

EDEXCEL GCSE SCIENCES 2011

Parent guide

Supporting science, supporting your children



Welcome to Edexcel's GCSEs in science

You may be aware that the UK's science GCSEs have recently undergone a redevelopment. As one of the country's main awarding organisations, we have spent the last year developing our new GCSE science qualifications. Now that our science GCSEs have been accredited by Ofqual, the country's independent regulator for education, we are offering schools a suite of qualifications that has been written by highly experienced teachers, with the input of professionals across science education.

This short guide is designed to let you know a little about the new science GCSEs. We give you an outline of how they are structured, what sorts of exams your child will face, and what they can then do with the GCSE science qualifications that they gain.

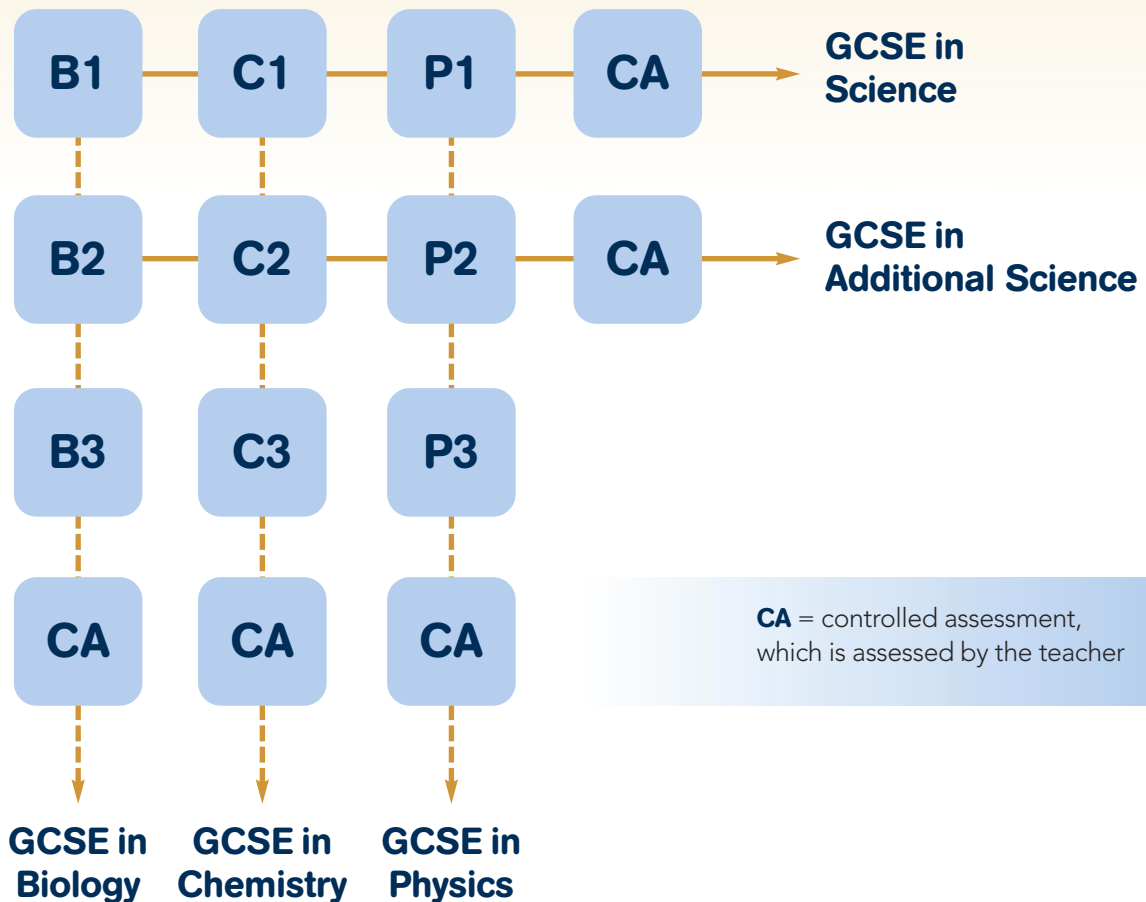
It's worth talking to teachers at your child's school to get the full picture. Different schools run their science curriculum in very different ways and the teachers will be able to tell you how they run the teaching in their school. In some cases, each class is taught all of its science by the same teacher; in others there are different specialist teachers in the three separate sciences – biology, chemistry and physics. In some cases, your child will learn all three sciences in parallel; in other schools, the teaching is arranged in blocks so that all of one science is taught in Term 1, a second science in Term 2 and the final science in Term 3.

