Science Curriculum Overview

"The whole of science is nothing more than a refinement of everyday thinking." – Albert Einstein

We seek excellence by providing opportunities for our students to develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics to help them understand the world around them. The curriculum is sequenced to allow previous learning to enhance the understanding of new ideas and concepts, ensuring students are confident with fundamental building blocks in biology, chemistry and physics to deepen their understanding of new phenomena and processes around them.

Science will provide students with opportunities to develop their teamwork skills – both in practical and problem solving activities. They will develop their critical thinking skills throughout their journey through science as we seek to help them to answer scientific questions about the world around them. Students will be encouraged to speak like an expert and develop their communication of scientific ideas.

Science has a great ability to improve lives, so it is essential that students develop a knowledge of core scientific ideas and methods, alongside an understanding of how these have come about. This will support students in their future lives; helping them to understand the uses and implications of science, today and for the future. Students will leave South Axholme Academy with an excitement and curiosity about the world in which they live, and an ability to analyse causes and recognise the power of rational explanation.

	Autumn	Spring	Summer
Year 7	Bridging unit Interdependence Universe	Particle model Forces Cells	Separation techniques Reproduction Acids and bases
Year 8	Respiration Energy stores Earth Structure Digestion	Chemical Reactions Electricity	Photosynthesis and plant structure Magnetism
Year 9	Health, body and disease Periodic Table Motion and speed	Genetics and variation Reactivity and extracting metals Springs	Natural selection and evolution Heating and cooling Waves

Combined Science			
Year 10	Cells and transport Adaptations for survival Communicable diseases Fundamental ideas and atomic structure Chemical analysis Atmosphere Particle model	Organisation of an ecosystem Non communicable diseases Plant structure Periodic table Reactivity of metals Rates Energy	Animals, tissues, organs and organ systems Respiration Acids and Bases Organics Forces Atomic structure (physics)
Year 11	Human interactions on an ecosystem Energy changes (chem) Bonding and properties Quantitative chemistry Waves Electricity Reproduction	Evolution and classification Human nervous system Hormonal control Cell division Electrolysis Equilibrium Magnetism and Electromagnetism	Exam preparation

Triple Science - Biology			
Year 10	Cells and transport Communicable disease Monoclonal Antibodies Non-communicable disease	Plant structure Plant hormones Adaptation for survival Organisation of ecosystems	Human interaction of ecosystem Animals, tissues, organs and organ systems Respiration Reproduction Variation
Year 11	Evolution and Classification Food production	Homeostasis The Human Nervous System Hormonal Coordination in Humans Cell Division	Exam preparation

Triple Science - Chemistry			
Year 10	Fundamental ideas and atomic structure Chemical analysis Reactivity of metals	Rate of reaction Organic chemistry Chemistry of the atmosphere	Periodic table Bonding structure and properties
Year 11	Quantitative Acids and Alkalis Electrolysis	Energy changes Equilibrium Further organics	Exam preparation

Triple Science - Physics			
Year 10	Energy Forces and Interactions	Forces and Motion Moments Pressure Momentum	Particle Model Atomic Structure
Year 11	Waves Electricity	Magnetism and Electromagnetism Space	Exam preparation