



# Curriculum Overview

## Curriculum Area: Computing Year: 7

### **Year 7 Curriculum:**

**Autumn Term:** Introduction to Computing & collaborating online

This unit has been designed to ensure that pupils are given sufficient time to familiarise themselves with the school network. It also allows the teacher to discuss appropriate use of the school network, and to update and remind pupils of important online safety issues.

Topic: Modelling data

The spreadsheet unit for Year 7 takes pupils from having limited knowledge of spreadsheets to being able to confidently model data with a spreadsheet using formulae and functions

**Spring Term: Networks and the internet**

This unit begins by defining a network and addressing the benefits of networking, before covering how data is transmitted across networks using protocols.

Topic: Programming in Scratch

This unit is the first programming unit of KS3. The aim of this unit and the following unit ('Programming 2') is to build pupils' confidence and knowledge of the key programming constructs.

**Summer Term: Programming in Scratch**

This unit begins right where 'Programming 1' ended. Pupils will build on their understanding of the control structures' sequence, selection, and iteration (the big three), and develop their problem-solving skills. Pupils will learn how to create their own subroutines, develop their understanding of decomposition, learn how to create and use lists, and build upon their problem-solving skills by working through a larger project at the end of the unit.

Topic: Digital Literacy – using media

During this unit, pupils develop their understanding of information technology and digital literacy skills. They will use the skills learnt across the unit to create a blog post about a real-world cause that they would like to gain support for. Pupils will develop software formatting skills and explore concerns surrounding the use of other people's work, including licensing and legal issues.

### **Links to National Curriculum**

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.

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

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

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

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 (e.g. lists, tables, or arrays); design and develop modular programs that use procedures or functions

Understand several key algorithms that reflect computational thinking; use logical reasoning to compare the utility of alternative algorithms for the same problem

Understand simple Boolean logic (e.g. and, or, and not)

Create, reuse, revise, and repurpose digital artefacts for a given audience, with attention to trustworthiness, design, and usability

### **Knowledge and understanding of this curriculum will be assessed by:**

Summative assessment at the end of each unit

Formative assessment throughout lessons

### **Powerful Knowledge/Cultural Capital Opportunities**

In Computing, all pupils will be taught to be courteous, respectful users of technology, who are responsible, competent and confident and creative users of information and communication technology at the highest level suitable for the future world society. All pupils will be equipped to use Computational Thinking and problem-solving skills and take them into the workplace as individuals who are computer literate and active participants in the digital world.