

Fareham Academy Science Overview – Year 10 Biology

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic(s)	Topic 1: Cell Biology	Topic 2: Organisation	Topic 3: Infection and Response	Topic 4: Bioenergetics	Paper 1 – mock exam	Paper 1 –mock exam
Topic Objectives	Explore different types of cells, division and application of cell technology.	Explore how a range of systems work and are interleaved in function.	Explore a range of diseases and how they are treated.	Explore the vital processes of photosynthesis and respiration.	Memory retention, application to new contexts, application of knowledge, effective revision/ preparation.	Memory retention, application to new contexts, application of knowledge, effective revision/ preparation.
Acquired Knowledge/Skills	<p>Investigate cells are the basic unit of all forms of life.</p> <p>Explore structural differences between types of cells enables them to perform specific functions within the organism.</p> <p>Link cells being controlled by genes in the nucleus.</p> <p>Compare mitosis and meiosis.</p> <p>Evaluate applications of stem cell treatment.</p>	<p>Explore the human digestive system which provides the body with nutrients and the respiratory system that provides it with oxygen and removes carbon dioxide.</p> <p>Link each process above to the importance of the circulatory system.</p> <p>Explore how the plant's transport system is dependent on environmental conditions to ensure that leaf cells can photosynthesise.</p>	<p>Recall that infectious pathogens are viruses, bacteria and protists in plants and animals.</p> <p>Explain that pathogens produce toxins that damage tissues and make us feel ill.</p> <p>Explore how we can avoid diseases by reducing contact with them, as well as how the body uses barriers against pathogens.</p> <p>Explore how antibiotics have been developed since 1940 and link this to explain how antibiotic resistance has evolved.</p>	<p>Explore how plants harness the Sun's energy in photosynthesis in order to make food.</p> <p>Investigate the importance of this process liberating oxygen which has built up over millions of years in the Earth's atmosphere.</p> <p>Investigate anaerobic respiration does not require oxygen to transfer energy and link this process to what happens during vigorous exercise.</p>	<p>Revision methods.</p> <p>Quality of revision.</p> <p>Learning key model answers off by heart.</p> <p>Learning equations off by heart.</p> <p>Exam technique.</p> <p>Time management.</p> <p>Exam anxiety management.</p>	<p>Revision methods.</p> <p>Quality of revision.</p> <p>Learning key model answers off by heart.</p> <p>Learning equations off by heart.</p> <p>Exam technique.</p> <p>Time management.</p> <p>Exam anxiety management.</p>
Assessments	B1 topic test: Cell Biology	B2 topic test: Organisation	B3 topic test: Infection and Response	B4 topic test: Bioenergetics	Full biology paper 1 mock released by AQA using the boundaries published.	Full biology paper 1 mock released by AQA using the boundaries published.