

Y9 Science

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	Curriculum Intent: Science has massive impact on society and is vital to the world's future prosperity. At Forge Valley all pupils are taught to appreciate the achievements of science and to develop their curiosity and excitement about the natural world. We aim to provide all pupils with a high challenge, high-quality science education that provides the foundations for understanding the world through the specific disciplines of Biology, Chemistry and Physics. We will do this by embedding a culture of confidence and mastery underpinned by scientific enquiry and by building up a body of key foundational knowledge and concepts. Pupils will be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, analyse causes, as well as to develop their ability to see connections between science subject areas. Our pupils will develop an in depth understanding of the world around them and will appreciate how major scientific ideas have played a vital role in society, preparing them for life in an increasingly scientific and technological world.			
	Core Knowledge			Procedural Knowledge
	Y9 Biology	Y9 Chemistry	Y9 Physics	
Autumn 1	Cell biology Respiration Photosynthesis	Atomic structure The Periodic table	Fundamentals of forces and energy	Pupils will: - Use scientific theories and explanations to develop hypotheses. - Plan experiments to make observations, test hypotheses, check data and formulate conclusions. - Apply knowledge of a range of techniques, instruments, apparatus, and materials to select those appropriate to the experiment. - Carry out experiments appropriately to ensure the accuracy of measurements and to consider health and safety considerations.
Autumn 2	Microscopy Diffusion	The alkali metals The halogens	Energy Resources	
Spring 1	Osmosis Active Transport	Separating mixtures	Particle Model of Matter	
Spring 2	Gas exchange	The Atmosphere	Static Electricity	
Summer 1	Circulatory system	Atmospheric pollutants	Current Electricity	

Summer 2	Digestive system	Potable Water	Household electricity	- Make and record observations and measurements. - Evaluate methods and suggest possible improvements.
	Homework: Homework is set on Bromcom. An Educake quiz is set every week for biology, chemistry and physics. Each quiz should take 15-20 minutes to complete. Every quiz has support material to aid pupils. The expectation is that pupils repeat the quiz until they achieve at least 70%. Each quiz is designed to consolidate learning from lessons to build a strong foundational knowledge.			
	Assessment: There are two INOVA formal summative assessments: The assessment in November exam will cover cell biology, photosynthesis, respiration, atomic structure, the periodic table, forces and energy. The assessment in May will cover all topics taught during the autumn and spring terms.			
	Links to Personal Development: • Risk assessments: Enabling students to recognise risks to their own wellbeing. • Social development: Practise using a range of social skills in different situations. • Teamwork and communication: Completing practical work in pairs whereby pupils will need to work together and delegate tasks • Problem-solving and critical thinking: Completing multi-step calculations from a range of topic areas and using information to determine unknowns • Diversity: Opportunities to recognise the contributions that scientists from a range of backgrounds have contributed to the knowledge base that we use today • Careers: Linking topic areas to the wide range of careers and academic pathways that science can lead towards			
	How is my knowledge further developed during Key Stage 4? Year 9 Science provides a bridge between Key Stage 3 and the AQA GCSE Science courses studied in Years 10 and 11. It ensures that students begin GCSE study with the secure knowledge, scientific vocabulary and practical skills needed to access increasingly demanding content across Biology, Chemistry and Physics. The curriculum is designed around the key concepts that underpin the AQA GCSE specification, allowing learning in Years 10 and 11 to build upon strong foundations rather than introducing entirely new ideas. As students' progress through GCSE, they are expected to recall prior knowledge, apply scientific thinking to unfamiliar contexts, and use mathematical and analytical skills with confidence. The Year 9 bridging curriculum supports this progression, enabling students to make connections between topics, retain knowledge more effectively and develop the independence required for success at GCSE. By creating continuity between Key Stage 3 and GCSE, Year 9 helps students transition smoothly into Years 10 and 11, preparing them to engage confidently with the full AQA course and achieve their potential in science.			

