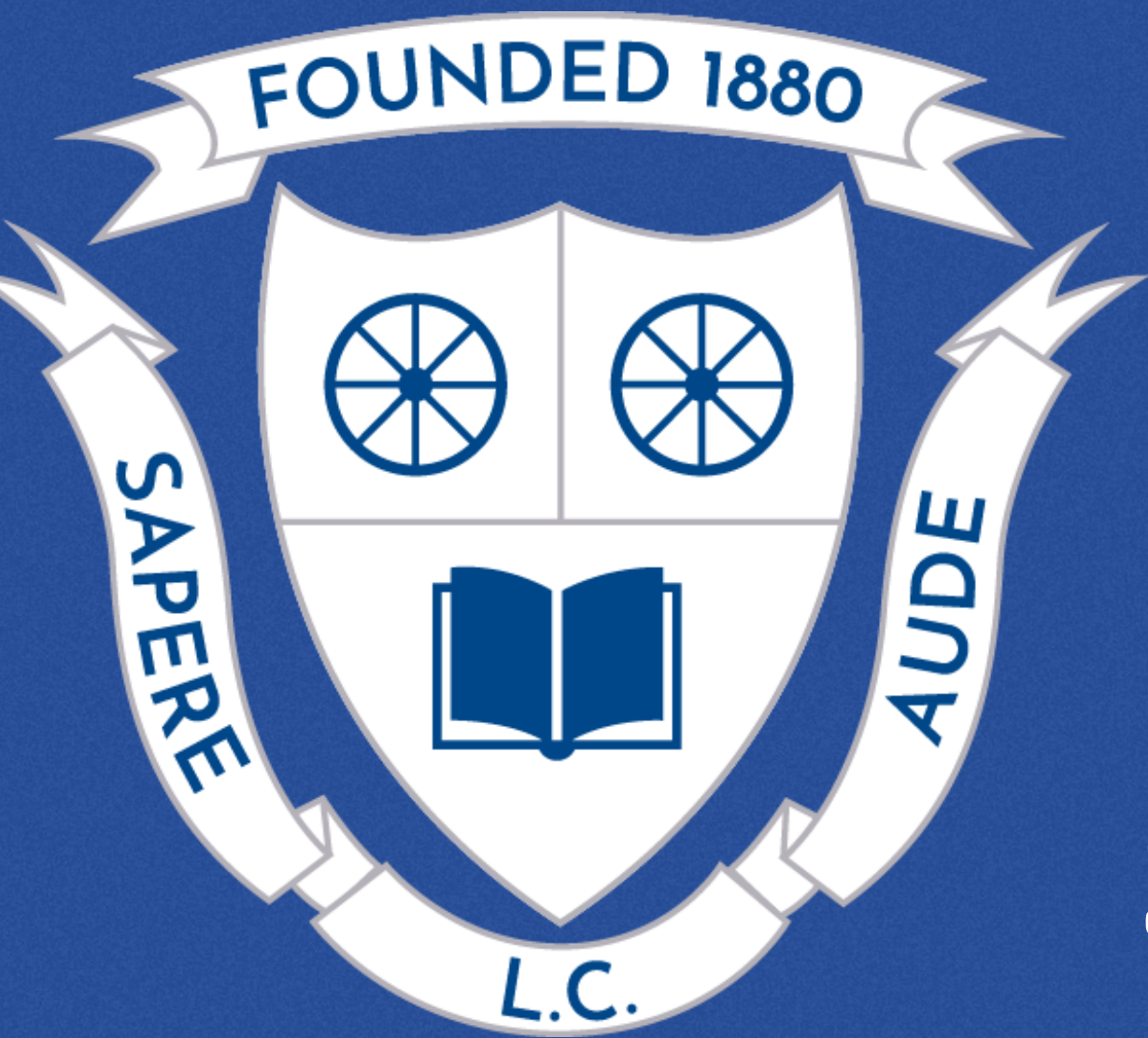




KS3 ASSESSMENT FRAMEWORK:

