

# KS3 National Curriculum Map

## Unit Search



The KS3 series of units has been written to satisfy the new National Curriculum for Computing.

They are designed for teaching at KS3 but individual lessons in some units may also be appropriate for teaching Key Stages 2 or 4, particularly where Year 10 students may not previously have been exposed to certain topics such as basic programming skills in Python.

	Using computers safely, effectively and responsibly	Introduction to coding through Kodu	Control system with Flowol	First Steps in Small Basic	Spreadsheet modelling	Programming with Gamemaker	Games programming in Scratch	App development in AppShed	Understanding computers	Creating a video	Introduction to Python	HTML and website development	Computer crime and cyber security	Networks	Database development	Graphics	Animation in Flash	Sound manipulation in Audacity	Modelling in Small Basic	Python: Next steps
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		✓		✓		✓	✓				✓								✓	✓
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									✓							✓		✓		
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, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability								✓								✓		✓		
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	✓												✓							