**Curriculum Intent**

In the Biology department we aim to develop scientifically knowledgeable, literate students who are curious about the world. We want to develop students able to understand and discuss current affairs, including global warming and conservation issues, technological development and who understand their responsibility as citizens of Earth.

Students will build upon their KS3 and KS4 Science knowledge to further develop their understanding of scientific method, including the use and evaluation of additional sources of information to support/inform their findings. This will include an understanding of the peer review process, in order to allow them to make important life choices. Crucially they understand the concept of ethics and asking the question of “Should we” rather than simply “Can we”.

**Curriculum Implementation**

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|  | | | **Autumn** | | **Spring** | | **Summer** | |
| HT1 | HT2 | HT3 | HT4 | HT5 | HT6 |
| **Year 12** | **BROAD** | **Core content, knowledge**  **(All content references link to the Specification points which can be found on the Topic Specification reference sheets linked below)** | **Content + Knowledge**   Topic 1 – 1.1-1.6 + 1.17 + CP1  Topic 2 – 2.1-2.4 + 2.9 + 2.14 | **Content + Knowledge**  Topic 1 – 1.7-1.16  Topic 2 – 2.5-2.8 + 2.10-2.12 + 2.14 +CP3 + CP4 | **Content + Knowledge**  Topic 1 – 1.18 + CP2  Topic 2 – 2.13 + 2.15-16  Topic 3 – 3.1-3.7  Topic 4 – 4.1+ 4.3-4.6 | **Content + Knowledge**   Topic 3 – 3.8-3.12 + CP5  Topic 4 – 4.2 + 4.7-4.12 + CP6,7,8 | **Content + Knowledge**  Topic 3 – 3.13-3.15  Topic 4 – 4.13-4.16 + CP9  Revision + Exam review | **Content + Knowledge**  Topic 5 – 5.10-5.14 + 5.20  Topic 6 – 6.1-6.5 + CP14 |
| **Links to Topic Specification sheets** | **All Topic checklists can be found using the link below**  [**KS5 Biology SNAB Topic Checklists**](https://lplt-my.sharepoint.com/:f:/g/personal/heperon_lpsb_org_uk/EqeSqg1isOBOn185hwhtIQUB0VkylfGRifpIQOJX98p0xw?e=XodV2H) | | | | | |
| **Skills**  **(Links to documents describing required skills found below)** | **Throughout the course students develop Maths skills, Practical skills and exam and study skills. These are interwoven throughout the course as are skills such as Application and evaluation skills. Details of these skills can be found in the linked documents below.**  [**KS5 Biology SNAB - Skills support documents**](https://lplt-my.sharepoint.com/:f:/g/personal/heperon_lpsb_org_uk/Ejy4YHm9gA1NpbkwrEETQnABCuiMa7TxUDtXXv6sRekpAQ?e=4Nsfmb) | | | | | |
| **COHERENT** | **Prior knowledge required to access this unit** | **GCSE knowledge**  **(Oxford Scheme reference):**  B1 – Cell transport (Osmosis, Diffusion + Active transport)  B4 – Organising animals and plants (The Circulatory System)  B4 - Organising animals and plants (The Breathing system)  C3 – Structure and bonding (Bonding) | **GCSE knowledge**  **(Oxford Scheme reference):**  B3 – Organisation and the Digestive system (The digestive system and Enzymes)  B7 – Non-Communicable Diseases (Risk Factors)  B12 – Reproduction (Genetics and inheritance) | **GCSE knowledge**  **(Oxford Scheme reference):**  B1 – Cell Structure (Cell organelles)  B12 - Reproduction (Genetic screening)  B13 – Variation and Evolution (Variation and adaptations)  B14 – Genetics and Evolution (Classification) | **GCSE knowledge**  **(Oxford Scheme reference):**  B1 – Cell structure (Plant Cells)  B2 – Cell Division (Mitosis and stem cells)  B12 – Reproduction (Meiosis)  **A Level knowledge (SNAB spec reference)**  Topic 1 – Carbohydrate structure 1.6-1.7  Topic 2 – Protein Synthesis 2.6-2.7 | **GCSE knowledge**  **(Oxford Scheme reference):**  B4 – Organising animals and plants (Tissues and organs)  B6 – Preventing and treating disease (Drug testing process) | **GCSE knowledge**  **(Oxford Scheme reference):**  B16 – Organisation of an ecosystem (Feeding relationships)  B5 – Communicable diseases (Bacteria V Virus)  **A Level knowledge (SNAB spec reference)**  Topic 2 – DNA structure and replication 2.5 + 2.11 |
| **Assessment** | 3 Baseline Assessments on linked Topics from GCSE (Using Level 3 GCSE Questions) | 3 Assessments on Spec covered so far on Topic 1 + 2 | 3 Assessments on Spec covered so far on Topics 1-4 | 3 Assessments on Spec covered so far on Topics 3-4 | 2 Assessments on Spec covered so far on Topics 3-4  TES 1 Exam on Topics 1-4 | 3 Assessments on Spec covered so far on Topics 1-4 |
| **Links to Assessments** | All assessments can be accessed through the link below  [KS5 Biology - Assessments folder](https://lplt-my.sharepoint.com/:f:/g/personal/heperon_lpsb_org_uk/Ek_XLd5mb-tFoLsavd_eSosBPlHExX8RH5JRhRUBifRXiA?e=li2gNO) | | | | | |
| **EMPOWERING** | **Key vocabulary** | Too much to list in its entirety. Key vocabulary is shown in bold throughout each chapter in the textbook.  Key Vocabulary support documents can be found at the link below and are available to students through teams.  There is an Exam board Glossary for all the terms required for Year 12 and Year 13 available.  We also support students to build their own Glossary by having a Topic Glossary list for each of the 8 topics where students write their own definitions for all the key terms.  [KS5 Biology - SNAB Key Vocabulary Support Resources](https://lplt-my.sharepoint.com/:f:/g/personal/heperon_lpsb_org_uk/EtZzZBBiQ6JFgo2LsU6bYvYBjbd8tO_NTS0ylKnBYvBcNg?e=Q6sJb7) | | | | | |
| **CHALLENGING** | **Super curricular recommendations** | **Reading:**  The Double Helix; James Watson  Genome; Matt Ridley (Also Nature via Nurture: Genes, experience and what makes us human)  Mutants; Armand Marie Leroi  Adventures in Human Beings; Gavin Francis  Oxygen, The Molecule that Made the World; Nick Lane  The Selfish Gene; Richard Dawkins  The Greatest Show on Earth; Richard Dawkins  The Blind Watchmaker; Richard Dawkins  Bad Science; Ben Goldacre  A Short History of Nearly Everything; Bill Bryson (Also The Body)  Hens, Teeth and Horses Toes; Stephen J. Gould  The Panda’s Thumb; Stephen J. Gould  Darwin’s Dangerous Idea; Daniel Dennett  The Immortal Life of Henrietta lacks; Rebecca Skloot  The World Without Us; Alan Weisman  Darwin and the Barnacle; Rebecca Stott  Do No Harm; Henry Marsh  **Podcasts:**  - In Defence of Plants Podcast  - The Science of Everything Podcast  - Big Biology Podcast  - The Science Hour Podcast  - New Scientist Podcast  - The Life Scientific Podcast | | | | | |