SCIENCE

SCIENCE: Year 7 Assessment Framework

	Scientific Knowledge & Understanding	Working Scientifically	Analysis, Application & Problem Solving	Scientific Communication	Scientific Thinking & Wider Understanding
Developing	Begins to recognise key ideas from Year 7 Science including: cells, reproduction, interdependence, particles, atoms, mixtures, forces, energy, sound and space. Knowledge is often insecure and relies heavily on prompts and structured support.	Follows simple practical instructions with support. Makes basic observations but may not record results accurately or systematically.	Identifies simple patterns in results or diagrams when guided but finds it difficult to explain them scientifically. Can read simple tables and charts and identify basic numerical differences with support.	Uses some scientific vocabulary and simple sentences to describe observations and ideas.	Shows some curiosity about scientific phenomena and begins to recognise that science helps explain the world around them.
Approaching	Describes key scientific ideas from Year 7 topics including cells, reproduction, interdependence, particles, atoms, mixtures, forces, energy, sound and space, although explanations may lack detail.	Follows practical methods safely, make observations and record results using suitable tables or diagrams. Begins to identify variables.	Identifies trends and use evidence to answer simple questions. Begins to apply knowledge to familiar situations. Performs simple calculations, including finding averages, and interpret information from tables and graphs	Uses appropriate scientific terminology in short explanations and can communicate ideas through diagrams, tables and written responses.	Understands that scientific ideas are developed through evidence and begins to recognise the impact of science on everyday life.
Secure	Securely understands and applies Year 7 scientific concepts including cells, reproduction, interdependence, particles, atoms, mixtures, forces, energy, sound and space.	Carries out investigations with increasing independence, records data appropriately and draws conclusions linked to evidence.	Interprets data confidently and applies scientific knowledge to unfamiliar examples and contexts. Calculates means accurately, interpret line graphs and use numerical evidence to justify conclusions and explain trends.	Produces clear explanations using accurate scientific vocabulary and evidence to justify conclusions.	Understands how scientific ideas connect across Biology, Chemistry and Physics and can relate learning to wider environmental and societal issues.
Extending	Demonstrates a detailed understanding of Year 7 scientific concepts and synthesises knowledge from Biology, Chemistry and Physics to explain unfamiliar phenomena. Makes purposeful links between topics, such as using particle theory to explain sound transmission and energy transfer or relating adaptation and interdependence to environmental change.	Critically evaluates investigations by identifying limitations, sources of uncertainty and potential improvements. Selects and justifies appropriate methods and considers how the quality of evidence affects the strength of scientific conclusions.	Analyses complex information from multiple sources, identifies anomalies and synthesises evidence from different areas of science to solve unfamiliar problems. Uses quantitative and qualitative evidence critically to construct and justify conclusions.	Communicates scientific ideas fluently and precisely, constructing logical explanations and evidence-based arguments that draw together knowledge from different scientific disciplines.	Evaluates the strengths and limitations of scientific models used to explain the natural world and recognises that scientific explanations develop as new evidence emerges. Makes connections across Biology, Chemistry and Physics and applies this understanding to wider issues such as sustainability, energy use, environmental change and technological development.

SCIENCE: Year 8 Assessment Framework

	Scientific Knowledge & Understanding	Working Scientifically	Analysis, Application & Problem Solving	Scientific Communication	Scientific Thinking & Wider Understanding
Developing	Recognises some key concepts from: organ systems, nutrition, DNA and inheritance, selection and evolution, Earth's systems, chemical changes, acids and alkalis, materials, electricity in the home, forces in action, magnetism and energy. Understanding remains inconsistent.	Follows practical methods with support and records some observations.	Identifies simple patterns in data but struggles to explain scientific relationships. Extracts basic information from tables and graphs and completes straightforward calculations with guidance.	Uses basic scientific vocabulary but explanations are often brief or incomplete.	Shows awareness that science explains natural and physical processes.
Approaching	Describes key concepts including organ systems, nutrition, DNA and inheritance, selection and evolution, Earth's systems, chemical changes, acids and alkalis, materials, electricity in the home, forces in action, magnetism and energy.	Completes investigations safely and records results appropriately. Begins to explain how evidence answers a scientific question.	Uses data to explain straightforward scientific phenomena and solve familiar problems. Calculates averages, interpret graphical data and begins to use ratio and proportional reasoning in familiar scientific contexts.	Uses an increasing range of scientific terminology and produces structured explanations.	Understands that scientific evidence supports explanations and identifies some real-world applications of science.
Secure	Securely explains major concepts from Year 8 Biology, Chemistry and Physics, including organ systems, nutrition, DNA and inheritance, selection and evolution, Earth's systems, chemical changes, acids and alkalis, materials, electricity in the home, forces in action, magnetism and energy.	Selects suitable methods, identifies variables and comments on reliability and accuracy.	Applies scientific knowledge successfully to unfamiliar situations and uses evidence to support explanations. Confidently analyses trends, identifies correlations and uses ratios, percentages and graphical evidence to support conclusions.	Produces clear and accurate scientific explanations using appropriate vocabulary, diagrams and data.	Understands how scientific discoveries influence society, technology and environmental decision-making.
Extending	Demonstrates a deep understanding of Year 8 scientific concepts and synthesises knowledge from Biology, Chemistry and Physics to explain complex and unfamiliar phenomena. Makes insightful connections between topics such as evolution and environmental change, energy transfers and electricity, or chemical reactions and Earth systems	Critically evaluates investigations by considering the validity, reliability and precision of evidence. Justifies methodological improvements using scientific reasoning and recognises how limitations in data affect the strength of conclusions.	Interprets complex evidence, evaluates scientific claims and synthesises information from multiple scientific disciplines to solve unfamiliar problems. Uses mathematical and scientific reasoning to justify conclusions and evaluate competing explanations.	Communicates sophisticated scientific arguments with precision and clarity, integrating evidence and ideas from different areas of science to construct coherent explanations and evaluations.	Evaluates the strengths and limitations of scientific models and theories, recognising how they are refined through testing and evidence. Makes connections across scientific disciplines and applies this understanding to issues such as sustainability, resource management, climate change and technological innovation.

