats to Earth
- The Big Bang

UNIT B713 (CONTROLLED ASSESSMENT)

This controlled assessment unit:

- comprises one assessment task, split into three parts
- is assessed by teachers, internally standardised and then externally moderated by OCR
- assesses the quality of written communication.

ASSESSMENT – GCSE SCIENCE B J261

One internally assessed unit (controlled assessment) plus two written exams, each of which:

- is offered in Foundation and Higher Tiers
- uses structured questions (there is no choice of questions)
- assesses the quality of written communication.

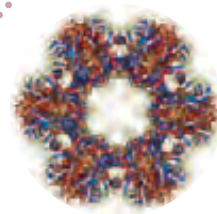
Unit B712 also includes a 10 mark data response section which assesses AO3 (analyse and evaluate evidence, make reasoned judgements and draw conclusions based on evidence).

UNIT	MODULES TESTED	WEIGHTING	ASSESSMENT & DURATION
B711	B1, C1 and P1	35% of the total GCSE	1 hour 15 minutes written paper; 75 marks
B712	B2, C2 and P2	40% of the total GCSE	1 hour 30 minutes written paper; 85 marks
B713	Controlled assessment set by OCR	25% of the total GCSE	Approximately 6 hours; 48 marks

GCSE ADDITIONAL SCIENCE B

GCSE Additional Science B develops the scientific skills, knowledge and understanding acquired from GCSE Science B. It provides opportunities to develop scientific explanations and theories and to develop a critical approach to scientific evidence and methods.

GCSE Additional Science B provides distinctive and relevant experience for students who wish to progress to Level 3 qualifications.



UNIT B721 (MODULES B3, C3 AND P3)

Module B3: Living And Growing

- Molecules of life
- Proteins and mutations
- Respiration
- Cell division
- The circulatory system
- Growth and development
- New genes for old
- Cloning

Module C3: Chemical Economics

- Rate of reaction (1)
- Rate of reaction (2)
- Rate of reaction (3)
- Reacting masses
- Percentage yield and atom economy
- Energy
- Batch or continuous?
- Allotropes of carbon and nanochemistry

Module P3: Forces For Transport

- Speed
- Changing speed
- Forces and motion
- Work and power
- Energy on the move
- Crumple zones
- Falling safely
- The energy of games and theme rides

UNIT B722 (MODULES B4, C4, AND P4)

Module B4: It's A Green World

- Ecology in the local environment
- Photosynthesis
- Leaves and photosynthesis
- Diffusion and osmosis
- Transport in plants
- Plants need minerals
- Decay
- Farming

Module C4: The Periodic Table

- Atomic structure
- Ionic bonding
- The Periodic Table and covalent bonding
- The Group 1 elements
- The Group 7 elements
- Transition elements
- Metal structure and properties
- Purifying and testing water

Module P4: Radiation For Life

- Sparks
- Uses of electrostatics
- Safe electricals
- Ultrasound
- What is radioactivity?
- Uses of radioisotopes
- Treatment
- Fission and fusion

UNIT B723 (CONTROLLED ASSESSMENT)

This controlled assessment unit:

- comprises one assessment task, split into three parts
- is assessed by teachers, internally standardised and then externally moderated by OCR
- assesses the quality of written communication.

ASSESSMENT – GCSE ADDITIONAL SCIENCE B J262

One internally assessed unit (controlled assessment) plus two written exams, each of which:

- is offered in Foundation and Higher Tiers
- uses structured questions (there is no choice of questions)
- assesses the quality of written communication.

Unit B722 also includes a 10 mark data response section which assesses AO3 (analyse and evaluate evidence, make reasoned judgements and draw conclusions based on evidence).

UNIT	MODULES TESTED	WEIGHTING	ASSESSMENT & DURATION
B721	B3, C3 and P3	35% of the total GCSE	1 hour 15 minutes written paper; 75 marks
B722	B4, C4 and P4	40% of the total GCSE	1 hour 30 minutes written paper; 85 marks
B723	Controlled assessment set by OCR	25% of the total GCSE	Approximately 7 hours; 48 marks

GATEWAY SCIENCE SUITE

GCSE BIOLOGY B



GCSE Biology B aims to give students opportunities to:

- develop their interest in, and enthusiasm for, biology
- develop a critical approach to scientific evidence and methods
- acquire and apply skills, knowledge and understanding of how science works and its essential role in society
- acquire scientific skills, knowledge and understanding necessary for progression to further learning.

