



<i>Subject: Computing</i>	<i>Year: 8</i>	<i>Author: N. Ogu</i>
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<b>Key Knowledge</b> <i>Students will know</i>	<b>Key Skills</b> <i>Students will be able to</i>
<p style="text-align: center;"><u>Key Threshold Concepts:</u></p> <p><b>Year 8 Computing builds on Year 7 by introducing students to more applied digital concepts and tools. The curriculum builds knowledge in three core strands: networks, data modelling, and programming. Students will know:</b></p> <ul style="list-style-type: none"> <li>• How computer networks operate, including the structure and purpose of LANs, WANs, routers, switches, and wireless transmission.</li> <li>• How data can be modelled, organised and interpreted using spreadsheet functions, including formulas, IF statements, sorting, filtering, and chart creation.</li> <li>• How programming concepts (variables, sequencing, selection, repetition and subroutines) are used to build functional programs that solve real problems.</li> </ul>	<p style="text-align: center;"><u>Subject Skills:</u></p> <p><b>By the end of Year 8, students should be able to</b></p> <ul style="list-style-type: none"> <li>• Describe and compare different types of networks and explain how key networking hardware enables communication.</li> <li>• Organize and analyze data using spreadsheets to support decision making.</li> <li>• Write structured programs in EduBlocks using variables, inputs, selection and subroutines.</li> <li>• Build and evaluate small programming projects</li> </ul>

<u>Subject Specific Knowledge and Sequencing:</u>	<u>Prerequisites and Spiral Teaching:</u>
<p><b>1 lesson each two-week cycle</b></p> <ul style="list-style-type: none"> <li>• <b>Term 1:</b> Students study computer networks and communication. They learn the purpose of network types, hardware components and modes of data transmission. This provides essential context for understanding how digital systems interconnect.</li> <li>• <b>Term 2:</b> Focus shifts to spreadsheets and data modelling. Students use formulas and functions to manipulate data, apply IF logic, and build charts that communicate findings. This improves computational and data-handling fluency.</li> <li>• <b>Term 3:</b> Students move into programming with EduBlocks, gradually transitioning toward more text-based structures. They apply sequencing, variables, input/output,</li> </ul>	<ul style="list-style-type: none"> <li>• Students begin Year 8 with the foundational knowledge expected at the start of KS3 Computing.</li> <li>• Core ideas are revisited regularly through retrieval practice to strengthen retention.</li> <li>• Misconceptions are addressed early through low-stakes checks and portfolio review.</li> <li>• Key concepts spiral across the year, with logic, sequencing and problem-solving introduced in accessible forms before appearing in more complex spreadsheet and programming tasks.</li> <li>• Prior learning is continually built upon so students can apply familiar ideas in new contexts (networks to data modelling to programming).</li> </ul>



selection, and subroutines before completing a final project that synthesises all the skills learned across the year.

**Cross-Curricular Knowledge Links**

- **Maths:** logical operators, data sets, functions, graphing, sequencing.
- **Business:** spreadsheets for modelling costs, predictions and decision-making.
- **DT:** systems thinking, structure-function relationships in digital systems.

**Reading Lists / Sources / Reading around the subject recommendations:**

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| <ul style="list-style-type: none"> <li>• NCCE KS3 Computing Units – Networks, Data Modelling, and Programming</li> <li>• BBC Bitesize KS3 Computing – Networks, Spreadsheets, Programming Concepts</li> <li>• EduBlocks Documentation – Variables, input/output, selection, subroutines</li> <li>• Microsoft Learn (Excel for Students) – Formulas, IF functions, charts, data tools</li> </ul> | <ul style="list-style-type: none"> <li>• Khan Academy – Spreadsheets Basics (KS3 appropriate)</li> <li>• CS Unplugged (Selected Activities) – Logic and problem-solving foundations</li> <li>• NCSC CyberFirst Videos – Safe use of networks and online systems</li> </ul> |
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