

### Content of 3H Cambridge – Science in English

Module	Content	Objectives/extra
Classification	<ul style="list-style-type: none"> <li>• Characteristics of living things</li> <li>• Classification</li> <li>• The kingdoms of living organism</li> <li>• Viruses</li> <li>• Classifying animals</li> <li>• Classifying plants</li> <li>• Keys</li> </ul>	<ul style="list-style-type: none"> <li>• To be able to describe the characteristics of living organisms</li> <li>• To be able to use dichotomous keys to identify organisms</li> <li>• To be able to explain why viruses are not living organisms</li> </ul>
Cells	<ul style="list-style-type: none"> <li>• Cell structure</li> <li>• Cells and organisms</li> </ul>	<ul style="list-style-type: none"> <li>• To be able to draw annotated diagrams of cells and explain the differences between plant and animal cells</li> </ul>
Movement in and out of cells	<ul style="list-style-type: none"> <li>• Diffusion</li> <li>• Osmosis</li> <li>• Active transport</li> </ul>	<ul style="list-style-type: none"> <li>• To be able to understand the differences between the three types of movements that occur within cells</li> </ul>
The chemicals of life	<ul style="list-style-type: none"> <li>• What are you made of?</li> <li>• Carbohydrates</li> <li>• Fats and proteins</li> </ul>	<ul style="list-style-type: none"> <li>• To be able to identify a substance based on its chemical structure</li> <li>• To be able to explain, using examples, the differences between mono/di/poly saccharides</li> </ul>
Plant nutrition	<ul style="list-style-type: none"> <li>• Types of nutrition</li> <li>• Photosynthesis</li> <li>• Leaves</li> <li>• Use of glucose</li> <li>• Limiting factors</li> </ul>	<ul style="list-style-type: none"> <li>• To be able to give a comprehensive account of plant nutrition</li> <li>• To be able to balance chemical equations, such as photosynthesis</li> <li>• To be able to explain how and why limiting factors affect plant growth</li> </ul>
Transport in plants	<ul style="list-style-type: none"> <li>• Transport systems</li> <li>• Water uptake</li> <li>• Transpiration</li> </ul>	<ul style="list-style-type: none"> <li>• To be able to describe the different transport systems in plants</li> <li>• To be able to identify xylem and phloem vessels and explain</li> </ul>

		their purposes in the plant transport system
Animal nutrition	<ul style="list-style-type: none"> <li>• Diet and digestion</li> <li>• Teeth</li> <li>• Alimentary canal</li> <li>• Assimilation</li> </ul>	<ul style="list-style-type: none"> <li>• To be able to define 'healthy diet'</li> <li>• To be able to identify the function of an organism's teeth based on shape and size</li> <li>• To be able to give an account of how digestion occurs, using examples of enzymes where possible</li> </ul>
Transport in animals	<ul style="list-style-type: none"> <li>• Circulatory systems</li> <li>• The heart</li> <li>• Blood and blood vessels</li> <li>• Lymph and tissue fluid</li> </ul>	<ul style="list-style-type: none"> <li>• To be able to identify the different parts of the circulatory system in humans</li> <li>• To be able to outline the role of veins and arteries</li> <li>• To be able to explain the role of lymph tissue and fluid</li> </ul>
Pathogens and immunity	<ul style="list-style-type: none"> <li>• Pathogens</li> <li>• Body defences</li> <li>• The immune system</li> </ul>	<ul style="list-style-type: none"> <li>• To be able to identify different pathogens</li> <li>• To be able to explain the differences between chemical and mechanical barriers</li> <li>• To be able to explain the process of phagocytosis</li> </ul>
Respiration and gas exchange	<ul style="list-style-type: none"> <li>• Respiration + smoking (drugs)</li> <li>• Gas exchange in humans</li> <li>• Breathing movements</li> </ul>	<ul style="list-style-type: none"> <li>• To be able to describe the differences between breathing, gas exchange and respiration</li> <li>• To be able to outline how the breathing mechanism works in humans, focusing on the skeletal structure of the ribcage</li> </ul>
Drugs	<ul style="list-style-type: none"> <li>• What is a drug?</li> <li>• Medicinal drugs</li> <li>• Misuse of drugs</li> </ul>	<ul style="list-style-type: none"> <li>• To be able to state and define what a drug is</li> <li>• To be able to explain what 'misuse' of</li> </ul>

		<p>drugs means</p> <ul style="list-style-type: none"> <li>To be able to outline differences between medicinal and non-medicinal drugs</li> </ul>
<p>Coordination and response</p>	<ul style="list-style-type: none"> <li>Coordination in animals</li> <li>Human nervous system</li> <li>Receptors</li> <li>Endocrine system</li> <li>Coordination response in plants</li> </ul>	<ul style="list-style-type: none"> <li>To be able to outline what coordination is</li> <li>To be able to explain how the human nervous system works</li> <li>To be able to talk about reflex arcs using examples where possible</li> <li>To be able to explain the differences between the nervous system and the endocrine system</li> <li>To be able to explain the role of auxin in plant growth</li> </ul>