# The Fisher Way: Curriculum

The Fisher Way aims to educate and inspire with joy, faith an
love because we are an inclusive Catholic community.

**Successful and resilient** learners who aspire to and achieve excellence

**Confident individuals** who can explore and communicate effectively

**Responsible citizens** who are active, loving and wise in all their endeavours

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| **Subject** | Biology |
| **Year Group** | Year 9 |
| **Intent** | Successful and resilient learners: who use biological knowledge and scientific skills to investigate the living world and solve problems.<br>Confident individuals: who explain how cells, organ systems and ecosystems function, communicate their reasoning and evaluate biological evidence.<br>Responsible citizens: who consider the ethical and environmental implications of biology and use evidence to make informed decisions about health, biodiversity and sustainability. |

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| **Narrative** | Learners apply scientific skills through the introductory biomimicry unit, then develop their understanding of cells, microscopy, cell division and transport. Organisation follows, beginning with blood and circulation before digestion, food tests and enzymes. The year concludes with respiration, exercise and metabolism.<br>Year 7 and Year 8 learning provides the foundation for explaining how specialised structures support the functions of organisms. Learners increasingly use quantitative evidence, evaluate practical methods and apply their knowledge to unfamiliar examples.<br>This sequence prepares learners for photosynthesis, infection and response, homeostasis and genetics in Year 10. GCSE content is developed at the appropriate tier, with additional Separate Science material where relevant. | | | | | |
| **Half term** | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| **Knowledge (topics studied)** | Biological skills and biomimicry: microscopy, scale, nanotechnology and biological design. | Cell biology: cell structures, differentiation, stem cells, mitosis and cell transport. | Organisation: blood, blood vessels, heart, circulation and non-communicable disease. | Organisation: digestion, food tests, absorption, enzymes and bile. | Bioenergetics: gas exchange, aerobic respiration, exercise and anaerobic respiration. | Fermentation, metabolism and consolidation of cell biology and organisation. |
| **Key skills** | Use SI units and prefixes; investigate adhesives or rotor designs; graph and evaluate results. | Calculate magnification; use microscopes; investigate osmosis; explain diffusion and active transport. | Interpret circulatory diagrams and health data; observe a heart dissection safely; evaluate evidence. | Carry out food tests and the enzyme practical; control pH and temperature; calculate rates. | Investigate responses to exercise; analyse graphs; compare aerobic and anaerobic pathways. | Investigate yeast respiration; link metabolic reactions; review practical methods and improve explanations. |

| Half term | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| **Cultural capital and careers** | Biomimicry in architecture, materials and vaccine storage; research and engineering. | Microscopy and stem-cell applications; laboratory science and ethical decision-making. | Cardiology, blood donation and cancer research; interpreting health claims. | Food science and clinical diagnostics; how enzymes are used in industry. | Sports science and respiratory healthcare; explaining exercise and recovery. | Fermentation in food and biotechnology; careers linking practical work with biological research. |
| **Assessment** | Retrieval and short topic checks; practical feedback. | Cumulative assessment and recovery. | Short topic checks; practical and data questions. | Cumulative assessment and recovery. | Topic checks and targeted revision. | End-of-year assessment; feedback and recovery. |