



The curriculum for this stage of students' education has been designed to further develop and extend computing knowledge acquired from KS2. Predominantly, developing knowledge in the following three areas: computer science, information technology and digital literacy. Knowledge from each of these areas compliments each other and allows students to seamlessly gain both declarative (knowing that) and procedural (knowing how) knowledge. Bishop Milner Catholic College ensures all students receive high quality computing education through well sequenced lessons and structured assessments.

HALF TERM 1	HALF TERM 2	HALF TERM 3
<p><b><u>E-Safety</u></b> STUDENTS MUST KNOW:</p> <ul style="list-style-type: none"> <li>• The health and safety rules within an ICT suite</li> <li>• The terms e-safety and digital security</li> <li>• The difference between WWW and the Internet</li> <li>• What is Social Networking and why it is used?</li> <li>• The dangers of the internet and what precautions can be taken to stay safe.</li> <li>• The different malware (risks and precautions).</li> </ul> <p><b>HOW THIS WILL BE ASSESSED:</b> Students will take a multiple-choice summative assessment at the end of the unit and their work will be assessed against a rubric. Students' classwork and homework are reviewed and assessed online.</p>	<p><b><u>Computer Systems</u></b> STUDENTS MUST KNOW:</p> <ul style="list-style-type: none"> <li>• The difference between hardware and software</li> <li>• How to identify input, output and storage devices</li> <li>• The difference between main memory and permanent storage devices</li> <li>• How to identify the three stages in the Fetch Execute Cycle</li> <li>• What is secondary storage?</li> </ul> <p><b>HOW THIS WILL BE ASSESSED:</b> Students will take a multiple-choice summative assessment at the end of the unit and their work will be assessed against a rubric. Students' classwork and homework are reviewed and assessed online.</p>	<p><b><u>Spreadsheet Modelling</u></b> STUDENTS MUST KNOW:</p> <ul style="list-style-type: none"> <li>• Why spreadsheets are needed and outline problems spreadsheets will allow you to solve.</li> <li>• How to create formulas to add, subtract, divide, multiply, average, find minimum and find maximum values.</li> <li>• How to create a data collection sheet to collect data.</li> <li>• How to formulate charts and tables in MS Excel.</li> </ul> <p><b>HOW THIS WILL BE ASSESSED:</b> Students will take a multiple-choice summative assessment (50%) and sit a practical assessment (50%) at the end of the unit. Students' classwork and homework are reviewed and assessed online.</p>
<p><b><u>Computational Thinking</u></b> STUDENTS MUST KNOW:</p> <ul style="list-style-type: none"> <li>• What is computational thinking?</li> <li>• The four cornerstones of computational thinking (decomposition, abstraction, pattern recognition and algorithms).</li> <li>• How to apply the four cornerstones of computational thinking to real world situations.</li> <li>• How to construct a flowchart diagram to show steps in an algorithm.</li> </ul> <p><b>HOW THIS WILL BE ASSESSED:</b> Students will take a multiple-choice summative assessment at the end of the unit and their work will be assessed against a rubric. Students' classwork and homework are reviewed and assessed online.</p>	<p><b><u>Programming with Scratch P1</u></b> STUDENTS MUST KNOW:</p> <ul style="list-style-type: none"> <li>• How to utilise the key elements in Scratch (Stage, Blocks, Sprite, Background, Costumes and Sound).</li> <li>• The function of the different code blocks in the motion section, looks section, sound section, event section, control section, operator section and the variable section.</li> <li>• How to use code blocks to build the three constructs of programming: selections, sequence and iteration.</li> </ul> <p><b>HOW THIS WILL BE ASSESSED:</b> Students will sit a practical assessment at the end of the unit where they will demonstrate their ability to program independently. Students' classwork and homework are reviewed and assessed online.</p>	<p><b><u>Programming with Scratch P2</u></b> STUDENTS MUST KNOW:</p> <ul style="list-style-type: none"> <li>• How to use subroutines to break up code blocks for a more organised code layout.</li> <li>• How to debug programs in larger programs (handling errors).</li> <li>• Incorporate all knowledge gained previously to create complexed programs in Scratch (including adapting and improving complexity).</li> </ul> <p><b>HOW THIS WILL BE ASSESSED:</b> Students will sit a practical assessment at the end of the unit where they will demonstrate their ability to program independently. Students' classwork and homework are reviewed and assessed online.</p>

**Embedding this knowledge can be supported at home by** Worksheets (via TEAMS class notebook), BBC Bitesize website (KS3), Scratch website, Key word learning from Knowledge Organisers, Quick quizzes, Seneca website, CGP Books and W3Schools website.