# ICT
## Curriculum Map: Year 8

*Content is mapped to the Computing National Curriculum*

## AUTUMN TERM

**YEAR 7 REVIEW:**

**Students are reacquainted with the School Computer system and are reminded of key themes: - navigation of the Operating System – E-Safety & Understanding Computers (Hardware/software) Students work on a project to communicate a message**

***NC7**: 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*

***NC8**: create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability*

**E-SAFETY:**

**Students revisit E-Safety to build on the essential knowledge, understanding and skills that they've gained and develop it further**

***NC9**: Understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concerns*

*Content is mapped to the Computing National Curriculum:*

**NC7** & **NC8**: See AUTUMN TERM

## SPRING TERM

**UNDERSTANDING COMPUTERS – INTERNAL HARDWARE**

**Students build on their understanding of hardware from Year 7. They will become familiar with internal computer components and how they make a computer work, as well as understanding how hardware processes data using binary numbers**

***NC5**: Understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems*

***NC6**: 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*

## SUMMER TERM

**FLOWCHARTS & ALGORITHMS**

***NC2**: 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*

***NC3** 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*

**Students revisit algorithms and create step by step instructions for a process. They will use block-programming to create a program based on this algorithm.**

**PROGRAMMING: INDEPENDENT LEARNING**

**Students work independently, following video and text instructions to create projects that utilise skills gained in Year 7.**

***NC3**: See SPRING TERM*
***NC7**: See AUTUMN TERM*

**THE HISTORY OF COMPUTING**

**This unit researches the history of modern computers including social, cultural, legal and environmental concerns. The topic includes focus on individual contributions to technology and future technology.**

**NC2**: See FLOWCHARTS & ALGORITHMS

**NC7** & **NC8**: See AUTUMN TERM