GCSE Biology B provides distinctive and relevant experience for students who wish to progress to Level 3 qualifications

UNIT B731 (MODULES B1, B2 AND B3)	UNIT B732 (MODULES B4, B5, AND B6)
<p>Module B1: Understanding Organisms</p> <ul style="list-style-type: none"> • Fitness and health • Human health and diet • Staying healthy • The nervous system • Drugs and you • Staying in balance • Controlling plant growth • Variation and inheritance 	<p>Module B4: It's A Green World</p> <ul style="list-style-type: none"> • Ecology in the local environment • Photosynthesis • Leaves and photosynthesis • Diffusion and osmosis • Transport in plants • Plants need minerals • Decay • Farming
<p>Module B2: Understanding Our Environment</p> <ul style="list-style-type: none"> • Classification • Energy flow • Recycling • Interdependence • Adaptations • Natural selection • Population and pollution • Sustainability 	<p>Module B5: The Living Body</p> <ul style="list-style-type: none"> • Skeletons • Circulatory systems and the cardiac cycle • Running repairs • Respiratory systems • Digestion • Waste disposal • Life goes on • Growth and repair
<p>Module B3: Living And Growing</p> <ul style="list-style-type: none"> • Molecules of life • Proteins and mutations • Respiration • Cell division • The circulatory system • Growth and development • New genes for old • Cloning 	<p>Module B6: Beyond The Microscope</p> <ul style="list-style-type: none"> • Understanding microbes • Harmful microorganisms • Useful microorganisms • Biofuels • Life in soil • Microscopic life in water • Enzymes in action • Gene technology

UNIT B733 (CONTROLLED ASSESSMENT)

This controlled assessment unit:

- comprises one assessment task, split into three parts
- is assessed by teachers, internally standardised and then externally moderated by OCR
- assesses the quality of written communication.

ASSESSMENT – GCSE BIOLOGY B J263

One internally assessed unit (controlled assessment) plus two written exams assessed by OCR, each of which:

- is offered in Foundation and Higher Tiers
- uses structured questions (there is no choice of questions)
- assesses the quality of written communication.

Unit B732 also includes a 10 mark data response section which assesses AO3 (analyse and evaluate evidence, make reasoned judgements and draw conclusions based on evidence).

UNIT	MODULES TESTED	WEIGHTING	ASSESSMENT & DURATION
B731	B1, B2 and B3	35% of the total GCSE	1 hour 15 minutes written paper; 75 marks
B732	B4, B5 and B6	40% of the total GCSE	1 hour 30 minutes written paper; 85 marks
B733	Controlled assessment set by OCR	25% of the total GCSE	Approximately 7 hours; 48 marks

GCSE CHEMISTRY B

GCSE Chemistry B aims to give students opportunities to:

- develop their interest in, and enthusiasm for, chemistry
- develop a critical approach to scientific evidence and methods
- acquire and apply skills, knowledge and understanding of how science works and its essential role in society
- acquire scientific skills, knowledge and understanding necessary for progression to further learning.

GCSE Chemistry B provides distinctive and relevant experience for students who wish to progress to Level 3 qualifications



UNIT B741 (MODULES C1, C2 AND C3)

Module C1: Carbon Chemistry

- Making crude oil useful
- Using carbon fuels
- Clean air
- Making polymers
- Designer polymers
- Cooking and food additives
- Smells
- Paints and pigments

Module C2: Chemical Resources

- The structure of the Earth
- Construction materials
- Metals and alloys
- Making cars
- Manufacturing chemicals: – making ammonia
- Acids and bases
- Fertilisers and crop yields
- Chemicals from the sea: the chemistry of sodium chloride

