# Brookhurst Primary Computing Long-Term Overview

## Key Stage 1 Computing Overview

|  | Unit 1 | Unit 2 | Unit 3 | Unit 4 |
|---|---|---|---|---|
| **Year 1** | **Technology around us: (Computing systems and networks)** Recognising technology in school and using it responsibly. | **Moving a robot: (Programming)** Writing short algorithms and programs for floor robots, and predicting program outcomes. | **Digital writing: (Creating Media)** Using a computer to create and format text, before comparing to writing non-digitally. | **Programming animations: (Programming)** Designing and programming the movement of a character on screen to tell stories. |
| **Year 2** | **Information technology around us: (Computing systems and networks)** Identifying IT and how its responsible use improves our world in school and beyond. | **Digital photography: (Creating Media)** Capturing and changing digital photographs for different purposes. | **Robot algorithms: (Programming)** Creating and debugging programs, and using logical reasoning to make predictions. | **Programming quizzes: (Programming)** Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz. |

# Key Stage 2 Computing Overview

| | Unit 1 | Unit 2 | Unit 3 | Unit 4 |
|---|---|---|---|---|
| **Year 3** | **Connecting computers:** **(Computing systems and networks)** Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks. | **Sequencing sounds:** **(Programming)** Creating sequences in a block-based programming language to make music. | **Desktop publishing:** **(Creating Media)** Creating documents by modifying text, images, and page layouts for a specified purpose. | **Events and actions in programs:** **(Programming)** Writing algorithms and programs that use a range of events to trigger sequences of actions. |
| **Year 4** | **The internet:** **(Computing systems and networks)** Recognising the internet as a network of networks including the WWW, and why we should evaluate online content. | **Repetition in shapes:** **(Programming)** Using a text-based programming language to explore count-controlled loops when drawing shapes. | **Photo editing:** **(Creating Media)** Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled. | **Repetition in games:** **(Programming)** Using a block-based programming language to explore count-controlled and infinite loops when creating a game. |
| **Year 5** | **Systems and Searching:** **(Computing systems and networks)** Identifying and exploring how information is shared between digital systems. | **Flat-file databases:** **(Data and information)** Using a database to order data and create charts to answer questions. | **Introduction to vector graphics:** **(Creating Media)** Creating images in a drawing program by using layers and groups of objects. | **Selection in quizzes:** **(Programming)** Exploring selection in programming to design and code an interactive quiz. |
| **Year 6** | **Communication and collaboration:** **(Computing systems and networks)** Recognising how the WWW can be used to communicate and be searched to find information | **Webpage creation:** **(Creating Media)** Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation. | **Variables in games:** **(Programming)** Exploring variables when designing and coding a game. | **Introduction to spreadsheets:** **(Data and information)** Answering questions by using spreadsheets to organise and calculate data. |

| National Curriculum Coverage — Years 1 and 2 | 1.1 Technology Around Us (Computing systems and networks) | 1.2 Moving a Robot (Programming) | 1.3 Digital Writing (Creating Media) | 1.4 Programming Animations (Programming) | 2.1 Information Technology Around Us (Computing systems and networks) | 2.2 Digital Photography (Creating Media) | 2.3 Robot Algorithms (Programming) | 2.4 Programming Quizzes (Programming) |
|---|---|---|---|---|---|---|---|---|
| Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. | | ✓ | | ✓ | | | ✓ | ✓ |
| Create and debug simple programs. | | ✓ | | ✓ | | | ✓ | ✓ |
| Use logical reasoning to predict the behaviour of simple programs. | | ✓ | | ✓ | | | ✓ | ✓ |
| Use technology purposefully to create, organise, store, manipulate, and retrieve digital content. | ✓ | | ✓ | | ✓ | ✓ | | ✓ |
| Recognise common uses of information technology beyond school. | ✓ | ✓ | | | ✓ | ✓ | | |
| Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. | ✓ | | ✓ | | ✓ | ✓ | ✓ | |

| National Curriculum Coverage — Years 3 and 4 | 3.1 Connecting Computers (Computing systems and networks) | 3.2 Sequencing Sounds (Programming) | 3.3 Desktop Publishing (Creating Media) | 3.4 Events and Actions in Programs (Programming) | 4.1 The Internet (Computing systems and networks) | 4.2 Repetition in Shapes (Programming) | 4.3 Photo Editing (Creating Media) | 4.4 Repetition in Games (Programming) |
|---|---|---|---|---|---|---|---|---|
| Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. | | ✓ | | ✓ | | ✓ | | ✓ |
| Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. | ✓ | ✓ | | ✓ | | ✓ | | ✓ |
| Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. | | ✓ | | ✓ | | ✓ | | ✓ |
| Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration. | ✓ | | | | ✓ | | | |
| Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. | | | ✓ | ✓ | | | ✓ | |
| Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. | | | | | ✓ | | ✓ | |