

SUBJECT: SCIENCE

Year Group	YEAR 9						
Rationale	Year 9 will begin to cover the fundamental ideas needed for GCSE science. During the year students will reinforce the knowledge that they have gained in years 7 and 8 and focus on building on these key ideas to ensure a good foundation for the Key Stage 4 GCSE in the combined or separate sciences. Students will study an equal mix of biology, chemistry and physics with the skills of working scientifically embedded throughout. Pupils work through the units in rotation during the course of the year.						
	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2	
Topic/Unit	Biology Unit 1: Cells & Organisation	Chemistry Unit 1: Atomic Structure & Separation Techniques	Physics Unit 1: Heat and Electrical Energy Transfers	Biology Unit 2: Infection, Photosynthesis & Respiration	Chemistry Unit 2: Periodic Table & Chemical Reactions	Physics Unit 2: Forces and Motion	
Knowledge	 Cells, Tissues and Organs Microscopes & Magnification Specialised Cells Blood Blood Vessels The Heart Heart Problems Breathing & Gas Exchange 	 Elements and Atoms Atomic Structure Chemical Formula Relative Formula Mass Simple Distillation Filtration & Crystallisation Chromatograph y & Rf Values 	 Temperature Change of State Internal Energy Thermal Conductivity Efficiency Energy Resources National Grid Electrical Energy Transfer Electrical Energy Cost 	 Communicable Diseases Defence against Disease Vaccination Developing 	 Periodic Table Forming Ions Ionic Bonding Acids and Bases Group 1 Metal Reactions Covalent Bonding Balancing Symbol Equations 	 Resultant Forces Speed Distance-Time Graphs Acceleration Newton's Laws Weight Moments Hooke's Law Pressure Density 	
Skills	Pupils will continue to develop their working scientifically skills through carrying out investigative work to help them describe how microscopes are used and how the circulatory and breathing system function. Pupils will develop their numeracy skills through developing their understanding of the use of the prefixes milli- and mcro- and how to convert between units of measurement.	Pupils will continue to develop their working scientifically skills through carrying out investigative work to help them separate mixtures through the processes of distillation, filtration, crystallisation and chromatography Pupils will develop their numeracy skills by calculating relative formula mass and using data from chromatography experiments to calculate Rf values.	Pupils will continue to develop their working scientifically skills through carrying out work to investigate different energy resources and how electricity can be generated. Pupils will develop their numeracy skills as they develop their use of some of the key physics equations and carry out calculations involving energy transfers, power and efficiency.	Pupils will continue to develop their working scientifically skills through carrying out work to investigate how communicable diseases are spread and how new drugs are developed. Pupils will develop their numeracy skills through analysis of data and describing what data shows.	Pupils will continue to develop their working scientifically skills through carrying out investigative work to describe and explain the reactivity of group one metals. Pupils will develop their numeracy skills through developing their understanding of what ions are and how they are formed and by balancing symbol equations. Pupils will also be able to relate an atom's position in the periodic table to its electronic structure.	Pupils will continue to develop their working scientifically skills through carrying out work to investigate forces, moments, Hooke's Law and acceleration. Pupils will develop their numeracy skills as they develop their use of some of the key equations in physics.	
Assess- ments	Assessment: Cells & Organisation Exam Style Questions Assessment	Assessment: Atomic Structure & Separation Techniques Exam Style Questions Assessment	Assessment: Heat and Electrical Energy Transfers Exam Style	Assessment: infection & Response Exam Style Questions Assessment	structure. Assessment: Periodic Table & Bonding Exam Style Questions Assessment	Assessment: Forces and Motion Exam Style Questions Assessment End of Year 9 Exam:	

St Edmund Arrowsmith Catholic High School: Curriculum (2022-2023)



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All pupils have their own username and password for the www.educake.co.uk website where they can complete the online quizzes set for homework. If pupils are struggling to access the website, they should speak to their science teacher.