Module C3: Chemical Economics

- Rate of reaction (1)
- Rate of reaction (2)
- Rate of reaction (3)
- Reacting masses
- Percentage yield and atom economy
- Energy
- Batch or continuous?
- Allotropes of carbon and nanochemistry

UNIT B742 (MODULES C4, C5 AND C6)

Module C4: The Periodic Table

- Atomic structure
- Ionic bonding
- The Periodic Table and covalent bonding
- The Group 1 elements
- The Group 7 elements
- Transition elements
- Metal structure and properties
- Purifying and testing water

Module C5: How Much? (Quantitative Analysis)

- Moles and molar mass
- Percentage composition and empirical formula
- Quantitative analysis
- Titrations
- Gas volumes
- Equilibria
- Strong and weak acids
- Ionic equations and precipitation

Module C6: Chemistry Out There

- Electrolysis
- Energy transfers – fuel cells
- Redox reactions
- Alcohols
- Depletion of the ozone layer
- Hardness of water
- Natural fats and oils
- Detergents

UNIT B743 (CONTROLLED ASSESSMENT)

This controlled assessment unit:

- comprises one assessment task, split into three parts
- is assessed by teachers, internally standardised and then externally moderated by OCR
- assesses the quality of written communication.

ASSESSMENT – GCSE CHEMISTRY B J264

One internally assessed unit (controlled assessment) plus two written exams assessed by OCR, each of which:

- is offered in Foundation and Higher Tiers
- uses structured questions (there is no choice of questions)
- assesses the quality of written communication.

Unit B742 also includes a 10 mark data response section which assesses AO3 (analyse and evaluate evidence, make reasoned judgements and draw conclusions based on evidence).

UNIT	MODULES TESTED	WEIGHTING	ASSESSMENT & DURATION
B741	C1, C2 and C3	35% of the total GCSE	1 hour 15 minutes written paper; 75 marks
B742	C4, C5 and C6	40% of the total GCSE	1 hour 30 minutes written paper; 85 marks
B743	Controlled assessment set by OCR	25% of the total GCSE	Approximately 7 hours; 48 marks

GATEWAY SCIENCE SUITE

GCSE PHYSICS B

GCSE Physics B aims to give students opportunities to:

- develop their interest in, and enthusiasm for, physics
- develop a critical approach to scientific evidence and methods
- acquire and apply skills, knowledge and understanding of how science works and its essential role in society
- acquire scientific skills, knowledge and understanding necessary for progression to further learning.

GCSE Physics B provides distinctive and relevant experience for students who wish to progress to Level 3 qualifications

UNIT B751 (MODULES P1, P2 AND P3)	UNIT B752 (MODULES P4, P5 AND P6)
<p>Module P1: Energy For The Home</p> <ul style="list-style-type: none"> • Heating houses • Keeping homes warm • A spectrum of waves • Light and lasers • Cooking and communicating using waves • Data transmission • Wireless signals • Stable Earth 	<p>Module P4: Radiation For Life</p> <ul style="list-style-type: none"> • Sparks • Uses of electrostatics • Safe electricals • Ultrasound • What is radioactivity? • Uses of radioisotopes • Treatment • Fission and fusion
<p>Module P2: Living For The Future (Energy Resources)</p> <ul style="list-style-type: none"> • Collecting energy from the Sun • Generating electricity • Global warming • Fuels for power • Nuclear radiations • Exploring our Solar System • Threats to Earth • The Big Bang 	<p>Module P5: Space For Reflection</p> <ul style="list-style-type: none"> • Satellites, gravity and circular motion • Vectors and equations of motion • Projectile motion • Action and reaction • Satellite communication • Nature of waves • Refraction of waves • Optics
<p>Module P3: Forces For Transport</p> <ul style="list-style-type: none"> • Speed • Changing speed • Forces and motion • Work and power • Energy on the move • Crumple zones • Falling safely • The energy of games and theme rides 	<p>Module P6: Electricity For Gadgets</p> <ul style="list-style-type: none"> • Resisting • Sharing • It's logical • Even more logical • Motoring • Generating • Transforming • Charging

UNIT B753 (CONTROLLED ASSESSMENT)

This controlled assessment unit:

- comprises one assessment task, split into three parts
- is assessed by teachers, internally standardised and then externally moderated by OCR
- assesses the quality of written communication.

