

Curriculum Map Year 8 COMPUTING

Topic Name	Term	Skills developed with link to NC Subject content	Reflection on previous link in the curriculum	Progress to future link in the curriculum
Understanding computers	<i>Autumn HT1</i>	<ul style="list-style-type: none"> Understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal] Understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems Understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits 	<p><i>Year 7: Networks</i> <i>Year 7: Coding in Scratch part 1</i></p>	<p><i>Year 9: Graphics</i> <i>Year 9: Sound editing in Audacity</i> <i>Year 9: Computational thinking and logic</i></p>
Programming in Scratch part 2	<i>Autumn HT2</i>	<ul style="list-style-type: none"> Understand several key algorithms that reflect computational thinking; use logical reasoning to compare the utility of alternative algorithms for the same problem Use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures; design and develop modular programs that use procedures or functions Understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming Create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability 	<p><i>Year 7: Impact of technology</i> <i>Year 7: Coding in Scratch part 1</i> <i>Year 7: Introduction to coding with Kodu</i></p>	<p><i>Year 8: Introduction to Python programming</i> <i>Year 9: Python programming with sequences of data</i> <i>Year 9: Computational thinking and logic</i></p>
Mobile app development	<i>Spring HT1</i>	<ul style="list-style-type: none"> Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems Create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability 	<p><i>Year 7: Using media</i></p>	<p><i>Year 8: Developing on the web: HTML</i> <i>Year 9: Computational thinking and logic</i></p>
Introduction to Python programming	<i>Spring HT2</i>	<ul style="list-style-type: none"> Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems Understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem Use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions 	<p><i>Year 7: Introduction to coding with Kodu</i> <i>Year 7: Programming in Scratch part 1</i> <i>Year 7: Modelling data - Spreadsheets</i> <i>Year 8: Programming in Scratch part 2</i></p>	<p><i>Year 9: Python programming with sequences of data</i> <i>Year 9: Computational thinking</i> <i>GCSE: Algorithms and programming</i></p>

Media: Vector graphics	<i>Summer HT1</i>	<ul style="list-style-type: none"> ● Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users ● Create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability 	<i>Year 5: Vector drawing Year 7: Using media</i>	<i>Year 9: Graphics Year 9: Media - Animations</i>
Developing for the web: HTML	<i>Summer HT2</i>	<ul style="list-style-type: none"> ● Create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability ● Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users 	<i>Year 6: web page creation Year 7: Using media</i>	<i>Year 9: Media animations Year 9: Computational thinking and logic</i>