



# SEPARATE SCIENCES

# Year 11

## What are the aims and intentions of this curriculum?

The aim of our Key Stage 4 Curriculum is to provide the foundations for understanding the material world. Scientific understanding is changing our lives and is vital to the world's future prosperity, and all students should be taught essential aspects of the knowledge, methods, processes and uses of science. They should be helped to appreciate how the complex and diverse phenomena of the natural world can be described in terms of a small number of key ideas relating to the sciences which are both inter-linked, and are of universal application.

Term	Topics	Knowledge and key terms	Skills developed	Assessment
Autumn 1	<b>Biology</b> <ul style="list-style-type: none"> <li>Genetics and evolution</li> <li>Adaptations, interdependence and competition</li> </ul>	Students will learn about: <ul style="list-style-type: none"> <li>Variation, evolution by natural selection, selective breeding, genetic engineering, evidence for evolution, fossils and extinction</li> <li>About distribution and abundance, adaptation and competition in plants and animals.</li> </ul>	Student will be able to: <ul style="list-style-type: none"> <li>Explain the effects of biotic and abiotic factors on populations, measure the distribution of organisms with quadrats and transects, describe and explain how organisms are adapted to survive in many different conditions.</li> </ul>	<ul style="list-style-type: none"> <li>Kerboodle end of chapter assessments (Foundation)</li> <li>Required Practical to be written up after each investigation.</li> </ul>
Autumn 2	<b>Biology</b> <ul style="list-style-type: none"> <li>Organising an ecosystem</li> <li>Biodiversity and ecosystem</li> </ul>	Students will learn about: <ul style="list-style-type: none"> <li>Feeding relationships, materials cycling, the carbon cycle,</li> <li>Land, water and air pollution, global warming.</li> </ul>	Student will be able to: <ul style="list-style-type: none"> <li>Explain in detail food chains/food webs as models to show feeding relationships, explain the decay cycle, water cycle, carbon cycle and their importance.</li> <li>Explain the causes and effects of land, water and air pollution and global warming</li> </ul>	<ul style="list-style-type: none"> <li>Kerboodle end of chapter assessments (Foundation)</li> <li>Required Practical to be written up after each investigation.</li> <li>Mock exams</li> </ul>

<b>Spring 1</b>	<b>Revision</b> Biology paper 1	Students will learn about: <ul style="list-style-type: none"> <li>• Cells and organization</li> <li>• Disease and biogenetics</li> </ul>	Students will develop various exam skills by practicing past exam questions.	End of term assessment – B1 Paper
<b>Spring 2</b>	<b>Revision</b> Biology paper 2	Students will learn about: <ul style="list-style-type: none"> <li>• Biological responses</li> <li>• Genetics and reproduction, ecology.</li> </ul>	Students will develop various exam skills by practicing past exam questions.	Mock exams
<b>Summer 1</b>	<b>Revision</b> Biology paper 1 Biology paper 2	Students will learn about: <ul style="list-style-type: none"> <li>• Cells and organization</li> <li>• Disease and biogenetics</li> <li>• Biological responses</li> <li>• Genetics and reproduction, ecology</li> </ul>	Students will develop various exam skills by practicing past exam questions.	GCSE Public Examination