ASSESSMENT – GCSE PHYSICS B J265

One internally assessed unit (controlled assessment) plus two written exams assessed by OCR, each of which:

- is offered in Foundation and Higher tiers
- uses structured questions (there is no choice of questions)
- assesses the quality of written communication.

Unit B752 also includes a 10 mark data response section which assesses AO3 (analyse and evaluate evidence, make reasoned judgements and draw conclusions based on evidence).

UNIT	MODULES TESTED	WEIGHTING	ASSESSMENT & DURATION
B751	P1, P2 and P3	35% of the total GCSE	1 hour 15 minutes written paper; 75 marks
B752	P4, P5 and P6	40% of the total GCSE	1 hour 30 minutes written paper; 85 marks
B753	Controlled assessment set by OCR	25% of the total GCSE	Approximately 7 hours; 48 marks

GATEWAY SCIENCE SUITE – OVERVIEW OF CHANGES

	WHAT STAYS THE SAME?	WHAT CHANGES?
STRUCTURE	<p>For all GCSEs in the Gateway Science Suite:</p> <ul style="list-style-type: none"> The course can be taught in a modular or linear fashion. Three units, comprising two externally assessed units and one internally assessed unit. Externally assessed units are tiered – Foundation and Higher Tier. 	<ul style="list-style-type: none"> Unit weightings have been altered – Unit 1 now 35%, Unit 2 now 40% (this Unit makes re-sits easier to manage as it alone meets the terminal rule). The higher weighting on Unit 2 papers is due to an additional data response section linked to the Unit 2 modules. Controlled assessment replaces coursework, now 25% weighting. Additional item addressing How Science Works.
CONTENT	<ul style="list-style-type: none"> The original modules are retained and updated. <p>Biology B, Chemistry B & Physics B</p> <ul style="list-style-type: none"> Content is divided into 6 modules, B1 – B6, C1 – C6 and P1 – P6. <p>Science B</p> <ul style="list-style-type: none"> Content is divided into 6 modules, B1, B2, C1, C2, P1 and P2. <p>Additional Science B</p> <ul style="list-style-type: none"> Content is divided into 6 modules, B3, B4, C3, C4, P3 and P4. 	<ul style="list-style-type: none"> Some content has been moved between modules to meet the revised subject criteria from Ofqual. Module C3 has become C4 and vice versa. Content and terminology have been updated and some content statements replaced in all specifications. Additional exemplification has been added to many of the criteria statements.
ASSESSMENT	<ul style="list-style-type: none"> Modules are externally assessed within two units, in sections. Papers include structured questions and objective questions. January and June assessments are available. Controlled assessment available in June series only. 	<ul style="list-style-type: none"> New terminal and re-sit rules apply to science GCSEs. The internally assessed unit is based on a single investigative task divided into three parts. (The science style of controlled assessment can no longer be used for separate sciences). There will be a choice of controlled assessment tasks, set by OCR, and valid for entry in one year only. Unit 1 paper is 1 hour 15 minutes long, with a total of 75 marks. Unit 2 paper is 1 hour 30 minutes long, with a total of 85 marks including a 10 mark data response section. How Science Works will be assessed in all units. Quality of Written Communication (QWC) will be assessed in all units. Science in the news not part of controlled assessment.

APPLIED SUBJECTS

GCSE ADDITIONAL APPLIED SCIENCE



This specification has been designed to provide an introduction to some of the knowledge, understanding and skills students will need in the workplace or in further education or training. It introduces students to work-related learning and motivates them to take charge of their own learning experiences.