Whichever way the teaching is organised, your child should spend roughly equal amounts of classroom time on the three different sciences and they'll take exams in the three sciences separately. The exact exams that are taken will depend on the GCSEs offered by your child's school. Again, schools separate into different types. Some schools enter students for the three separate sciences, meaning that the students can gain GCSEs in Biology, Chemistry and Physics. The slightly more common approach is for students to study about two-thirds of the total course and to take exams leading to two GCSEs: GCSE in Science and GCSE in Additional Science. Either allows a student to move on to study at A level if they achieve good grades. These two patterns are the most common, but by no means the only routes – so, again, talk to your child's school if you are unsure and want further information.



What GCSEs do we offer?

It's probably best to look at a diagram of how the sciences are organised at GCSE so that you know what is available and which exams your child will take.



The commonest route is to start by studying the first unit of each science. This leads to the student following the top row of the diagram and taking three exams – B1 (biology), C1 (chemistry) and P1 (physics). To complete the GCSE in Science qualification, they'll also carry out a controlled assessment, an internally assessed piece of work related to a practical.

Having done GCSE in Science, the most likely next stage is to move on to GCSE in Additional Science – the second row of the diagram. The principle is the same as for GCSE Science – your child will learn equal amounts of biology, chemistry and physics and take an exam in each (B2, C2 and P2) and a controlled assessment. Students who follow this route end up with two science GCSEs – GCSE

in Science and GCSE in Additional Science. However, it's possible that, after GCSE in Science, your child may be moved onto a different course, for example a BTEC Level 2 in Applied Science, especially if their interest appears to be in a more applied (work related) approach to science.

The other route – the one that leads to three GCSEs in the three separate sciences – is the one represented by the dotted vertical lines in the diagram. If your child is taking this path, they will need to take three exams and a piece of controlled assessment to gain each of the GCSEs. To take GCSE in Biology as an example, this means taking the exams B1, B2 and B3 and the controlled assessment.



What are the courses and the exams like?

The courses have been developed carefully by practising teachers and examiners in line with the new GCSE science criteria produced by Ofqual. There is a balance in the content of the courses: there is plenty of coverage of important scientific background and theories. Also, there are opportunities for students to look at how scientific knowledge is used and applied in the modern world, for example to develop better strains of crops, to produce better materials for construction and to use in medicine to make CAT scanners. Science has always addressed many “big issues” and students will also look at key issues that they will face in the coming years, whether global warming, the use of nuclear power, or the development of cloned or genetically modified organisms. The philosophy of the course is to develop young adults who have the scientific background to understand these issues as well as to engage with them.

The exam papers that your child will sit follow a common format. The exam papers each last one hour and they are marked out of 60. We’ve worked hard to make sure that the question papers look the same. So, it doesn’t matter if your child is taking Biology Paper 1, Chemistry Paper 2 or Physics Paper 3, the question papers will have a familiar feel to them. More importantly, they’ll look similar to any papers that may have been used as practice papers. We feel that this is important: exams can be a stressful experience for some students, and an exam paper which looks familiar may help to inspire confidence.

Each question paper contains six questions. These questions will each have slightly more demanding question parts as the question is completed; and there will also be an incline in difficulty as your child works through from Q1 to Q6.

Our exam papers contain a range of different sorts of questions, designed to allow all candidates to show what they have learnt in the course. So, there will be some multiple choice questions, although most of the questions will be “open” questions, with space for the candidates to write their answer. These will typically be worth between 1 and 3 marks. There will also be some questions worth more marks, which will require a longer response. This type of question is new to the GCSE this time around, and your child will need to be familiar with these questions and practise this style.

