



Biology	Working towards expected outcomes	Working at expected outcomes	Working beyond expected outcomes
<p>Y12 OCR Biology A</p> <p><u>Autumn Term</u> practical skills, microscopy, biological molecules, nucleic acids and protein synthesis, enzymes, exchange surfaces and breathing, animal transport systems.</p> <p><u>Spring Term</u> practical skills, animal transport systems, membranes and transport, cellular diversity and organisation, cell cycle and cell division, communicable disease, plant transport systems, classification.</p> <p><u>Summer term</u> practical skills, communicable disease, classification, evolution, biodiversity, energy for biological processes.</p>	<p>Your child is not yet making the expected progress within this course.</p> <p>Students working towards expected outcomes in Year 12 can:</p> <p>Understanding Knowledge</p> <ul style="list-style-type: none"> • demonstrate knowledge and understanding of some of the scientific ideas, processes, techniques and procedures covered so far in the specification. <p>Applying knowledge</p> <ul style="list-style-type: none"> • select information from the specification that is often relevant to questions, with opportunities to further develop accuracy and scientific understanding. • communicate simple information using simpler scientific terminology. • apply scientific knowledge, principles and concepts in familiar contexts that involve handling qualitative data. • give explanations that lack structure but are mostly complete. • show partial evidence of appropriate technical language and scientific terms in unfamiliar contexts. • show a limited ability to select information and ideas from different parts of the specification to provide simple explanations in questions. 	<p>Your child is achieving the expected progress for this point within the course.</p> <p>Students working at expected in Year 12 can:</p> <p>Understanding knowledge</p> <ul style="list-style-type: none"> • demonstrate a solid understanding of most scientific concepts, processes, techniques, and procedures covered up to this point in the specification. <p>Applying knowledge</p> <ul style="list-style-type: none"> • consistently choose information from the specification that is relevant to answering questions, with a growing understanding that supports improving scientific accuracy. • communicate relevant information using appropriate scientific terminology. • apply scientific knowledge, principles and concepts in familiar contexts that may involve several steps in the argument when handling qualitative data. • give explanations that are mostly complete but may lack links to other areas of the specification. • show an ability to apply knowledge in a range of unfamiliar contexts. • show a secure ability to select information and ideas from different parts of the specification to provide explanations. 	<p>Your child is exceeding the expected progress.</p> <p>Students working beyond expected in Year 12 can:</p> <p>Understanding knowledge</p> <ul style="list-style-type: none"> • exhibit an in-depth and thorough mastery of the scientific concepts, methodologies, techniques, and procedures covered within the specification to date. <p>Applying knowledge</p> <ul style="list-style-type: none"> • effectively identify and extract key details from the specification that are highly relevant to addressing the given questions, ensuring clear and focused responses. • organise and concisely communicate information using appropriate scientific terminology. • use scientific knowledge, principles, and concepts to efficiently answer both familiar and new contexts, encompassing multi-step reasoning when analysing and interpreting qualitative data. • give explanations that are coherent, well-structured and cover multiple aspects of the specification. • use appropriate technical language and scientific terms in unfamiliar contexts. This language will always be appropriate to the answer. • select and link information and ideas from different parts of the specification to give explanations that are complete, accurate and logically constructed.



Mathematical skills

- carry out simple calculations for numerical data.
- carry out accurately, some of the stages in calculations involving multiple steps but may not record answers precisely.

Practical endorsement skills

- show scientific reasons for using the simpler practical procedures, such as the qualitative tasks, mentioned in the specification.
- predict the outcome of practical procedures in familiar contexts.
- select information and evidence to form conclusions that may not reflect the complete range of evidence available
- partially justify a judgement or conclusion using some statistical information.
- analyse evidence and information from familiar contexts with partial accuracy selecting appropriate techniques drawn from theoretical and practical areas of the specification.
- interpret and evaluate ideas, information and evidence using largely accurate explanations involving simple phenomena.

Mathematical skills

- carry out simple calculations with no guidance for numerical and graphical data.
- carry out accurately, most of the stages in calculations involving multiple steps and have some appreciation of the appropriate precision required.

Practical endorsement skills

- show a range of the scientific reasons for using the practical procedures and equipment mentioned in the specification so far.
- predict the results of experiments in both familiar and new situations by using knowledge and logical thinking
- select information and evidence from qualitative and quantitative data to form conclusions that reflect most of the range of evidence available.
- partially justify a judgement or conclusion using any given statistical information.
- analyse evidence and information from familiar contexts with accuracy selecting appropriate techniques drawn from theoretical and practical areas of the specification covered so far.
- interpret and evaluate ideas, information and evidence using accurate explanations involving simple phenomena.

Mathematical skills

- carry out simple calculations effectively and with appropriate precision for both graphical and numerical data. Answers will always be quoted to the relevant decimal places.
- carry out most complex quantitative calculations involving multiple steps yielding results that are error free and expressed to an appropriate precision.
- show an ability to structure multiple step calculations so that each step occurs in a logical sequence.

Practical endorsement skills

- demonstrate a firm grasp of the scientific reasons for using the full range of practical procedures mentioned in the specification so far, justifying the choices of equipment in terms of precision and reproducibility of results.
- hypothesise the outcomes of experiments and investigations in both familiar and new scenarios by applying knowledge and logical reasoning.
- select appropriate information and evidence from quantitative and qualitative data to reach a complete and detailed conclusion.
- fully justify a judgement or conclusion using any given statistical information.
- analyse, with fluency and accuracy, information and evidence that is provided in a wide variety of unfamiliar contexts selecting a full range of appropriate techniques involving theoretical and practical areas of the specification covered so far.



	<ul style="list-style-type: none">• draws on knowledge and understanding from the specification to begin suggesting how a simple system may behave when its parameters change.• demonstrates some understanding of the specification and begins to apply this knowledge to develop and refine practical designs and procedures, considering one or two key factors• suggest and make observations and measurements with sufficient precision and record these with only minor errors.• begins to discuss some issues with developing arguments, showing signs of balance and fluency.	<ul style="list-style-type: none">• applies knowledge and understanding from the specification to predict how a system behaves when its parameters change.• use knowledge and understanding of the specification in a clear way to develop and refine practical designs and procedures considering most of the factors affecting the investigation.• suggest and make observations and measurements with sufficient precision and record these to the right level of decimal places for the task.• discusses a wide range of issues using mostly well-developed and balanced arguments.	<ul style="list-style-type: none">• interpret and evaluate ideas, information and evidence using accurate language and give detailed explanations of complex phenomena.• exhibits deep understanding through insightful analysis of how variations in parameters influence system behaviour• use knowledge and understanding to demonstrate insight into the development and refinement of practical designs and procedures; such insights will be wide ranging and will cover most areas of the design or procedure.• propose and carry out detailed observations and quantitative measurements employing suitable levels of precision and systematically document the results in a methodical and accurate manner.• demonstrates clear knowledge and fluency in discussing a broad range of issues, presenting thoughtful and well-balanced arguments with confidence.
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