


<b>Year 7: Biology</b>	<b>Curriculum Intent:</b> Students will secure a strong grounding in the fundamental principles of Biology. This includes Life Processes, Cells, Ecosystems and Modern Biology. These areas will be further built upon in Year 8, so a strong grasp of the key questions and the key practical skills are crucial. This core knowledge and procedural knowledge will be taught and revisited, ensuring the key questions are the central focus of lesson content. The knowledge developed will be constantly in use as the topics link together, along with the core topics in both Chemistry and Physics. Students will get the opportunity to demonstrate their knowledge through practical investigations and challenging tasks.			
	<p style="text-align: center;"><b>Topic 1</b> Life Processes</p>	<p style="text-align: center;"><b>Topic 2</b> Cells</p>	<p style="text-align: center;"><b>Topic 3</b> Ecosystems</p>	<p style="text-align: center;"><b>Topic 4</b> Modern Biology</p>
<p style="text-align: center;"><b>Key ideas</b></p>	<ul style="list-style-type: none"> <li>• Skeletal structure (bones and muscles)</li> <li>• Biological molecules (as part of balanced diet)</li> <li>• Digestion (including importance of bacteria)</li> </ul>	<ul style="list-style-type: none"> <li>• Plant and Animal cells (similarities and differences)</li> <li>• Animal Reproduction <ul style="list-style-type: none"> <li>• Structures</li> <li>• Menstrual cycle</li> <li>• Fertilisation</li> <li>• Pregnancy</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Plant Reproduction <ul style="list-style-type: none"> <li>- Insect pollinated crops</li> <li>- Asexual reproduction</li> </ul> </li> <li>• Ecosystems</li> <li>• Food webs and chains</li> <li>• Toxic accumulation e.g. mercury in fish</li> <li>• Biodiversity</li> <li>• Gene banks</li> <li>• Variation</li> <li>• Adaptations</li> </ul>	<ul style="list-style-type: none"> <li>• Unicellular organisms</li> <li>• Illnesses and vaccines</li> <li>• Modern medicine – links with History topic of medicine through time (timeline of recent discoveries)</li> </ul>
<p style="text-align: center;"><b>Sequence of Learning - Key Questions</b></p>	<ul style="list-style-type: none"> <li>• How do we move?</li> <li>• How to eat healthily?</li> <li>• What happens to the food we eat?</li> </ul>	<ul style="list-style-type: none"> <li>• What are cells?</li> <li>• How are plant and animal cells different?</li> <li>• How do plants reproduce?</li> <li>• How do mammals reproduce?</li> </ul>	<ul style="list-style-type: none"> <li>• How do plants reproduce?</li> <li>• How are organisms interdependent?</li> <li>• What is biodiversity and why is it important?</li> <li>• Why is biodiversity important for a sustainable future?</li> </ul>	<ul style="list-style-type: none"> <li>• What causes illness and how do they spread?</li> <li>• What are the types of illness?</li> <li>• How do we treat illnesses?</li> <li>• How has Science impacted on the treatment of disease?</li> </ul>

			<ul style="list-style-type: none"> <li>• How does variation lead to adaptations and variety on Earth?</li> </ul>	<ul style="list-style-type: none"> <li>- Microscope invention and development</li> <li>- Cholera and Snow</li> <li>- Jenner and Smallpox vaccines and links to COVID-19</li> </ul>
<b>Vocabulary</b>	<p>Accuracy, Precision, Repeatability, Reproducibility.</p> <ul style="list-style-type: none"> <li>• Antagonistic, skeletal, tendons, ligaments</li> <li>• Carbohydrates, Proteins, Lipids/Fats</li> <li>• Surface Area, diffusion, absorption</li> </ul>	<p>Accuracy, Precision, Repeatability, Reproducibility.</p> <ul style="list-style-type: none"> <li>• Organelle, cell membrane, cell wall, nucleus, vacuole, cytoplasm, mitochondria, chloroplast, chlorophyll</li> <li>• Stamen, stigma, anther, filament, pollen tube, ovary, style</li> <li>• Penis, semen, vagina, ovary, fallopian tube/oviduct, uterus, cervix, scrotum, testes, urethra, prostate gland <ul style="list-style-type: none"> <li>• Testosterone, progesterone, oestrogen, period, uterine lining, ovulation, menstrual cycle</li> </ul> </li> </ul>	<p>Accuracy, Precision, Repeatability, Reproducibility.</p> <ul style="list-style-type: none"> <li>• Ecosystem, habitat, population, community, organism</li> <li>• Biodiversity</li> <li>• Adaptations, Darwin, Survival of the fittest, Lamarck</li> <li>• Variation, genetic, environmental</li> </ul>	<p>Accuracy, Precision, Repeatability, Reproducibility.</p> <ul style="list-style-type: none"> <li>• Bacteria, virus, pathogen, fungi,</li> <li>• communicable and non-communicable, inherited, lifestyle</li> <li>• Antibiotics, antiseptics, antivirals, vaccines</li> <li>• Microscopes, cholera,</li> </ul>
<b>Practical Skills</b>	<ul style="list-style-type: none"> <li>• Model of a muscle</li> <li>• Food tests</li> <li>• Visking tubing model for digestion</li> </ul>	<ul style="list-style-type: none"> <li>• How to setup a light microscope and prepare a slide for viewing</li> <li>• Draw a biological drawing</li> </ul>	<ul style="list-style-type: none"> <li>• Flower dissection</li> <li>• Seed dispersal investigation</li> <li>• Sampling – quadrats/pitfall traps/pooters</li> </ul>	<ul style="list-style-type: none"> <li>• Petri dishes with agar jelly (washed and unwashed hands)</li> <li>• Mask investigation (planning investigation skills)</li> </ul>

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