Your child can take the exams at different tiers; Foundation (aimed at grades C to G) and Higher (aimed at grades A* to D). The papers they sit will most likely be determined by the school. Students can take any combination of Foundation and Higher papers. For example, if they are weak at biology but stronger at chemistry and physics, they may sit a Foundation paper in biology and a Higher paper in chemistry and physics. The marks gained in each will all count towards the overall grade awarded.

The controlled assessment tasks are set by Edexcel and marked by your child’s teacher. Controlled assessment tasks are not tiered – all students sit the same tasks. They can be taken any time in the academic year so your child’s school will choose when is most convenient for them. Controlled assessments can be submitted to Edexcel for moderation (to validate the school’s marking) in either June or November. Most of the controlled assessment work is done in class whilst under supervision, and tasks will take around four lessons of time to complete. They will centre around a piece of practical work; students will be required to plan an investigation, carry out a practical, and analyse their own, and others’, data. Controlled assessment tasks have a one year shelf life. This means that they can’t be stored indefinitely in school and then submitted – they must be submitted for moderation in the year in which they are valid.



When do the exams and controlled assessments take place?

The course is officially launched for teaching from September 2011, although we know that some schools will start teaching before this point. We expect the qualification to run for at least four years.

The first exam series (opportunity to sit the new exams) will therefore be November 2011, when we will offer the exams for all the GCSE in Science units – in other words, B1, C1 and P1. These exams are then available in every subsequent series. The controlled assessment for GCSE in Science is available for teachers to submit for moderation for the first time in June 2012 (although they can sit the controlled assessment at any time during the 2011/2012 academic year).

This means that the first time that your child can complete GCSE in Science and gain their qualification is in June 2012.

You might find the following table useful to see what all this means. A tick means that the unit or controlled assessment or certification is available in that particular series. This table is for GCSE in Science – there are others further through the guide for GCSE in Additional Science and for GCSEs in Biology/Chemistry/Physics.

GCSE in Science	Nov 11	Mar 12	June 12	Nov 12	Mar 13	June 13	Nov 13	Mar 14	June 14
B1, C1 and P1 exam series	✓	✓	✓	✓	✓	✓	✓	✓	✓
GCSE in Science controlled assessment			✓	✓		✓	✓		✓
GCSE in Science certification			✓	✓	✓	✓	✓	✓	✓

There are two rules which now apply to all GCSEs and will, therefore, also apply to the GCSEs in science. These two rules state:

- 1** for each unit, students can only re-sit the exam once before they have to submit their best result. This result will then form part of your child's overall grade.
- 2** your child may enter the exams for the various units in either the November, March or June exam series. However, **your child will need to enter for two exams**, or one exam and the controlled assessment unit, in their final exam series. For example, if your child is due to gain their GCSE Science qualification in 2012, and is entering for the P1 exam in June 2012, then they would also need to enter for either the B1 or C1 exam or the controlled assessment unit during the same June exam series.

For GCSE in Additional Science, the first certification is June 2013. This is also the first time students can submit controlled assessment for GCSE in Additional Science. However, many

students will want to start sitting exams and getting marks banked before then. So, the B2, C2 and P2 units are available from June 2012 onwards.

GCSE in Additional Science	Nov 11	Mar 12	June 12	Nov 12	Mar 13	June 13	Nov 13	Mar 14	June 14
B2, C2 and P2 exam series			✓	✓	✓	✓	✓	✓	✓
GCSE in Additional Science controlled assessment						✓	✓		✓
GCSE in Additional Science certification						✓	✓	✓	✓

If your child is taking the separate sciences, they will need to take three externally assessed units for each subject and one controlled assessment, e.g. for Biology they would need to take B1, B2, B3, and a controlled assessment. The Unit 1 and Unit 2 exam availability is exactly the same as for those students doing GCSE in Science or GCSE in Additional Science. The first time that the Unit 3

exams – B3, C3 and P3 – can be taken is in June 2013. Remember that students must sit two units in the exam session in which they will certificate. So if your child is certificating in June 2013, they'll also have to submit the controlled assessment in the June 2013 exam series. Indeed, June 2013 is the first time that controlled assessment for the separate sciences can be submitted.

