

# KS3 - Computing/ICT

## Overview

We aim to provide a high-quality computing education that equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

## Key Stage 3 Content

In computing and ICT we build on previous knowledge and introduce students to new technology. Topics that students study include:

- Safety – Students are made aware of online dangers with the aim of keeping them safe when using connected devices. This will progress to cyber security and show students the issues facing organisations today in keeping data safe.
- Computational thinking – Students learn the methods required to design a computer system. This will include the use of logic reasoning, algorithms and flowcharts
- Programming – Students are introduced to programming, starting off using Scratch and then progressing to Code Avengers
- Representation of data and number systems – Students will be shown how computers represent numbers, images and sound. Techniques taught include binary, hexadecimal and ASCII.
- Networks – This topic will explain the way that computing devices are linked together in order to communicate locally and globally.
- Computer systems – Students will learn about the different components that make up a computer, how they work and the role they play.

Throughout key stage 3 students will use a variety applications and programs to communicate their work.