Computing Curriculum Map 2024 – 2025

Aims

Pupils to be aware of the possibilities and implications of technology use. Pupils to be able to plan and develop programmes and products using key computational skills. Pupils to develop the skills to be computational thinkers, using problems solving and logical thinking skills. Pupils will be resilient creators, able to analyse and debug programmes. Pupils to be prepared for the future and future technologies.

NCCE curriculum

Key Concepts

Algorithms and Programming

Computing Systems, Networks and Impact of Technology

Data and Information

Design and development, creating Media and effective use of tools

Safety and Security

Year 8

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key Concept	Design and development, creating media and effective use of tools	Computing Systems, Networks and Impact of Technology	Algorithms and Programming	Computing Systems, Data and Information	Design and development, creating media and effective use of tools	Algorithms and Programming
Unit Title	Using Vector Graphics	Layers of Computing Systems	Developing for the Web	Binary Representations	Mobile App Development	Introduction to Python
Year 8	Pupils will learn: • How to create vector graphics (revision) • How to work with multiple objects	Pupils will learn: • The differences between general and purpose build technologies	Pupils will learn: • How to use technology safely • What HTML is and how to use it to structure webpages	Pupils will learn: • How representations are used to store and present information • How sequences of symbols are	Pupils will learn: • How to use technology effectively • How to use graphical user interface elements to	Pupils will learn: • How to write simple Python programmes • How to debug common syntax errors

	• How to use paths to change shapes • How to plan and design a project using vector graphics • How to store vector graphics • How to evaluate finished vector graphics	• How to describe the functions of components • The role of operating systems and how they work • How to use logic gates to construct logic circuits • The role of artificial intelligence in technologies, including the ethical implications • The implications of sharing programming code	• How to use images within a webpage and use HTML tags • Describe and use cascading style sheets (CSS) • How search engines work • How to use search engines effective • The implications of using search engines • How to develop navigational elements in a webpage	used in coding and what they mean • What binary digits are and how to convert into and from binary • How to convert between units using binary code • How to use binary code to solve problems	meet the needs of users • The role of user input and variables event-driven programming environments • How to effectively debug a programme • How to use decomposition to solve more complex problems • How to use programming language when developing an app	• How to use simple expressions in programming • How to use binary selection to control the flow of a programmes • To use multi-branch selection to control the flow of a programme • How to use iteration to control the execution of a programme • How to combine combine iteration and selection to control programmes • How to use Boolean variables

Programming aims: introduced to text-based programming through Python and HTML; model data use in spreadsheets, understanding different image/graphic files, using binary coding, developing apps