

Computing

The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

In Key stage 3:

Year 7 Computing Scheme of work Breakdown:

Unit 1 – Networks Introduction
Lesson 1 – Computers and the school Network
Lesson 2 – Using Email and Search Engines.
Unit 2 – Hardware & Software
Lesson 1 – Understanding the role of Computer Hardware
Lesson 2 – Labelling and identification of internal components
Lesson 3 – Understanding the role of Computer software types
Lesson 4 – Distinguishing the different types of Application Software
Lesson 5 – System Requirements, Assessment, Evaluation and Improvement
Unit 3 – Digital Gaming Unit – Scratch
Lesson 1 – Use Scratch to create a Simple Game - Repeat and Forever loops.
Lesson 2 – Use Scratch to create a Simple Game - Variables
Lesson 3 – Use Scratch to create a Simple Game - Several Operators with Variables
Lesson 4 – Using “Broadcast” and adding levels.
Lesson 5 – Developing Platform Gaming Techniques.
Lesson 6 – Create a flow chart to represent the algorithms in a game you will make.
Lesson 7 – Add scripts, Sprites and variables to develop their games
Unit 4 – E- Safety
Lesson 1 – Understand what Personal Information is and How to Stay Safe Online.
Lesson 2 – Leaving a positive Mark Online and Understanding your Digital Footprint
Lesson 3 – Recognising what is acceptable and unacceptable behaviour online

Lesson 4 – Learn how to obtain Video & Audio use to create an E-Safety video
Lesson 5 – To create E-Safety Video
Lesson 6 – To create E-Safety Video
Lesson 7 – To create E-Safety Video
Lesson 8 – To Finalise their E-Safety Video to share
Unit 5 – Data Representation
Lesson 1 – Know how a CPU works and be able to convert binary to denary numbers
Lesson 2 – Know how to convert denary to binary numbers and add binary numbers
Lesson 3 – Know how computers process Data and What sizes are needed to store Data
Lesson 4 – Know how computers Process and store Image Data
Lesson 5 – Know how Computers Process and Store Audio Data
Lesson 6 – Data Representation Assessment, Evaluation and Feedback
Unit 6 – Data Modelling
Lesson 1 – Solving problems using Spreadsheets – Formulae and Functions
Lesson 2 - Solving problems using Spreadsheets – IF statements
Lesson 3 – Solving problems using Spreadsheets
Lesson 4 - Solving problems using Spreadsheets
Lesson 5 - Solving problems using Spreadsheets Assessment
GL Assessments.

Year 8 Computing Scheme of work Breakdown:

Unit 1 – Communication and Networking
Lesson 1 – Using Search Engines and Understanding Accuracy, Reliability and Bias
Lesson 2 – Understanding how search Engines Work
Lesson 3 – Understanding the internet, World Wide Web, SaaS & Cloud
Lesson 4 – Understanding how devices Communicate using Networks
Lesson 5 – Learning about modern Internet Based Services
Lesson 6 – Understanding the threats to Computer Networks
Lesson 7 – Communication & Networking Assessment, Feedback & Evaluation
Unit 2 – Web Development using HTML5 and CSS3
Lesson 1 – Critically Evaluating Websites.
Lesson 2 – An Introduction to HTML5
Lesson 3 – Writing HTML5 code and Hyper linking Webpages
Lesson 4 – Designing your own Multi Page Website.

Lesson 5 – HTML5 – Creating your own Multi Page Website.
Lesson 6 - HTML5 – Creating your own Multi Page Website.
Lesson 7 – Creating Cascading Style Sheets (CSS) and linking to HTML. Feedback, Evaluation and Improvement.
Unit 3 – Introduction to Computer Programming using Python
Lesson 1 – An introduction to the Python Programming Language
Lesson 2 – Introducing Data Types
Lesson 3 – Programming with Conditional Statements
Lesson 4 – Programming using While Loops and the Random Function
Lesson 5 – Programming using For Loops and the Range Function
Lesson 6 – Python Programming Assessment, Evaluation and Improvement.
Unit 4 – Control Programming Python Turtles
Lesson 1 – Learning how to make a Turtle draw shapes on a GUI
Lesson 2 – Programming Loops so our Turtle Repeats Patterns
Lesson 3 – Programming Conditions and Functions to add User Interaction
Lesson 4 – Learning about Parameters and use them to draw patterns
Lesson 5 – Programming Lists, storing data.
Lesson 6 – Python Programming Assessment, Evaluation and Improvement.
Unit 5 – Computer Graphics
Lesson 1 – Understanding Computer Graphics
Lesson 2 – Developing Digital Photography Skills
Lesson 3 – Developing Graphic Editing Skills 1
Lesson 4 – Developing Graphic Editing Skills 2
Lesson 5 – Creating Digital Graphics to Advertise an Event
Lesson 6 – Computer Graphics Assessment, Evaluation and Improvement.
Unit 6 – Spreadsheets
Lesson 1 – Creating spreadsheets to calculate data.
Lesson 2 – Using spreadsheets to manipulate data.
Lesson 3 – Solving problems using Spreadsheets Assessment.
GL Assessments.