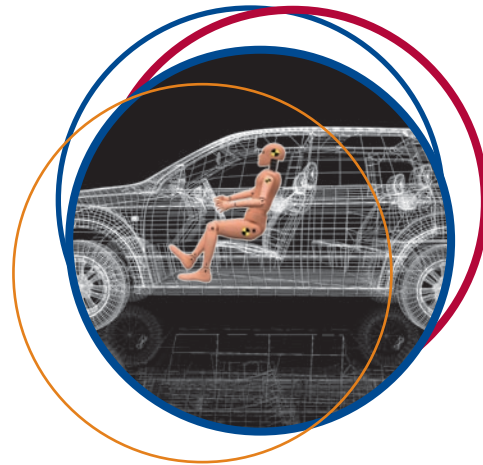
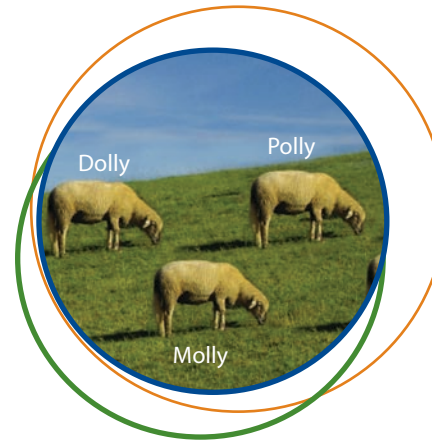


# Curriculum pathways for the sciences in KS4



# Curriculum pathways for the sciences in KS4

One of the major benefits of the new KS4 science curriculum is that it offers you and your learners a wide variety of possible pathways, with choices to meet learners interests, aptitudes and needs, and the resources available within the school.

This booklet is designed to outline some of the possible pathways you could follow in your school. All of the options in this booklet are currently in use in schools teaching OCR's GCSE science specifications. Many are offering two, three or even four models simultaneously, depending on resources available and learner profiles.

With each suggested pathway we have given some guidance around why each route might suit your school. If you would like to discuss any of these options in more detail, contact our Customer Contact Centre who will be happy to put your call through to a science subject specialist.

It is important to note that these models can be applied to both the Twenty First Century and Gateway suites of science qualifications. It is also possible to mix and match between the two suites depending on your needs. As well as these two suites of qualifications we offer Environmental and Land-based Science, Applied Science (Double Award), OCR Nationals in Science, GCSE Psychology and GCSE Electronics.

For more information about these science qualifications visit our website, [www.ocr.org.uk/science](http://www.ocr.org.uk/science)



Year 9			Year 10			Year 11			6th form		Guidance	
Autumn	Spring	Summer	Autumn	Spring	Summer	Autumn	Spring	Summer	AS	A2	Benefits	Considerations
KS3 Science			GCSE Science			GCSE Additional Science or Additional Applied Science					<ul style="list-style-type: none"> <li>Learners gain a qualification at the end of Year 10, and have more options for Year 11.</li> <li>Options can be deferred to Year 11.</li> <li>Assessment can be scheduled for times when learners' understanding is at its best.</li> <li>Re-sits for Science units can be taken in Year 11.</li> <li>Progression is possible to Level 3 courses in the sciences.</li> </ul>	<ul style="list-style-type: none"> <li>It is important to consider whether learners will be ready to complete a GCSE in Year 10.</li> <li>This route constrains the order in which you teach units.</li> </ul>
KS3 Science			GCSE Science			GCSE Additional Science or Additional Applied Science					<ul style="list-style-type: none"> <li>More flexibility in the order of teaching – topics from different courses can be brought together.</li> <li>May offer more variety and therefore a more engaging experience.</li> <li>Learners may have more time to build an understanding of more difficult concepts.</li> <li>Progression is possible to Level 3 courses in the sciences.</li> </ul>	<ul style="list-style-type: none"> <li>Learners may be confused about which books to bring to lessons.</li> <li>Decisions need to be made earlier on which Additional Science to study.</li> <li>The gap between teaching and assessment may be longer.</li> </ul>
KS3 Science			GCSE Science	GCSE Additional Science/ Additional Applied Science	GCSE Science	GCSE Additional Science/ Additional Applied Science	GCSE Science	GCSE Additional Science/ Additional Applied Science			<ul style="list-style-type: none"> <li>The choice of Additional Science can be deferred to the autumn half-term in Year 10.</li> <li>A better variety of content and emphasis, over two years.</li> <li>Learners will be less likely to forget which books to bring to lessons.</li> <li>Progression is possible to Level 3 courses in the sciences.</li> </ul>	<ul style="list-style-type: none"> <li>Timetabling may be more complicated.</li> </ul>