UNIT A191 SCIENCE IN SOCIETY (TOPICS A1, A2, A3 AND A4)

Topic A1: Sport and fitness

- People and organisations
- Assessing fitness
- The human body
- Monitoring and improving performance

Topic A2: Health care

- People and organisations
- Antenatal and post-natal care
- Emergency care and GP referrals

Topic A3: Monitoring and protecting the environment

- People and organisations
- The need for scientific evidence
- Observation and measurement
- The use of colour in analysing soil and water

Topic A4: Scientists protecting the public

- People and organisations
- Colour and concentration
- Imaging
- Chromatography and electrophoresis

UNIT A192 SCIENCE OF MATERIALS AND PRODUCTION (TOPICS B1, B2, B3 AND B4)

Topic B1: Sports equipment

- People and organisations
- Mechanical behaviour of materials
- Thermal behaviour of materials
- Making sports equipment

Topic B2: Stage and screen

- People and organisations
- Managing light
- Managing sound
- Managing indoor performance venues

Topic B3: Agriculture, biotechnology and food

- Food industries, people and organisations
- Growing wheat for food production
- Rearing cattle for milk
- Biotechnology and food
- Instrumentation to monitor and control processes

Topic B4: Making chemical products

- People and organisations
- The chemical and pharmaceutical industries
- Making useful chemicals
- Formulations and effectiveness

UNIT A193 SCIENCE WORK-RELATED PORTFOLIO (CONTROLLED ASSESSMENT)

This controlled assessment unit comprises three elements:

- following a standard procedure
- testing the suitability of a material, process or device for a particular purpose
- work-related reports on the application of science by people at work in a specific context.

ASSESSMENT – GCSE ADDITIONAL APPLIED SCIENCE J251

One internally assessed unit (controlled assessment) plus two written exams assessed by OCR, each of which:

- is offered in Foundation and Higher Tiers
- uses structured questions throughout
- assesses knowledge and understanding of the specification and application of that knowledge and understanding.

UNIT	TOPICS TESTED	WEIGHTING	ASSESSMENT & DURATION
A191	A1, A2, A3 and A4	20 % of the total GCSE	1 hour written paper; 50 marks
A192	B1, B2, B3 and B4	20 % of the total GCSE	1 hour written paper; 50 marks
A193	Controlled assessment set by OCR	60 % of the total GCSE	Approximately 38 hours; 120 marks

PENDING ACCREDITATION*

APPLIED SUBJECTS

GCSE ENVIRONMENTAL & LAND-BASED SCIENCE



This specification has been designed to be assessed in an electronic or paper format.

It provides an introduction to some of the skills, knowledge and understanding students need in the workplace, set in the context of the Environmental and land-based sector. It is designed to motivate students by providing opportunities to use teaching and learning styles which allow students to take charge of their own learning, and to develop some of the practical skills relevant for work in land-based enterprises.

This specification may be taught as an additional applied science or as a stand-alone GCSE. This specification may be of particular interest to those schools in England, aspiring to include the 'rural dimension' in their Specialist School application.

UNIT B681 MANAGEMENT OF THE NATURAL ENVIRONMENT

- Environmental issues and their relationship of soil and its effect on the plants and animals it supports
- Human activities and energy requirements and the effects on the environment
- Traditional and alternative food production

UNIT B682 PLANT CULTIVATION AND SMALL ANIMAL CARE

- Issues relating to the care and maintenance of plants and small animals in the home, the garden and at school

OR

UNIT B683 COMMERCIAL HORTICULTURE, AGRICULTURE AND LIVESTOCK HUSBANDRY

- Issues relating to the care and maintenance of plants and livestock in a commercial environment

UNIT B684 (CONTROLLED ASSESSMENT)

This controlled assessment unit comprises of three elements. Candidates compile a portfolio of:

- Element 1: Practical scientific skills
- Element 2: Scientific investigation
- Element 3: Work-related report

ASSESSMENT – GCSE ENVIRONMENTAL AND LAND-BASED SCIENCE J671

One internally assessed unit (controlled assessment) plus two written exams designed to be computer based with paper option, each:

- is offered in Foundation and Higher Tiers
- comprises objective and longer answer questions
- assesses the quality of written communication.

