



love the journey

Curriculum Implementation 2024-25

Secondary

LCA Strand	Science
Subject	Biology
Key Stage	Key Stage 4

What are the key concepts taught?	<ul style="list-style-type: none"> • Chapter 9 - The fundamentals of Biology GCSE – Organisation, Physiology and Environment • Chapter 10 – Delving deeper into Organisation, Physiology and Genetics • Chapter 11 - Bringing together Physiology and Genetics • Key skills which are developed across all three years are numeracy, literacy & working scientifically.
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What is the sequencing of units?	<ul style="list-style-type: none"> • The topics taught in Chapter 9 are the fundamental topics of the Biology GCSE which we spiral throughout Chapters 9-11. • Biology for Chapters 9 -11 is taught by Biology specialists. The conceptually more difficult topics are taught in Chapter 10 & 11. Maturity of students as they move through the key stage means they are better equipped to understand scientific terminology and how they relate to real life applications. • The GCSE is based upon the big ideas in science - Biology is split into three "big ideas" - organisms, ecosystems & genes. Each big idea is further split into 8 subtopics. Each of the subtopics is visited at least twice in KS3/KS4, enabling a spiral curriculum to start with a basic understanding of the subtopic and then, once revisited to develop it further.
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How do we encourage pupils to see the links between different units and concepts?	<ul style="list-style-type: none"> • Broad - the 3 big ideas in Biology - organisation, ecosystems & genes. • Narrow - the big ideas are split into subtopics such as: 1. Cells. 2. Movement. 3. Digestion 4. Breathing. 5. Cell function. 6. Exercise. 7. Disease 8. Control systems. • Learning objectives link clearly to the specification points identified in the SoW document, but the theme of the lesson will be linked to the big ideas, allowing students to make more links between prior & future learning
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<p>What are the planned opportunities for adaptive teaching, including for SEND, the more and able and disadvantaged pupils?</p>	<ul style="list-style-type: none"> • Ideas for personalisation are built into SoW, eg. Chapter 10, Chapter 5 lesson 1 (pathogens & disease): SEN writing frame available and accessible PowerPoint and extension literacy task • Chapter 11, Chapter 11 Lesson 1 (Principles of homeostasis): SEN worksheet on control systems & stimulus receptor cards to support. More able: an extension sheet on drugs & homeostasis • We follow whole-school principles of adaptive teaching for SEND students
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<p>What are the planned opportunities for retrieval and reflection by pupils?</p>	<ul style="list-style-type: none"> • We identify areas of weakness and add suggested extension questions in all three sciences across KS3 & KS4 to enable a consistent approach to feedback. • Tasks are embedded into the teaching order to practise skills or content required for end of unit assessments.
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<p>What are the opportunities for feed forward by the teacher post assessment outcomes?</p>	<ul style="list-style-type: none"> • Students' responses to assessments are scrutinised and common errors are discussed as a class. • End of topic assessments and Mock examinations are teacher marked and then students green pen with extended answers as well as hints & tips for exam technique • Use of past paper questions in class & modelling exam technique
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<p>What are the planned opportunities for developing Reading?</p>	<ul style="list-style-type: none"> • Pupils reading from the board • Focusing on the meaning of command words when reading exam questions at KS4/5 • Research tasks in lessons • Biology library in BI • Card sorts - rearranging sentences to encourage understanding of text • Literacy tasks in lessons - reading a passage followed by comprehension • retrieval/starters: reading and unscrambling key words for various topics
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<p>What are the planned opportunities for developing literacy, numeracy, oracy and SMSC?</p>	<ul style="list-style-type: none"> • Each GCSE topic will have at least one literacy, oracy and SMSC task • Numeracy tasks will be embedded into resources across the biology curriculum • Chapter 9, Chapter 10 on the human nervous system there is a numeracy sheet calculating mean. There is also a literacy research extension task and key term definition activity. For oracy there is a discussion on how a dog senses its environment. In lesson 1 students get the opportunity to discuss the effect of reaction rates due to different drugs and the legal and social implications. Other examples include stem
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	cell research, responsibility for the environment and biodiversity
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