

Key Stage 3 Overview - Biology

	Unit 1 - Classification	Unit 2 - Cells	Unit 3 - The Human Body	Unit 4 -What is a scientist?	Unit 5 - Reproduction	Unit 6 - Habitat Study
Year 8	<p>Focusing on <u>managing information, working with others</u> and <u>decision making</u>.</p> <p>Pupils will: research scientific information, develop skills of scientific enquiry, develop a range of practical skills and learn about organisms and health –particularly the interdependence of living things.</p>	<p>With an emphasis on <u>thinking, decision making</u> and <u>managing information</u>.</p> <p>Pupils will: develop skills in scientific enquiry, develop a range of practical skills; learn about organisms and health – specifically cells and genes.</p>	<p>Using <u>ICT, communication, managing information</u> and <u>thinking skills</u>.</p> <p>Pupils will: learn about personal health (misuse of chemicals on the human body), organisms and health, and a healthy mind.</p>	<p>Focusing on <u>managing information, problem solving, decision making, working with others, ICT</u> and <u>using maths</u>.</p> <p>Pupils will: conduct a practical investigation, develop a range of practical scientific skills.</p>	<p>With emphasis on <u>working with others</u> and <u>decision making</u>.</p> <p>Pupils will: study reproduction, gain a personal understanding of changes at puberty, and examine personal health (e.g. effects of smoking on pregnancy).</p>	<p>With attention to <u>managing information, thinking, decision making, working with others, numeracy</u> and <u>communication</u>.</p> <p>Pupils will: learn about the earth, the universe, the environment and human influences on it.</p>
Year 9	Unit 1 - Reproduction In Plants	Unit 2 - Pollination and Fertilisation	Unit 3 - Seeds and Germination	Unit 4 - Photosynthesis	Unit 5 - Food Chains	Unit 6 - Pollution and Conservation
	<p>With an emphasis on <u>working with others, managing information, communication</u> and <u>demonstrating practical skills</u>.</p> <p>Pupils will: learn plant reproduction and anatomy of plants.</p>	<p>With attention to <u>problem-solving skills, creative thinking</u> and <u>working with others</u>.</p> <p>Pupils will: make informed decisions on types of seed dispersal, communicate effectively, research and manage information to investigate design issues and demonstrate practical skills.</p>	<p>Focusing on using <u>mathematics, literacy, self-management</u> and <u>decision making</u>.</p> <p>Pupils will: learn the structure of seed and conditions needed for germination, and develop investigation skills.</p>	<p>Using <u>mathematics, problem-solving skills</u> and <u>working with others</u>.</p> <p>Pupils will: define photosynthesis and learn equations and spelling; develop practical skills (following methods); create an equation leaf poster; conduct photosynthesis experiments; carry out their own investigation into plant growth.</p>	<p>With emphasis on <u>self-management, creative thinking</u> and <u>information management</u></p> <p>Pupils will: acquire an understanding of ecological terms; build food chains, webs, pyramids from information.</p>	<p>Focusing on <u>mathematics, self-management, working with others</u> and <u>information management</u>.</p> <p>Pupils will: gain an awareness of pollution problems and conservation methods. Furthermore, appreciate the importance of biodiversity in the garden.</p>
	Unit 7 - Food & digestion			Unit 8 - Biology & Careers		
Year 9	<p>With an emphasis on <u>working with others, thinking</u> and <u>decision making</u>.</p> <p>Pupils will: learn the following:</p> <ul style="list-style-type: none"> • Different types of food and their functions:- carbohydrates, proteins, fats, vitamins A & D, minerals Ca & Fe • Importance of a balanced diet • practical skills acquired from carrying out food tests • Parts of the digestive system • Understand the meaning of keywords: ingestion, digestion, absorption, egestion. 			<p>Concentrating on <u>employability, communication, working with others, thinking</u> and <u>decision making</u>.</p> <p>Pupils will: revise the skills they have developed while studying Biology for two years and learn about the career opportunities for Biologists.</p>		

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	Unit 1 - Food and Energy	Unit 2 - Enzymes	Unit 3 - Circulation
Year 10	<p>With attention to <u>information management</u>, <u>problem-solving skills</u> and <u>working with others</u>.</p> <p>Pupils will:</p> <ul style="list-style-type: none"> • develop skills in scientific methods • develop critical thinking in their approach to solving problems • develop a range of practical skills <p>Revise the digestive system, digestion, and the nutrients that are broken down; compare the energy content of the different nutrients i.e. carbohydrates, fats and protein.</p>	<p>Using <u>problem-solving</u> and <u>decision-making skills</u>, <u>information management</u> and <u>working with others</u>.</p> <p>Pupils will:</p> <ul style="list-style-type: none"> • develop skills in scientific methods • develop a range of practical skills <p>Learn enzyme structure; understand the effect of pH and temperature on enzyme activity; study enzyme specificity; examine enzyme uses in the human body and industrial reactions; appreciate advantages of enzymes in industry, and conduct an enzyme investigation to develop maths and problem-solving skills.</p>	<p>With emphasis on <u>being creative</u>, <u>working with others</u>, <u>problem-solving</u> and <u>information management</u>.</p> <p>Pupils will:</p> <ul style="list-style-type: none"> • develop skills in scientific methods • learn about healthy body and cells <p>Learn about the composition and function of blood; understand double circulation; learn the structure and function of the heart, blood vessels; understand how to maintain a healthy heart and the effect of exercise on the heart.</p>
Year 10	Unit 4 - Microbes	Unit 5 - Harmful & Useful microbes	Unit 6 - The Nervous System
	<p>Focusing on <u>information management</u>, <u>being creative</u> and <u>working with others</u>.</p> <p>Pupils will:</p> <ul style="list-style-type: none"> • develop skills in scientific methods • learn about cells • develop a range of practical skills <p>Be introduced to microbiology; study structure of bacteria, virus and fungi; explore the microbiology hall of fame; discover where microbes are found and determine the factors affecting microbial growth.</p>	<p>Concentrating on <u>problem-solving</u>, <u>decision-making</u>, <u>information management</u>, <u>working with others</u> and <u>being creative</u>.</p> <p>Pupils will:</p> <ul style="list-style-type: none"> • develop skills in scientific methods • develop a range of practical skills <p>Learn about biotechnology; appreciate the uses of microbes in food production e.g. bread making, yoghurt; understand the role of fermentation; explore other uses of microbes i.e. penicillin production and sewage treatment. Furthermore, pupils will learn about immunity (active and passive), white blood cells and diseases caused by bacteria, viruses and fungi.</p>	<p>With attention to <u>problem-solving</u>, <u>managing information</u> and <u>working with others</u>.</p> <p>Pupils will:</p> <ul style="list-style-type: none"> • develop skills in scientific methods • develop critical thinking in their approach to solving problems • develop a range of practical skills <p>Learn about sensory organs in the human body; understand the processing of information by the brain; appreciate how much we rely on our senses; learn the structure and function of the brain, memory and learning; examine approaches to improve learning skills; study body temperature regulation.</p>

