

**Key Stage 3 Overview** *The objectives below indicate the learning objectives for pupils, split into three learning areas of Computing Science, Information Technology and Digital Literacy.*

### **Computer Science**

**CS3.1** Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems.

**CS3.2** 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.

**CS3.3** 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.

**CS3.4** Understand simple Boolean logic and some of its uses in 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].

**CS3.5** Understand how instructions are stored within a computer system in the form of binary digits.

### **Information Technology**

**IT3.1** Understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits.

**IT3.2** Understand the hardware and software components that make up computer systems, how they communicate with one another and with other systems.

**IT3.3** 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.

**IT3.4** 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.

## **Digital Literacy**

**DL3.1** Create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability.

**DL3.2** Understanding 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.

## Key Stage 3 Computing – Long Term Plan

	Year 7	Year 8
Term		
Autumn 1	E - Safety CS3.2, DL3.2	File Management, Viruses and Networking CS3.4, CS3.5, IT3.1, IT3.2
HALF TERM		
Autumn 2	Searching for Information & Presentations DL3.2, CS3.1	Website Creation HTML CS3.1, CS3.3
HALF TERM		
Spring 1	3D Design (CAD) IT3.4, DL3.1	Spreadsheet Modelling / App Design DL3.1
HALF TERM		
Spring 2	Drawing and Manipulating shapes IT3.3, CS3.2, CS3.4, CS3.5	E-Safety & Computational Thinking CS3.2, DL3.2
HALF TERM		
Summer 1	Creating animations, Game Design and Making IT3.4, CS3.2, CS3.3	Information, Reliability & Bias CS3.2, DL3.2
HALF TERM		
Summer 2	Creating animations, Game Design and Making IT3.4, CS3.2, CS3.3	Python Programming CS3.1, CS3.3