

Year 9 : Biology

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topics	KS3 Biology bridging unit: to include KS3 content and 3 practical's, developing practical skills Foci: Cell transport, enzymes, and nutrition		B1 Cell Biology Foci: Structure of the cell, different types of cells, using microscopes, diffusion, osmosis, active transport		B2 Organisation Foci: Food tests, enzymes, blood and blood vessels, the circulatory system	
Assessments	Biology topic test	No Biology assessment this half term	End of topic assessment based on B1 only	No Biology assessment this half term	End of topic assessment based on B2 only	B1& B2 End of year exam
Building on Prior Learning	<p>Substantive Knowledge – From Year 9 students will use their knowledge of cells, the digestive system, and enzymes to develop ideas about how all three topics link together in learning. Ideas relating to cells from previous knowledge from both Key Stage 3 upcoming units in GCSE.</p> <p>Disciplinary/procedural Knowledge – Students will develop their ability to carry out scientific practical's in performing more basic skills from Year 9 to solving more complex problems. Practical skills will be developed further with an emphasis on analysing/evaluating experiments along with the development & use of the technical language of scientific enquiry. Students will develop their skills on applying their knowledge scientific in exam, practical and real-life situations.</p>					
Cultural Capital	<p>There is cultural capital in abundance in this programme of study: Students will place Biology in a whole world context by learning about uses and controversy surrounding stem cells, cancer, healthy diets, smoking/vaping, use of animal organs, air pollution and lung disease.</p>					
Mastery	<p>In terms of mastery students will be given opportunities to apply their Biology knowledge through increasingly varied and complex contexts & scenarios. After initially being shown how to complete practical skills and basic low level demand exam style questions through worked examples & modelling good practice, students will be given a range of opportunities to demonstrate their ability, both in lesson and through formal assessment. They will use increasingly technical language when analysing and evaluating the results of the required practical experiments that they carry out in middle school and will be challenged to link the knowledge they have developed across a range of topics together to enable them to give a fuller explanation of their biological knowledge.</p>					
Development of Character	<p>A wide range of virtues are covered through the teaching of Biology: The intellectual virtues of curiosity and resilience are explored throughout the wide-ranging Biology course. Collaborative working, honesty and retrieval and self-reflection are important to the scientific method and development/acceptance of new ideas. These will be covered throughout Year 9.</p>					
Extra-Curricular opportunities	<p>In School: STEM Club (across all 3 science) Outside of School: Science Live GCSE Event in Birmingham</p>					
Metacognitive Learning	<p>Students will initially be shown how to apply their scientific knowledge and practical skill base from middle school, through modelling and consistent practice as well as the use of a systematic approach, which is then repeated so the students have increased confidence in completing practical's more independently. Over the course of the year increasingly more complex skills will be used together with a gradual reduction of scaffolding/assistance to develop independence and resilience. Students will be guided both through teacher/peer feedback to both respond to and set their own targets to help further their progress.</p>					