

Science

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Curriculum Intent: To ensure students maintain and develop their curiosity and excitement about the natural world. To develop all to be 'scientists' by embedding a culture of confidence and mastery underpinned by scientific enquiry. To develop their ability to see connections between science subject areas and become aware of some of the big ideas for understanding the world and to provide a high challenge, high quality science education for all our learners.

	Core Knowledge	Procedural Knowledge
Autumn	Topics: Work like a Scientist - practical skills. Biology: Cells. Chemistry: Particles and their behaviour. Physics: Forces.	Students will: Select, plan, and carry out the most appropriate scientific enquiries to test predictions. Identify independent, dependent and control variables. Use appropriate techniques, apparatus and materials during field work and lab work, paying attention to health and safety. Pay attention to objectivity and concern for accuracy, precision, repeatability, reproducibility Explain data in relation to predictions and hypotheses. Understand that scientific theories are modified to take account of new evidence. Understand importance of publishing results and peer review.
Spring	Topics: Biology: Structure and function of body systems. Chemistry: Elements, compounds and mixtures and reactions. Physics: Sound.	Students will: Select, plan, and carry out the most appropriate scientific enquiries to test predictions. Identify independent, dependent and control variables. Use appropriate techniques, apparatus and materials during field work and lab work, paying attention to health and safety Pay attention to objectivity and concern for accuracy, precision, repeatability, reproducibility Explain data in relation to predictions and hypotheses. Understand that scientific theories are modified to take account of new evidence. Understand importance of publishing results and peer review.

Summer	Topics: Biology: Reproduction. Chemistry: Acids and alkalis. Physics: Light and space.	Students will: Select, plan, and carry out the most appropriate scientific enquiries to test predictions. Identify independent, dependent and control variables. Use appropriate techniques, apparatus and materials during field work and lab work, paying attention to health and safety. Pay attention to objectivity and concern for accuracy, precision, repeatability, reproducibility Explain data in relation to predictions and hypotheses. Understand that scientific theories are modified to take account of new evidence. Understand importance of publishing results and peer review.
Homework: Students will receive homework for every six hours that they are taught. Science homework will be set using Educake, an online learning platform designed to support students in developing their knowledge and understanding of science. Students will be set quizzes based on what they are learning in lessons or on topics that they need to revise for an assessment. The quizzes are automatically marked giving students instant feedback so they can see where they have done well and where they need to improve. This will reinforce what they have learnt in lessons, identify gaps in their knowledge early, build confidence through regular practice and prepare effectively for assessments and exams. Students can log into Educake using their school email and password and can complete their work on any internet-enabled device (computer, tablet, or smartphone).		
Assessment: Students will have a Baseline assessment on KS2 knowledge. To assess learning students will also have in class End of unit assessments throughout the year. There will be two more formal assessments. Spring Term: Exam on cells, particles and forces. Summer Term: Exam on all content covered in Y7.		
Links to Personal Development: Enabling students to recognise risks to their own wellbeing. Social development: Practise using a range of social skills in different situations. Confidence, Resilience and Knowledge: Mentally healthy, physically healthy, active lifestyle, healthy relationships.		
How is my knowledge further developed in Year 8? Students will build upon the scientific principles learnt in Year 7 and at KS2, as well as covering brand new content in all three sciences. Practical skills will be refined as more experiments are carried out and written up in a scientific format. There will be a focus on exam technique and students will regularly receive feedback after assessments.		