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|  | | | **Autumn** | | **Spring** | | **Summer** | |
| HT1 | HT2 | HT3 | HT4 | HT5 | HT6 |
| **Year 13** | **BROAD** | **Core content, knowledge and skills** | **Content + Knowledge**  Topic 5 – 5.1-5.9 + CP11  Topic 6 – 6.6-6.11 | **Content + Knowledge**  Topic 5 – 5.15-5.19 + 5.21-22 + CP10, 12,13  Topic 6 -  6.12-6.15 + CP15  Topic 7 – 7.1-7.6 | **Content + Knowledge**  Topic 7 – 7.7-7.12 + CP16 + CP17  Topic 8 – 8.1-8.6 | **Content + Knowledge**  Topic 7 – 7.13-7.16  Topic 8 – 8.7-8.13 + CP18 | **Content + Knowledge**  Topic 8 – 8.14-8.19  Revision + CP Catch up  Preparation work on Pre-release article | **Content + Knowledge**  Revision +  Public Examinations |
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| **COHERENT** | **Prior knowledge required to access this unit** | **GCSE knowledge**  **(Oxford Scheme reference):**  B5 Communicable disease (Bacteria and Virus + Defence v disease)  B15 Adaptations and interdependence (Ecology key ideas and sampling)  B8 Photosynthesis  C5 Chemical changes (Oxidation and Reduction in terms of electrons)  **A Level knowledge (SNAB spec reference)**  Topic 2 – Protein Synthesis and genetic code 2.6-2.8 | **GCSE knowledge**  **(Oxford Scheme reference):**  B17 The effect of human interactions on ecosystems and Biodiversity (Global Warming)  B16 Organisation of an ecosystem (The Carbon Cycle)  B13 Variation and Evolution (Genes and evolution)  B6 Preventing and treating disease (Antibiotics)  B9 Respiration (Aerobic and anaerobic respiration)  **A Level knowledge (SNAB spec reference)**  Topic 2 – Enzymes 2.10  Topic 4 Natural selection and Allele frequency 4.4+4.5  Bacterial growth and Antimicrobial properties 4.14 + CP9  Topic 3 – Mitochondria structure 3.2 | **GCSE knowledge**  **(Oxford Scheme reference):**  B4 Organising animals and plants (Breathing and circulatory system)  B10 The human nervous system (Nerves, synapses and reflex arcs)  B11 Hormonal Control(Homeostasis and negative feedback)  **A Level knowledge (SNAB spec reference)**  Topic 1 – Cardiac Cycle 1.4  Topic 2 – Diffusion, Ficks law and Lung structure – 2.1 | **GCSE knowledge**  **(Oxford Scheme reference):**  B10 The human nervous system (Nerves, synapses and reflex arcs)  B11 Hormonal Control(Homeostasis and negative feedback)  **A Level knowledge (SNAB spec reference)**  Topic 2 – Protein Synthesis and genetic code 2.6-2.8 | **GCSE knowledge**  **(Oxford Scheme reference):**  B10 The human nervous system (Nerves, synapses and reflex arcs)  B13 Variation and evolution (Genetic Engineering)  **A Level knowledge (SNAB spec reference)**  Topic 3 – Prokaryotic cells 3.4  Topics 1-8 could link with pre-release article | **A Level knowledge (SNAB spec reference)**  Topics 1-8 needed for exam preparation and revision |
| **Assessment** | 3 Assessments on Spec covered so far on Topics 5 + 6 + Recall of Topics 1+2  TES 1 Exam- Full Paper 1 on Topics 1-6 | 3 Assessments on Spec covered so far on Topics 5 + 6 + Recall of Topics 1+2 | 2 Assessments on Spec covered so far on Topics 7+8  TES 2 Exam on Topics 1-4 + 7-8 | 3 Assessments on Spec covered so far on Topics 7-8 + Recall of Topics 3+4 | 3 Assessments on Spec Topics 1-8 | Public Examinations  **Paper 1** (Topics 1-4, 5+6)  **Paper 2** (Topics 1-4 + 7+8)  **Paper 3** (Topics 1-8 + Pre-release article questions) |
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