SCIENCE: Year 9 Assessment Framework

	Scientific Knowledge & Understanding	Working Scientifically	Analysis, Application & Problem Solving	Scientific Communication	Scientific Thinking & Wider Understanding
Developing	Recognises some key KS3 and GCSE-transition concepts including cell biology, health and disease, bioenergetics, atomic structure, periodic table, quantitative chemistry, energy changes, materials, electricity, light, energy transfers/resources and particle model. Knowledge remains insecure.	Participates in practical work but requires guidance to collect, process and interpret data accurately.	Identifies straightforward patterns but struggles to explain underlying scientific principles. Performs simple calculations and extracts basic information from quantitative data when supported.	Uses some scientific terminology but explanations often lack precision.	Recognises that scientific models are used to explain observations and evidence.
Approaching	Describes key KS3 and GCSE-transition concepts including cell biology, health and disease, bioenergetics, atomic structure, periodic table, quantitative chemistry, energy changes, materials, electricity, light, energy transfers/resources and particle model.	Completes investigations with limited support and begins to evaluate methods and evidence.	Applies scientific knowledge to routine contexts and identifies relationships in data. Uses simple equations, calculates averages and interprets graphical relationships to support explanations.	Produces clear explanations using suitable scientific terminology and evidence.	Understands how scientific theories and models are developed and refined using evidence.
Secure	Securely understands and applies key KS3 and GCSE-transition concepts including cell biology, health and disease, bioenergetics, atomic structure, periodic table, quantitative chemistry, energy changes, materials, electricity, light, energy transfers/resources and particle model.	Independently applies 'Working Scientifically' skills including planning, analysis, evaluation and conclusion writing.	Interprets quantitative and qualitative data effectively and applies knowledge to unfamiliar contexts. Confidently applies mathematical skills including equation use, calculating rates, interpreting graphs and using quantitative evidence to justify scientific explanations.	Produces accurate and well-structured scientific explanations using appropriate terminology, calculations and evidence.	Understands how science contributes to technological development, sustainability and decision-making in society.
Extending	Demonstrates sophisticated understanding of KS3 Science and early GCSE concepts, synthesising knowledge from Biology, Chemistry and Physics to explain complex phenomena. Makes secure links between concepts such as particle behaviour, energy transfers, cellular processes and atomic structure to develop integrated scientific explanations.	Critically evaluates investigations and evidence, considering validity, reliability, precision, uncertainty and limitations. Justifies methodological improvements and explains how evidence quality influences confidence in scientific conclusions.	Analyses complex evidence, evaluates competing explanations and synthesises ideas from multiple scientific topics to address unfamiliar and challenging problems. Applies sophisticated mathematical and scientific reasoning to evaluate evidence, assess uncertainty and construct well-justified conclusions.	Communicates scientific arguments with precision, depth and sophistication, constructing coherent evaluations that integrate evidence and concepts from across scientific disciplines.	Demonstrates mature scientific thinking by evaluating the strengths and limitations of scientific models, theories and evidence in explaining the natural world. Recognises how scientific knowledge develops through debate, testing and refinement, and synthesises ideas from multiple disciplines to evaluate issues relating to sustainability, emerging technologies and global challenges.