UNIT	WEIGHTING	ASSESSMENT & DURATION
B681	20 % of the total GCSE	1 hour computer-based test or written paper; 50 marks
B682	20 % of the total GCSE	1 hour computer-based test or written paper; 50 marks
B683	20 % of the total GCSE	1 hour computer-based test or written paper; 50 marks
B684	60 % of the total GCSE	Approximately 38 hours; 120 marks

*information correct at time of print April 2011

APPLIED SUBJECTS – OVERVIEW OF CHANGES

ADDITIONAL APPLIED SCIENCE

	WHAT STAYS THE SAME?	WHAT CHANGES?
STRUCTURE	<ul style="list-style-type: none"> The course can be taught in modular or linear fashion. Externally assessed units are tiered – Foundation and Higher tier. 	<ul style="list-style-type: none"> Number of externally assessed units reduces from six to two. Both units are mandatory, and have mixed science content. Unit weightings have been altered – externally assessed units are weighted at 20% each. Controlled assessment replaces coursework, now 60% weighting.
CONTENT	<ul style="list-style-type: none"> Work Related Portfolio still contains Standard Procedures, Suitability Test and Work Related Report. Popular contexts from original modules AP1, AP2, AP3, AP4 and AP6 are retained and updated. 	<ul style="list-style-type: none"> Content is organised into two new units, 'Science in Society' and 'Science of Materials and Production'. Current module AP5: (Communications) is removed.
ASSESSMENT	<ul style="list-style-type: none"> January and June assessments are available. Controlled assessment available in June series only. Format of examined units remains the same (structured questions). 	<ul style="list-style-type: none"> New terminal and re-sit rules apply to all science GCSEs. There will be a choice of controlled assessment tasks set by OCR, some of which can be adapted by the Centre. Controlled assessment is worth 120 marks. Each examined unit is worth 50 marks and is of one hour duration. Quality of written communication (QWC) will be assessed in all units.

ENVIRONMENTAL & LAND-BASED SCIENCE

	WHAT STAYS THE SAME?	WHAT CHANGES?
STRUCTURE	<ul style="list-style-type: none"> The course can be taught in a modular or linear fashion. Externally assessed units are tiered – Foundation and Higher tier. A mandatory unit on environmental issues. 	<ul style="list-style-type: none"> Number of externally assessed units reduces from five to three. Candidates sit two externally assessed units – (one mandatory plus one choice from two optional units) and a controlled assessment unit. Unit weightings have been altered – externally assessed units are weighted at 20% each. Controlled assessment replaces coursework, now 60% weighting.
CONTENT	<ul style="list-style-type: none"> Management of the Natural Environment Unit (B681) remains largely unaltered. Some minor additions to content. Controlled assessment retains three strands based upon Practical Scientific Skills, a Scientific Investigation and a Work-related Report. 	<ul style="list-style-type: none"> Original units B491 Plant Cultivation and B494 Care of Animals have been combined to produce a Plant Cultivation and Small Animal Care unit (B682). Original units B492 Amenity Horticulture and B495 Livestock Husbandry have been combined to produce a Commercial Horticulture, Agriculture and Livestock Husbandry Unit (B683). Controlled assessment unit (B684) includes a range of tasks linked to the units studied by candidates.
ASSESSMENT	<ul style="list-style-type: none"> January and June assessments are available. Controlled assessment available in June series only. Format of examined units remains the same (structured questions). 	<ul style="list-style-type: none"> New terminal and re-sit rules apply to all science GCSEs. There will be a choice of controlled assessment tasks set by OCR, some of which can be adapted by the Centre. Controlled assessment is worth 120 marks. Computer-based and paper-based examination options available. Examined units increased from 36 to 50 marks. Examination duration increased from 45 to 60 minutes. Quality of Written Communication (QWC) will be assessed in all units.

SUPPORT & TRAINING – INTRODUCING OCR

We're a leading UK awarding body, providing an exciting range of qualifications to meet the needs of students of all ages and abilities.

We want to help you make the most of your passion for science and believe in developing specifications that help you bring it to life, engaging students to achieve more success. To help us continue to improve our qualifications and support services, we continually work in partnership with and listen to you to ensure you and your students get as much as possible from our qualifications.

