

Subject	Computing	Year Group	8			
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Scheme title	Solving Problems with Data	Bits and Pieces	Manipulating Data using Spreadsheets	Cyber Safety	The Internet and HTML	Text based programming
Knowledge in sequence	<p>How can sequence, selection and looping be used to create algorithms?</p> <p>What are data types, and why are they important when solving problems?</p> <p>How is data structured in programming and how can you change it?</p> <p>Why are loops useful for transversing data structures?</p>	<p>Why binary?</p> <p>Why do we store data and how? Representing 1 and 0s</p> <p>Storage Devices</p> <p>Storing and processing instructions - The CPU.</p> <p>How is sound stored in binary?</p>	<p>What is a spreadsheet?</p> <p>How do you automate calculations?</p> <p>How to you arrange data?</p> <p>What are functions and how are they implemented?</p>	<p>What does the law say about sharing nude images?</p> <p>How do we protect ourselves when nudes images are sent?</p> <p>What data is collected about me?</p> <p>What are my rights regarding data?</p> <p>What is AI?</p> <p>What are the risks of AI?</p>	<p>What is HTML?</p> <p>What is CSS?</p> <p>How do we format HTML?</p> <p>How do we format images?</p> <p>How do we format sections of a page?</p>	<p>How do computers store instructions and why do we need text based programming?</p> <p>Inputs and Outputs</p> <p>How can sequence, selection, looping and subprograms can be combined to create programs and solve problems?</p>
Purpose of scheme	<p>To develop student's computational thinking skills.</p> <p>To apply programming skills of sequence, selection and looping.</p>	<p>To explore how and why computer systems store data.</p> <p>To explore how computer systems work.</p>	<p>To introduce students to spreadsheets.</p> <p>To develop a student's ability to manipulate and model data using a spreadsheet. Investigate where spreadsheets skills can be used an applied outside of school (Why are we learning this?)</p>	<p>To consolidate student understanding about the risks of nude images,</p> <p>To consolidate students understanding on where to seek help regarding online safety.</p> <p>To introduce students to the concepts of data protection.</p> <p>To introduce students into the concept of AI.</p>	<p>To introduce students into how websites are constructed.</p> <p>To introduce students into HTML and CSS.</p>	<p>To introduce text based programming (Python).</p> <p>To consolidate sequence, selection and looping.</p> <p>To develop student's ability to decompose problems.</p>
Skills	<p>To be able to use solve problems using a variety of data types including text and number.</p> <p>To be able to create and manipulate lists.</p> <p>To be able to use loops to transverse structured lists of data.</p>	<p>Convert binary into denary and viceversa.</p> <p>Be demonstrate that 1 and 0s can be represented in different ways.</p> <p>To be able to explain how the FDE cycle is used.</p>	<p>To be able to independently construct a spreadsheet.</p> <p>To be able to implement formulae and functions and make decisions on which ones are the correct ones to apply..</p> <p>To be able to represent data in a user friendly manner including the use of graphs/charts.</p>	<p>To be able to report e-safety issues.</p> <p>To be able to identify some rights regarding data.</p> <p>To be able to identify some risks of AI.</p>	<p>To be able to create a simple webpage that includes HTML, CSS and style sheets to position, format and edit content.</p>	<p>To be able to write programs with inputs, outputs and variables.</p> <p>To be able to fix syntax and logic errors.</p> <p>To be able to construct simple conditional statements.</p> <p>To be able to evaluate conditional statements as True or False</p> <p>To be able to construct a conditional loop.</p> <p>To be able to create subprograms.</p>
Key words	<p>Abstraction / Decomposition</p> <p>Sequence, Selection, Looping</p>	<p>Data / Information</p> <p>Binary / Denary</p> <p>Storage / Memory</p> <p>CPU</p>	<p>Spreadsheet.</p> <p>Cell, row, columns.</p> <p>Formula / function</p> <p>Model / manipulate</p>	<p>Data Protection</p> <p>GDPR</p> <p>Artificial Intelligence</p> <p>Machines Learning</p> <p>Algorithmic Bias</p>	<p>HTML</p> <p>CSS</p> <p>Tag</p>	<p>Decomposition</p> <p>Python</p> <p>Translator / Editor</p> <p>Syntax</p> <p>Sequence, selection, looping</p> <p>Boolean statements</p> <p>Conditional statements</p>
End point	<p>Students will use looping and selection to search for items in lists.</p>	<p>Students will be able to explain the role of various hardware components.</p> <p>Students will understand the purpose the CPU and how the FDE cycle works.</p> <p>Students will understand how and why information is stored in Computer Systems.</p>	<p>To be able to implement several spreadsheet tools including formulae, functions and graphs/charts. Explain how spreadsheets work and what they are used for.</p>	<p>Students will understand the risks associated with the Internet and how to avoid them.</p> <p>Students will understand their data rights.</p> <p>Students will understand how AI and Machine Learning are being used in Computing.</p>	<p>Students will create a simple webpage that contains text, images and content divided into sections.</p>	<p>Students will be able to creat simple programs that run without errors.</p> <p>Students will be able to evaluate conditional statements in If statements and loops.</p>

Assessment Methods	End of unit assessment online. Key skills - teacher assessed	Knowledge checks each lesson. End of unit assessment online.	Skills are teacher assessed.		Skills are teacher assessed.	Skills are teacher assessed.
Hours	6	7	7	4	6	6