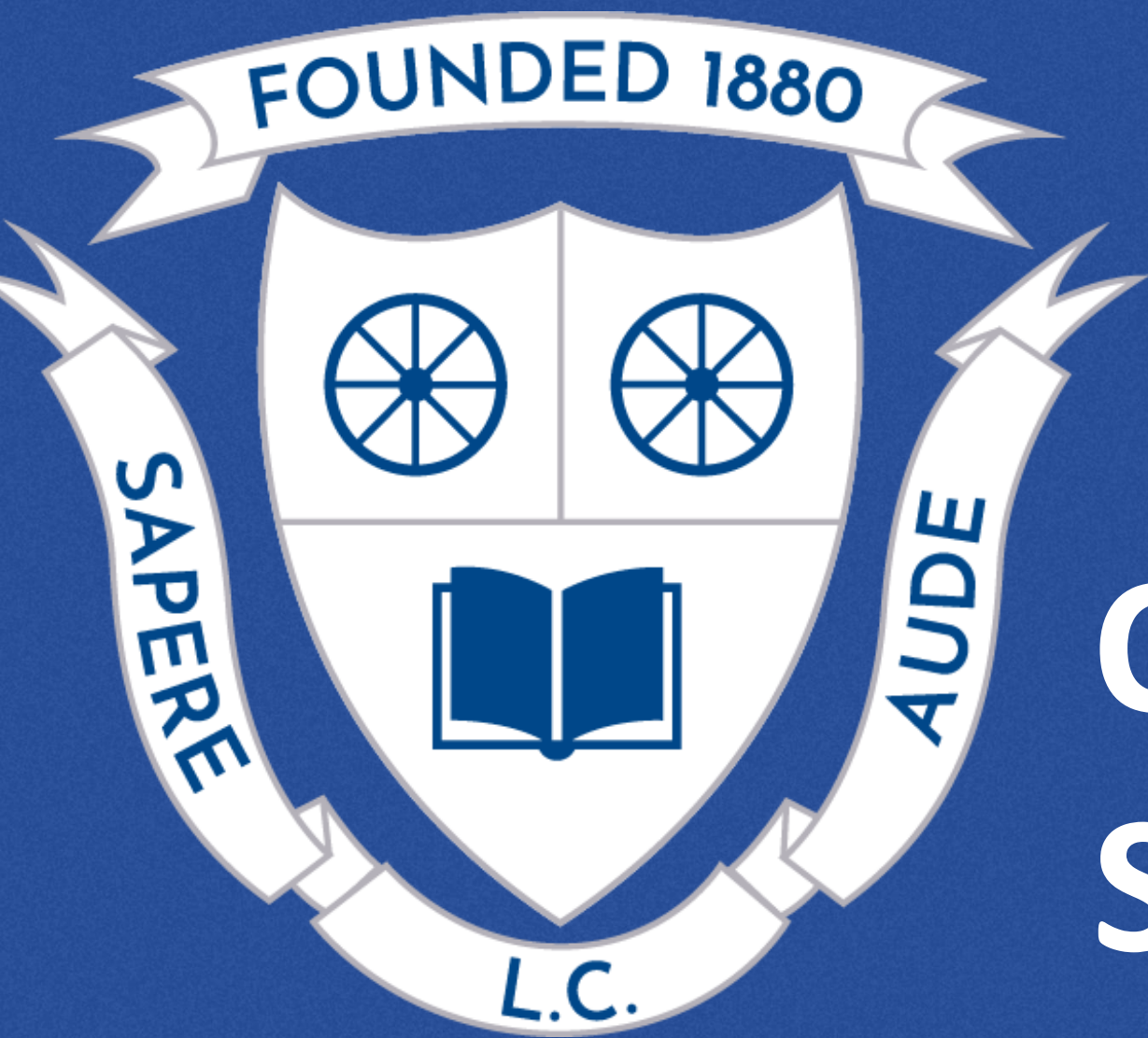




KS3 ASSESSMENT FRAMEWORK:

COMPUTER SCIENCE

COMPUTER SCIENCE: Year 7 Assessment Framework

	Programming & Algorithms	Understanding Computers	Data & Digital Literacy	Problem Solving & Computational Thinking	Creating Digital Artefacts
Developing	Recognises simple sequencing and basic coding blocks, using Scratch. Programs rely on copying or heavy support. Demonstrates a limited understanding of errors.	Identifies and names some basic hardware components (CPU, RAM) but explanations are limited or unclear. Demonstrates a basic understanding of the what the internet is.	Demonstrates a basic awareness of e-safety but may not apply it consistently. Demonstrates a limited understanding of digital tools.	Follows simple instructions but struggle to break down problems independently.	Creates simple digital content with significant support and demonstrates limited awareness of audience or purpose.
Approaching	Uses sequencing, selection and simple iteration to make simple programs with support. Identifies basic coding errors.	Describes the purpose of LANs and WANs and understand the difference between the Internet and the World Wide Web (WWW).	Demonstrates an understand the key aspects of staying safe online and can use basic IT tools effectively.	Applies basic decomposition and can spot patterns, within tasks, with guidance.	Creates simple documents including Word, presentations and spreadsheets, with some purpose and structure.
Secure	Uses Scratch confidently to apply sequencing, selection and iteration to solve simple problems. Debugs basic programs independently.	Explains how hardware components work together and understand basic network concepts. Articulates the differences between the WWW and the internet, as well as LANs and WANs.	Uses technology safely and responsibly, demonstrates awareness of their digital footprint and understands the importance of copyright.	Applies key computational thinking concepts including decomposition, abstraction and pattern recognition, to solve problems.	Creates purposeful digital artefacts tailored to an audience, demonstrating attention to usability and design.
Extending	Designs and develops more complex programs independently, selecting appropriate constructs (sequence, selection, iteration). Identifies and corrects errors effectively.	Explains how systems communicate through CPU, memory, networks and identifies appropriate hardware solutions to different situations. Explains the role of protocols and how they are used in networks.	Evaluates digital content for reliability and demonstrates responsible digital behaviour consistently.	Independently decomposes a range of problems and designs appropriate algorithmic solutions.	Produces refined, well-designed digital artefacts with clear purpose, usability and creativity.