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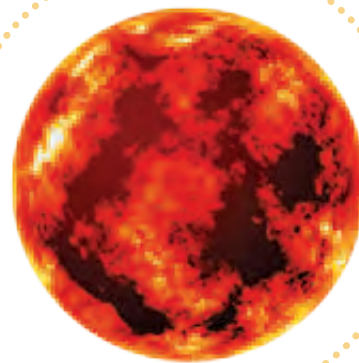
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SUPPORT

CONTROLLED ASSESSMENT FAQs



What is controlled assessment?

Controlled assessment is coursework in a supervised environment, classroom or laboratory and will be replacing traditional coursework in science GCSEs from September 2011 under different levels of control set by Ofqual. Details are provided in the specifications.

Why is controlled assessment being introduced by Ofqual?

There are a number of reasons. It gives students the opportunity to produce an original response without the drawbacks of 'over-preparation'. It also gives greater control, while still allowing more freedom than is offered in examined units. Decide when your students do the assessment, and practical aspects can be adapted to allow the use of resources available to the centre.

Another advantage is that you can be confident that work is authentic, which will mean improved reliability and validity.

Who sets the tasks?

This is done by OCR. Each year, two or three new controlled assessment tasks will be made available from 1 June, two years ahead of the examination series for which the tasks are to be submitted. Tasks will be removed upon expiry. Guidance on how to access controlled assessment tasks from Interchange is available on the OCR website: www.ocr.org.uk

We've consulted with you on the range of controlled assessment tasks to ensure that there is an appropriate range for a variety of students and to help limit the resource implications of changing tasks on your department.

How will it be supervised?

Details of the supervision of the tasks is given in the specifications and in the teacher guidance for each task, and further advice is provided in a Handbook for Controlled Assessment. The final part of each task must be closely supervised, either by the class teacher or another supervisor. It's up to you whether you wish to use your classrooms, laboratories or make other arrangements. If you choose to divide the allowed time between several sessions, you must ensure that all work is handed in at the end of each session and held securely.

How much time will controlled assessment take?

Different tasks will have different amounts of time allocated to them, and you will be informed about these by OCR. Although the time for completing the tasks will be advised, centres can decide when this time is allocated and how to split the time. For example, if four hours are advised, you may wish to have students use this as one session, or split the time up throughout several different sessions (e.g. four one-hour sessions). This allows centres to work controlled assessment around their existing timetables.

How much will controlled assessment be worth?

Controlled assessment will be 25% of the course for all specifications with the exceptions of Additional Applied Science and Environmental and Land-Based Science where it will be 60% of candidates' final marks.

When can I do controlled assessment?

The task can be completed at any time, but you must make sure that you do the correct task for the year in which the entry is to be made. You can complete the task at any point in the academic year, provided that you meet the deadline for submission.

Can a controlled assessment task be re-taken?

No. A candidate can only have one attempt at a particular task, but OCR will provide a limited choice of tasks so that if the outcome is disappointing, the candidate may attempt another task, and the best result may then be submitted.

Can a controlled assessment unit be re-taken?

Yes. The same re-sit and terminal requirement rules apply to controlled assessment units. However, when a controlled assessment unit is re-taken in a subsequent examination series, the correct tasks must be used for that series.

Can students word process their final responses?

Yes, if facilities exist for them to do this securely. Internet access must be disconnected and work must be stored securely so that the student cannot access it between sessions. The same supervision rules apply as above.

How will controlled assessment responses be marked?

Teachers will mark it using mark schemes supplied by OCR. We will provide extensive support for the tasks. Work will then be moderated by OCR.

Can I access ongoing support?

We will provide extensive guidance on controlled assessment at all stages of the process. We will also help centres in specific tasks that are being set for a particular year.

When can I see some controlled assessment tasks?

Our draft specimen controlled assessment tasks are available online now at www.gcse-science.com

SUPPORT

SUPPORT MATERIALS & PUBLISHED RESOURCES

SUPPORTING YOU ALL THE WAY

We recognise that the introduction of the new specifications and controlled assessment will bring challenges for implementation and teaching.

Our aim is to help you at every stage and we work in close consultation with teachers and other experts to provide a practical package of high quality resources and support.

