

Y7 SCIENCE: KEY PERFORMANCE INDICATORS

Age Related Expectations (ARE)	Working at Greater Depth (GD)
A student is achieving the standards expected for their age. This includes: • Understands key scientific ideas: Can describe processes like photosynthesis, forces, or particle theory. • Uses scientific vocabulary correctly. • Carries out investigations using basic methods. • Records and presents data in tables, charts, or graphs. • Draws simple conclusions based on evidence. • Applies knowledge to familiar contexts.	A student shows deeper understanding and more advanced reasoning. This includes: • Demonstrating deep conceptual understanding of the key concepts. • Choosing efficient strategies and explains <i>why</i> they work. • Applying knowledge flexibly to unfamiliar or complex problems. • Making connections between different areas of maths. • Justifying reasoning and explores alternative methods.

Term	Unit of Work	KPIs
AUT1	Biology • Cells and Tissues • Animal Reproduction • Plant Reproduction • Environment and Adaptation	• describe cell structure and function in plant and animal cells; use a microscope to observe cells • explain organisation of cells → tissues → organs → systems • describe human reproductive systems and stages of reproduction • explain plant reproduction including pollination, fertilisation and seed dispersal • describe how organisms are adapted to their environment and how adaptations aid survival
AUT2	Chemistry • Particles • Atoms and Elements • Acids and Alkalis	• describe states of matter using the particle model and explain changes of state • explain diffusion and gas pressure in terms of particle movement • distinguish between elements, compounds and mixtures; use particle diagrams • describe the structure and layout of the periodic table and identify groups and periods • use the pH scale to identify acids and alkalis and describe neutralisation reactions
SPR1	Physics • Energy Transfers • Forces and Effects • Electricity	• describe energy stores and transfers and calculate simple energy changes • explain how energy is conserved and dissipated in systems • describe forces and their effects on motion including speed calculations • explain balanced and unbalanced forces and their impact on movement • describe current, voltage and resistance in series and parallel circuits
SPR2	Biology • Variation and Classification • Photosynthesis • Food and Digestion	• describe variation within species and distinguish between inherited and environmental variation • classify organisms into groups based on shared characteristics • state the word equation for photosynthesis and explain factors affecting its rate • explain how plants obtain resources needed for photosynthesis • describe the digestive system and how enzymes break down food into nutrients
SUM1	Chemistry • Pure and Impure • Simple Chemical Reactions • Compounds	• distinguish between pure substances and mixtures and describe separation techniques • describe simple chemical reactions including combustion and thermal decomposition • write word equations for chemical reactions • explain conservation of mass using particle models • describe how compounds differ from elements and name simple compounds
SUM2	Physics • Energy Resources • Magnets and Electromagnets • Motions	• compare renewable and non-renewable energy resources and their advantages/disadvantages • describe magnetism, magnetic fields and forces between magnets • explain how electromagnets are made and factors affecting their strength • calculate speed using distance–time data and interpret graphs • describe motion in terms of speed, direction and changes due to forces
	Working Scientifically throughout the year	• identify independent, dependent and control variables in simple investigations • use appropriate equipment safely to take accurate measurements • record data using tables and simple graphs (bar charts, line graphs) • identify patterns in data and describe relationships between variables • draw conclusions using evidence from results • evaluate methods and suggest simple improvements • use scientific vocabulary to communicate ideas clearly