COMPUTER SCIENCE: Year 8 Assessment Framework

	Programming & Algorithms	Understanding Computers	Data & Digital Literacy	Problem Solving & Computational Thinking	Creating Digital Artefacts
Developing	Writes simple Python statements using input and output. Programs rely on copying or heavy support. Demonstrates a limited understanding of logic or errors.	Demonstrates a basic awareness of binary and data representation and requires guidance when converting values between different number systems.	Demonstrates a basic awareness of online safety and copyright.	Follows simple solutions to problems with significant support.	Creates basic output, including spreadsheets and webpages, with guidance.
Approaching	Uses variables, input/output and simple IF statements, with support. Demonstrates some understanding of errors.	Performs simple binary conversions and understands that data can be represented in different formats including text, image, sound, ASCII and Unicode.	Uses IT applications effectively and understands the importance of copyright and the need for digital responsibility. Creates basic spreadsheets with guidance.	Begins to apply logic and design simple algorithms with support.	Produces structured digital work, including Excel, HTML and CSS, with some purpose, although, this is nit always tailored to the end-user needs.
Secure	Writes structured Python programs using sequencing and selection. Debugs simple issues independently.	Demonstrates an understanding of binary, hexadecimal and data representation and confidently perform conversions. Describes different methods of data representation and explains the basic principles behind how data is represented in computer systems.	Demonstrates safe, responsible and effective use of digital tools. Creates spreadsheets that use simple tools to model basic issues.	Applies computational thinking to design and evaluate solutions independently.	Creates purposeful projects, including websites and spreadsheets, tailored to user needs. Solutions will include more than one technique.
Extending	Develops more complex programs using selection and uses logic confidently. Debugs and corrects code confidently.	Explains how data is stored, manipulated and represented across systems and different data types including text, sound and images. Demonstrates an understanding of how these are the foundation to what computers are and how they work.	Critically evaluates digital content and selects appropriate tools independently. Creates spreadsheets using a range of tools, including conditional formatting and IF statements, to model real life scenarios.	Designs efficient algorithms and evaluates alternative solutions.	Produces refined, professional-quality projects that integrate multiple tools and techniques.

COMPUTER SCIENCE: Year 9 Assessment Framework

	Programming & Algorithms	Understanding Computers	Data & Digital Literacy	Problem Solving & Computational Thinking	Creating Digital Artefacts
Developing	Writes simple programs using Python or JavaScript with support. Demonstrates limited use of selection, iteration or logic.	Demonstrates a basic awareness of cybersecurity and networks, although explanations are limited.	Recognises simple logical concepts but struggle to apply them. Demonstrates an awareness of AI, although understanding of its impact on society and ethical implications remain limited.	Follows structured problem-solving steps with support.	Produces simple solutions with limited testing or refinement.
Approaching	Uses sequencing and selection in Python. Demonstrates some ability to trace and debug code, although support is needed when using iteration.	Understands basic cybersecurity risks and network structures. Applies some appropriate cyber protection methods, although understanding of their purpose remains limited.	Uses Boolean logic in simple contexts, including basic logic diagrams AND/OR/NOT. Demonstrates an understanding of basic AI concepts and why AI is important in society, although there is limited consideration of the ethical consequences.	Begins to independently plan and test solutions using JavaScript and Python.	Produces working solutions with some evidence of testing using JavaScript and Python.
Secure	Develops structured programs using iteration (for and while loops) and selection. Demonstrates an awareness of functions and their role in producing efficient code (JavaScript). Debugs code systematically.	Explains network structures, encryption and security concepts clearly. Identifies appropriate cyber protection methods for a range of scenarios.	Applies Boolean logic to problems. Demonstrates an understanding of the implications of AI and data use in society and applies them to basic scenarios showing some consideration of ethical consequences.	Designs, evaluates and refines solutions using computational thinking.	Produces complete, tested solutions that meet a clear purpose.
Extending	Designs modular, efficient programs and justifies their design decisions using Python and JavaScript. Demonstrates competency in fundamental programming tasks that support further study.	Evaluates security methods and network solutions critically. Demonstrates an understanding of the importance of security and how it relates to the workplace and careers.	Consistently applies logical reasoning to complex problems and critically evaluates the impact of AI on society across a range of scenarios including ethical and legal considerations. Confidently constructs logic diagrams and writes Boolean logic expressions. Demonstrates an understanding of their application to further study and the world of work.	Produces sophisticated solutions through the effective application of abstraction and decomposition.	Produces high-quality, user-focused solutions with thorough testing and evaluation.