Year 9			Year 10			Year 11			6th form		Guidance	
Autumn	Spring	Summer	Autumn	Spring	Summer	Autumn	Spring	Summer	AS	A2	Benefits	Considerations
<b>KS3 Science</b>			<b>Separate sciences</b> (GCSE Biology, Chemistry, Physics)						AS Level Biology, Human Biology, Chemistry, Physics	A2 Level Biology, Human Biology, Chemistry, Physics	<ul style="list-style-type: none"> <li>Better preparation for A Levels in the sciences.</li> </ul>	<ul style="list-style-type: none"> <li>May be better suited to more able learners.</li> <li>More teaching time than the standard 20% of the curriculum is likely.</li> <li>From 2008, learners who achieve Level 6 at KS3 are entitled to take the three separate sciences.</li> </ul>
<b>KS3 Science</b>			<b>GCSE Science</b>			<b>A single separate science</b> (GCSE Biology, Chemistry, Physics or Environmental and Land-Based Science, Psychology or Electronics)					<ul style="list-style-type: none"> <li>Ideal for learners with a particular interest in one subject.</li> <li>There's an opportunity to include a wider range of sciences within the curriculum, giving learners more choice.</li> </ul>	<ul style="list-style-type: none"> <li>Can be taken in series or in parallel (see above).</li> <li>Counts as only one GCSE science subject on the League Table 'Science Indicator'.</li> <li>Progression to Level 3 courses in the sciences may be limited.</li> </ul>
<b>KS3 Science</b>			<b>Entry Level Science</b>								<ul style="list-style-type: none"> <li>Ideal for learners where a full GCSE course is not realistic or appropriate.</li> <li>The 'credit accumulation' nature of the assessment rewards learners' achievement</li> </ul>	<ul style="list-style-type: none"> <li>May be taken in 10–20% of curriculum time over one or many years, depending on learners' abilities and learning needs.</li> </ul>
<b>KS3 Science</b>			<b>Entry Level Science</b>			<b>GCSE Science, GCSE Additional Applied Science or GCSE Environmental and Land-Based Science</b>					<ul style="list-style-type: none"> <li>Our Entry Level specification is designed to lead into GCSE Science from either the Gateway or Twenty-First Century Science suites.</li> </ul>	<ul style="list-style-type: none"> <li>Progression to full GCSE will depend on learners' progress in Year 10.</li> <li>The GCSE Science specifications cover topics from Entry Level – learners who have already completed Entry Level might prefer to go on to GCSE Additional Applied Science, or Environmental and Land-Based Science.</li> </ul>



Year 9			Year 10			Year 11			6th form		Guidance	
Autumn	Spring	Summer	Autumn	Spring	Summer	Autumn	Spring	Summer	AS	A2	Benefits	Considerations
KS3 Science			GCSE Science								<ul style="list-style-type: none"> <li>This route covers the minimum statutory requirements for GCSE Science.</li> <li>It can give less able learners more time to develop their knowledge and understanding</li> </ul>	<ul style="list-style-type: none"> <li>It is expected most learners will study more than one GCSE Science qualification.</li> <li>Can be taken in 10–20% of curriculum time.</li> <li>Progression to Level 3 courses in the sciences is normally not possible.</li> </ul>
KS3 Science			GCSE Applied Science (Double Award)								<ul style="list-style-type: none"> <li>Gives learners access to more vocational learning, and helps them understand how science applies to everyday life.</li> <li>An emphasis on portfolio-based assessment may suit learners who prefer more concrete learning styles.</li> <li>Progression to A Level A/AS Applied Science is possible.</li> </ul>	<ul style="list-style-type: none"> <li>Learners may find it harder to move on to A Levels in traditional sciences.</li> <li>Applied courses require different approaches to teaching and learning.</li> </ul>
KS3 Science			OCR Level 2 Nationals in Science								<ul style="list-style-type: none"> <li>Clear vocational links can motivate learners who are interested in science-related careers.</li> <li>Portfolio-based assessment may suit learners who prefer more concrete learning styles.</li> <li>The Certificate is equivalent to 2 GCSEs; the Award is equivalent to 4 GCSEs.</li> </ul>	<ul style="list-style-type: none"> <li>This course is 100% teacher-assessed.</li> <li>It requires different approaches to teaching and learning.</li> <li>Progression is available to A/AS Level Applied Science, but learners may find progression to A Levels in traditional sciences limited.</li> </ul>
GCSE Science GCSE Additional Science						Separate GCSE sciences (Biology, Chemistry, Physics)			AS Level Biology, Human Biology, Chemistry, Physics	A2 Level Biology, Human Biology, Chemistry, Physics	<ul style="list-style-type: none"> <li>Learners can achieve up to 5 GCSE science qualifications.</li> <li>Ideal for learners with a particular interest in science.</li> <li>Prepares learners for A Level science subjects.</li> </ul>	<ul style="list-style-type: none"> <li>You can teach the first two years of this specification in an alternating or series sequence.</li> <li>It provides an alternative to collecting further Level 2 qualifications – learners may be more motivated by early progress to Level 3.</li> </ul>



Year 9			Year 10			Year 11			6th form		Guidance	
Autumn	Spring	Summer	Autumn	Spring	Summer	Autumn	Spring	Summer	AS	A2	Benefits	Considerations
GCSE Science			GCSE Additional Science			A Level AS science subject, for example OCR's AS Science qualification			AS Level Biology, Human Biology, Chemistry, Physics	A2 Level Biology, Human Biology, Chemistry, Physics	<ul style="list-style-type: none"> <li>Learners can achieve a Level 3 qualification before sixth-form, easing pressure on them during sixth-form studies, or allowing room for an additional qualification.</li> <li>AS Level Science can help learners move on to traditional A/AS Level science qualifications.</li> </ul>	<ul style="list-style-type: none"> <li>Managing post-16 progress for learners with such a variety of Level 2 and Level 3 qualifications may be difficult.</li> </ul>
Separate sciences (GCSE Biology, Chemistry, Physics)									AS Level Biology, Human Biology, Chemistry, Physics	A2 Level Biology, Human Biology, Chemistry, Physics	<ul style="list-style-type: none"> <li>This route allows the three separate sciences to be delivered without the need for additional curriculum time to be used.</li> </ul>	
KS3 Science	GCSE Science		GCSE Additional Science						AS Level Biology, Human Biology, Chemistry, Physics	A2 Level Biology, Human Biology, Chemistry, Physics	<ul style="list-style-type: none"> <li>KS3 can be completed two terms early, giving Year 11 learners more time to specialise in one or two of the sciences, and prepare for these subjects at A Level.</li> <li>Learners achieve up to four GCSE science qualifications.</li> </ul>	
	OCR Nationals in Science											<ul style="list-style-type: none"> <li>OCR Nationals in Science can be achieved over three years.</li> </ul>





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