Computing Overview KS1-KS4

	Autumn Term 1 **Computer Science**	Autumn Term 2 **Information Technology**	Spring Term 1 **Digital Literacy**	Spring Term 2 **Computer Science**	Summer Term 1 **Information Technology**	Summer Term 2 **Digital Literacy**
KS1/2	Understand that algorithms are implemented as programs on digital devices Understand that programs execute by following precise and unambiguous instructions	Use technology purposefully to create digital content Use technology purposefully to store digital content Use technology purposefully to retrieve digital content	Use technology safely Keep personal information private Recognise common uses of information technology beyond school	Debug simple programs Use logical reasoning to predict the behaviour of simple programs	Use technology purposefully to organise digital content Use technology purposefully to manipulate digital content	Use technology respectfully Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies
	Algorithm treasure hunt. **Evaluation of digital devices**	**Using Gmail accounts for email / drive / documents**	**Creating e-safety video** **Group presentations** **e-safety page for website**	**Debugging everyday problems** **Scratch Programming** **Simple Microbit Activities**	**Audio Editing using** **Audiotool online/** **Soundation**	
KS2	Write programs that accomplish specific goals Use sequence in programs	Use search technologies effectively Use a variety of software to accomplish given goals	Use technology responsibly Identify a range of ways to report concerns about contact	Work with various forms of input Work with various forms of output	Collect information Design and create content Present information	Understand the opportunities computer networks offer for communication
	Scratch games		**Creating e-safety video** **Group presentations** **e-safety page for website**			
KS3 Y7	Design programs that accomplish specific goals Design and create program Debug programs that accomplish specific goals	Select a variety of software to accomplish given goals Select, use and combine internet services	Understand the opportunities computer networks offer for collaboration Be discerning in evaluating digital content	Understand how computer networks can provide multiple services, such as the world wide web Appreciate how search results are selected	Combine a variety of software to accomplish given goals Select use and combine software on a range of digital devices	Identify a range of ways to report concerns about content. Recognize acceptable / unacceptable behaviour

	Use repetition in programs Control or simulate physical systems Use logical reasoning to detect and correct errors in programs Work with variables- flow charts					
KS3 Y8 & Y9	Use computational abstractions Model state of real world problems Use a programming language to solve computational problems Understand simple Boolean logic Understand how changes in technology affect safety, including new ways to protect their online privacy Evaluate computational abstractions Understand several key algorithms that reflect computational thinking Use at least one additional programming language (that must be textual) to solve real world problems Make use of appropriate data structures	Undertake creative projects with challenging goals Use multiple applications Combine multiple applications to achieve challenging goals Analyse data Meet the needs of known users Model state of physical systems Model behaviour of real world problems	Understand a range of ways to use technology respectfully Recognise inappropriate content Recognise inappropriate contact Recognise inappropriate conduct Know how to report concerns Revise digital artefacts for a given audience Attend to trustworthiness of digital artefacts Protect online identity Protect privacy	Understand how numbers can be represented in binary Understand the hardware components that make up computer systems Understand how text can be represented digitally in the form of binary digits Understand how pictures can be represented digitally in the form of binary digits Understand how text can be manipulated digitally in the form of binary digits Understand how sounds can be represented digitally in the form of binary digits Understand how pictures can be manipulated digitally in the form of binary digits Be able to carry out simple operations on binary numbers	Work with applications across a range of devices Collect data Use publisher effectively to organise information and digital artefacts. Use online systems to create and share documents.	Reuse digital artefacts for a given audience Attend to usability of digital artefacts Understand a range of ways to use technology safely Understand uses of Boolean logic in programming Understand the software components that make up computer systems Understand how instructions are stored by computer systems

KS4 GCSE	Pupils can take Computing as an afternoon strand to continue developing their skills and knowledge. Pupils can take Computer Science as a GCSE or study Information Technology and gain an entry level qualification.	
	Computer Science GCSE	Information Technology entry level
	- Program in Python - Make webpages - Fundamentals of how computers work - Algorithms - Logical reasoning - Decomposition and abstractions - Computer hardware - Software - Databases and SQL - Program design	- Improve computing skills and confidence - Stay safe online - Using databases, spreadsheets, word processing, presentations and publishing - Solve problems using software - Use new software