

## Year 10

All numbers refer to specification points

Timing	Unit Title	Key Question(s)	Knowledge	Assessing understanding
Autumn	<b>Tissues and Organs</b>	How are organisms organised and a study of non-communicable diseases	<p>2.3.1 Plant tissues</p> <p>2.3.2 Plant organ system</p> <p>2.2.2-2.2.4 The heart and blood</p> <p>2.2.4 Coronary heart disease: a non-communicable disease</p> <p>2.2.5 Health issues</p> <p>2.2.6 The effect of lifestyle on some non-communicable diseases</p> <p>2.2.7 Cancer</p> <p>-----</p>	<p><b>How understanding is assessed</b></p> <p><b>Students will be assessed on their ability to:</b></p> <ul style="list-style-type: none"> <li>Recall the knowledge covered</li> <li>Interpret graphical and experimental data</li> <li>Make connections between different areas of understanding</li> <li>Explain the biological processes covered.</li> </ul> <p>Assessment will take the form of written questions in a test.</p> <p><b>Skills</b></p> <p>Graphical interpretation</p> <p>Making connections</p> <p>Explanations</p> <p>Description</p> <p>Scientific literacy and development of use of key terminology</p> <p>Graph drawing</p> <p>Data analysis</p>
Spring	<b>4.3 Infection and response</b>	How can diseases be caught, treated, avoided and studied?	<p>4.3.1.1 Communicable (infectious) diseases</p> <p>4.3.1.2 Viral diseases</p> <p>4.3.1.3 Bacterial diseases</p> <p>4.3.1.4 Fungal diseases</p> <p>4.3.1.5 Protist diseases</p> <p>4.3.1.6 Human defence systems</p>	<p><b>How understanding is assessed</b></p> <p><b>Students will be assessed on their ability to:</b></p> <ul style="list-style-type: none"> <li>Recall the knowledge covered</li> <li>Interpret graphical and experimental data</li> </ul>

			<p>4.3.1.7 Vaccination  4.3.1.8 Antibiotics and painkillers  4.3.1.9 Discovery and development of drugs  4.3.2.1 Producing monoclonal antibodies  4.3.2.2 Uses of monoclonal antibodies  4.3.3 Plant disease (Biology only)</p>	<ul style="list-style-type: none"> <li>• Make connections between different areas of understanding, explain the biological processes covered.</li> </ul> <p>Assessment will take the form of written questions in a test.</p> <p><b>Students will also be assessed on their ability to effectively carry out the following:</b>  <u>Required practical 2:</u> investigate the effect of antiseptics or antibiotics on bacterial growth using agar plates and measuring zones of inhibition.</p> <p><b>Skills</b>  Graphical interpretation  Making connections  Explanations  Description  Scientific literacy  Planning and carrying out an investigation  Graph drawing  Data analysis</p>
Summer	<b>2.2.1 The human digestive system</b>	How is our food digested?	<ul style="list-style-type: none"> <li>• The structure and function of enzymes</li> <li>• Where are digestive enzymes produced and where is their action</li> <li>• The fate of the products of digestion</li> <li>• The formation and function of bile</li> <li>• Carrying out rate calculations for chemical reactions</li> </ul>	<p><b>How understanding is assessed</b>  Describe and explain the roles of enzymes  <b>Students will be assessed on their ability to:</b></p> <ul style="list-style-type: none"> <li>• Relate knowledge of enzymes to metabolism</li> <li>• Describe the nature of enzyme molecules and relate their activity to temperature and pH changes</li> <li>• Carry out rate calculations for chemical reaction.</li> </ul> <p><b>Required practical activity 4:</b> use qualitative reagents to test for a range of carbohydrates, lipids and proteins.</p>

				<p><b>Required practical 5:</b> investigate the effect of pH on the rate of reaction of amylase enzyme.</p> <p><b>Skills</b>  Graphical interpretation  Making connections  Explanations  Description  Scientific literacy  Planning and carrying out an investigation  Graph drawing  Data analysis</p>
Summer	<b>4.7 Ecology</b>	<b>How are complex communities maintained?</b>	4.7.1 Adaptations, interdependence and competition 4.7.2 Organisation of an ecosystem 4.7.3 Biodiversity and the effect of human interaction on ecosystems 4.7.4 Trophic levels in an ecosystem (biology only) 4.7.5 Food production (Biology only)	<p><b>How understanding is assessed</b></p> <p><b>Students will be assessed on their ability to:</b></p> <ul style="list-style-type: none"> <li>● Recall the knowledge covered</li> <li>● Interpret graphical and experimental data</li> <li>● Make connections between different areas of understanding, explain the biological processes covered.</li> </ul> <p>Assessment will take the form of written questions in a test.</p> <p><b>Students will also be assessed on their ability to effectively carry out the following:</b></p> <p><u>Required practical 9:</u> measure the population size of a common species in a habitat. Use sampling techniques to investigate the effect of a factor on the distribution of this species.</p> <p><u>Required practical 10:</u> the effect of temperature on the rate of decay of fresh milk by measuring pH change.</p>

				<b>Skills</b> Graphical interpretation Making connections Explanations Description Scientific literacy Planning and carrying out an investigation Graph drawing Data analysis
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