

Unit Overview: Exchange and transport								
Half- Term:	AUT 1	AUT 2	SPR 1	SPR 2	SUM 1	SUM 2	No of Lessons:	25
<p><b>Key Focus for Unit:</b>  <i>What is the key knowledge being delivered?</i>  <i>What is the intent of this unit?</i></p>								
<p>Students will start off their A-level biology course by building on basic concepts learnt in GCSE. This topic focuses on exchange of materials, transport in animals and transport in plants.</p> <p><b>Exchange surfaces and breathing</b> – students explore how the human respiratory system is adapted to its function. Students investigate how to measure lung volumes and how to interpret these values to assess an individual’s health. Students explore how gas exchange occurs in other organisms, specifically looking at gas exchange in insects and fish.</p> <p><b>Transport in animals</b> – Students explore the need for a transport system in animals. Students build upon the key knowledge from GCSE when looking at how the blood vessels and the heart are adapted to their roles in the body. Students further explore how materials are exchanged at the capillaries. Students look in depth at the functioning of the heart, specifically looking at how a heartbeat is coordinated and how the health of an individual can be assessed through using an ECG. Students explore how oxygen and carbon dioxide are transported in the body.</p> <p><b>Transport in plants</b> – Students explore the need for transport system in plants. Students build upon their knowledge of transport in plants from GCSE to look at the plant tissues in greater detail. Students develop their practical skills within this topic, through completing dissections of plant tissues and measuring the effect of an environmental variable on the rate of transpiration.</p>								
<p><b>Key Knowledge and Big Ideas:</b>  <i>What <b>Powerful Knowledge</b> and <b>Big Ideas</b> are explored in this Unit?</i>  <i>How have these progressed from previous learning? What <b>gaps in knowledge</b> have you identified from <b>baselining</b> and how are the being closed?</i></p>								
<p>Levels of Organisation. Big or small all living things are built up of basic building blocks known as cells. In this big idea, you will learn about characteristics of cells and how they are organised to enable organisms to function.</p>								
<p><b>Unit Assessment:</b>  <i>How will this unit be assessed?</i>  <i>What is the frequency of assessments – baselines etc?</i></p>								
<p>Sub-unit assessments</p> <ul style="list-style-type: none"> <li>• 3 x 60 mark assessment on individual sub-unit taught</li> </ul> <p>End of unit assessment</p> <ul style="list-style-type: none"> <li>• 1 x 100 mark assessment on all content covered within unit</li> </ul> <p>Homework KS5:</p> <ul style="list-style-type: none"> <li>• Past paper questions</li> <li>• Wider reading and research</li> </ul>								
<b>Key Skills Explored</b>			<b>Vocabulary Selected for DVI</b>			<b>Links to Previous Unit</b>		

<p>Maths skills  Practical skills  Analytical skills  Graph skills  Comprehension skills</p>	<p>Surface area, Trachea, Bronchi,  artery, vein, capillary, systole,  diastole, SAN, AVN, bundle of His,  haemoglobin, affinity</p>	<p>GCSE Biology content: Organising  animals and plants</p>
<p><b><u>Links to Careers/Employability</u></b></p>	<p><b><u>How does this unit prepare students for the next unit?</u></b></p>	
<p>Physicians  Ecologists  Marine biologists</p>	<p>The content covered in this unit enables students to access the knowledge  plant and animal responses in year 13.</p>	