GCSE in Biology/Chemistry/Physics	Nov 11	Mar 12	June 12	Nov 12	Mar 13	June 13	Nov 13	Mar 14	June 14
B3, C3 and P3 exam series						✓	✓	✓	✓
GCSE in Biology/Chemistry/Physics controlled assessment						✓	✓		✓
GCSE in Biology/Chemistry/Physics certification						✓	✓	✓	✓

As the tables show, once the exam has been offered for the first time, then it will be offered at every subsequent November, March and June series. In theory, this means that students can certificate at a time that is suitable for their own progression through the subject. Do remember, however, the two rules we've talked about – students are only allowed to re-sit a unit once before they certificate and, in order to certificate, students must take at least two units (either two exams, or the exam and controlled assessment) in the series in which they certificate. These rules are common to all awarding organisations.

Your child may also be studying BTEC Level 2 Applied Science, or may be considering moving to BTEC Level 2 Applied Science. Our website provides more information on the support we provide to help teachers teach BTEC alongside GCSE Science. See www.edexcel.com/science2011 for more information, or talk to your child's teacher.

You may also be aware of the new English Baccalaureate (eBacc) that has been introduced by the government as a method of measuring performance. Our GCSE Sciences form part of this measure. Find out more at our website, or from your child's school.



What will my child do after GCSE?

At the end of Year 11, many students will finish their studies in science. These students will have gained valuable GCSEs in science, which are well respected by employers, who view good grades for GCSEs in science as an indication that a person has mastered a difficult discipline. Of course, for some careers, having GCSEs in science subjects is either very useful or, in some cases, compulsory. One such career is being a primary school teacher, where a GCSE pass at A* - C in a science subject is a requirement.

Of course, a good proportion of students enjoy their sciences at GCSE so much that they go on to study more science, usually at AS and A2 Level or BTEC Level 3. Again, this may lead them into a job straight from school, where their science qualifications are again very impressive; or it may lead them into a variety of university courses, either science or non-science based. Other than the "pure" sciences, science A Levels are an essential requirement for those wanting to study for any medical discipline – including veterinary medicine – as well as for courses such as engineering. Sciences are also highly advantageous for students thinking of courses in architecture or psychology.



What sort of support materials are there for my child?

Resources can be split into two areas: ones that Edexcel have produced specifically to accompany the course and resources produced elsewhere.

The most important support for students are the textbooks that accompany the course and ActiveLearn, independent online revision and exam preparation for students.

The Edexcel student textbooks are written by highly-experienced authors with the help of the senior examiners and are full of hints and tips to help your child understand key areas. There are also exam-style questions to help your child to improve their responses. Lastly, they also give support in the skills required to succeed in the controlled assessments. ActiveLearn provides supported practice of exam-style questions with particular focus on improving answers to longer text questions, as well as checking and improving their understanding of science. Other science textbooks are available, some of which we have endorsed.

Most other Edexcel resources – such as the ActiveTeach CD-ROM – are really designed for teachers. More information on these resources can be found on our website at www.edexcel.com/science2011.

As always, there will be a variety of revision guides on the market. Do check that any guide you buy is suitable for the Edexcel GCSE – the other awarding organisations do have some very different content, especially at Additional Science and separate science level.

Lastly, the internet is always a good source of information, when used wisely. Of course, there is the Edexcel website (www.edexcel.com), which has a variety of different materials to help students and teachers through the GCSE courses. Please note that some of the material on this website is confidential and only accessible to teachers who have the relevant passwords. You'll also find links on the website to one of Edexcel's most useful support networks: Ask Edexcel. The Ask the Expert section of this allows you to put questions directly to one of our senior examiners.

Your child can also find additional help with revision, exams and re-sits at our online exam support centres:

- www.examzone.co.uk
- resultsplusdirect.co.uk

We look forward to helping your child fulfil their full potential.

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Contact us

Our customer services team can be contacted on 0844 576 0027 or you can ask a question via our online support service, Ask the Expert, at www.edexcel.com/askEdexcel

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Publication code: UG025471