Our support materials are designed to save you time while you prepare for and teach our new specifications. In response to what you have told us we are offering detailed guidance on key topics, controlled assessment and curriculum planning.

Our essential FREE support includes:

MATERIALS

- Specimen assessment materials and mark schemes
- Guide to controlled assessment
- Sample controlled assessment material
- Exemplar candidate work
- Teacher's handbook
- Sample schemes of work and lesson plans

- Guide to curriculum planning
- Frequently asked questions
- Past papers.

You can access all of our support at: www.gcse-science.com

TEXTBOOKS ENDORSED BY OCR

Be the first to find out details about support from OCR and our publisher partners at www.ocr.org.uk/updates

Gateway Science and Environmental and Land-based Science

These resources will enable you to engage students in learning, while maths, ICT and practical work are embedded throughout the scheme. Controlled assessment practice and advice along with exam-style questions and worked examples enable your students to practice the required skills in these areas.

Order your evaluation pack today at www.collinseducation.com/newgcscscience

Twenty First Century Science and Additional Applied Science

The second edition of these resources are packed with up-to-date science, as well as the familiar topics you enjoy teaching including a step-by-step guidance for answering all types of exam question, extended response questions and support for the new controlled assessment.

Order your Twenty First Century Science Evaluation Pack today at www.oxfordsecondary.co.uk/twentyfirstcenturyscience



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We've designed a full package of FREE training to support you in the delivery of our new science qualifications.

GCSE SCIENCE FOR 2011 TRAINING

In addition to our traditional INSET training sessions, we'll also be developing online support for those unable to get away from school.

Available to book now, our FREE GCSE science 'Get Started' events include useful information about our new specifications direct from the experts. Designed to assist you in preparing to deliver the new specifications for first teaching September 2011, they'll also provide you with an opportunity to speak face-to-face with our team.

Summer 2011 Training – from April 2011

Get started – managing the controlled assessment unit. (half day)

Twenty First Century Science (am or pm)

Course code – OSCP9

Gateway Science (am or pm)

Course code – OSCP8

Additional Applied Science (am)

Course code – OSCQ1

Environmental and Land-based Science (pm)

Course code – OSCQ2

These courses will:

- Consider how to manage the teaching of this new specification leading to first certification in summer 2012
- Support transition from the current specification to the new
- Consider the assessment of students with the review of sample assessment materials
- Examine and review support and resources available
- Enable you to network and share ideas for best practice.

Also available 'Get Ready' training for KS4 Science

Get ready – to learn about OCR's provision for first teaching in September 2011 (half day pm)

Course code – OSCP3

This course will:

- Review the range of Key Stage 4 Science courses provided by OCR for start of teaching in 2011
- Consider the way in which controlled assessment will be managed, and discuss issues relating to the terminal requirements and re-sit rules
- Consider how different curriculum pathways can meet the needs of students and consider progression from KS3 to KS5
- Support transition from the current specification to the new
- Review the support materials available from OCR.

You can find the full details on dates and locations of any of the above events and book your free place online by visiting www.ocreventbooker.org.uk

SERVICES

- **Answers @ OCR** – a web based service where you can browse hot topics, FAQs or e-mail us with your questions. Available June 2011. Visit <http://answers.ocr.org.uk>
- **Active Results** – service to help you review the performance of individual candidates or a whole school, with a breakdown of results by question and topic.
- **Local cluster support networks** – supported by OCR, you can join our local clusters of centres who offer each other mutual support.

SCIENCE COMMUNITY

Join our social network at www.social.ocr.org.uk where you can start discussions, ask questions and upload resources.

WHAT TO DO NEXT

1) Sign up to teach – let us know you will be teaching this specification to ensure you receive all the support and examination materials you need.

Simply complete the online form at www.ocr.org.uk/science/signup

2) Become an approved OCR centre – if your centre is completely new to OCR and has not previously used us for any examinations, visit www.ocr.org.uk/centreapproval to become an approved OCR centre.





GENERAL QUALIFICATIONS

Telephone 01223 553998

Facsimile 01223 552627

science@ocr.org.uk

1 Hills Road, Cambridge CB1 2EU

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