



KS2 National Curriculum

Computer Science

- Design and debug programs, including those that control physical systems, and solve problems by breaking them down.
- Employ sequence, selection, repetition, variables, input, and output in programs.
- Apply logical reasoning to understand simple algorithms and fix errors in algorithms and programs.
- Gain an understanding of computer networks like the internet, its services such as the World Wide Web, and its uses for communication and collaboration.

Information Technology

- Effectively use search tools, understand result selection, and critically evaluate digital content.
- Choose and combine different software and internet services on various devices to create programs, systems, and content for specific purposes.
- Use digital tools to gather, analyse, evaluate, and present data and information.

Digital Literacy

- Utilise technology safely, respectfully, and responsibly.
- Recognize appropriate and inappropriate online behavior.
- Know how to report concerns about online content and contact.

Cycle A (Formerly Year 4) Progression of Knowledge and Skills

Computer Science

- Consider how their design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition.
- Make intuitive attempts to **debug** their own programs.
- Use timers to achieve **repetition** effects that are becoming more **logical** and are integrated into their program designs.
- Understand '**if statements**' for selection and attempt to combine these with other coding structures including variables to achieve the effects that they design in their programs.
- Understand how variables can be used to store information while a program is executing, they are able to use and manipulate the value of **variables**.
- Make use of user inputs and outputs such as '**print to screen**'.
- Trace code and use step-through methods to identify errors in code and make logical attempts to correct this. '**Read**' **programs** with several steps and predict the outcome accurately.
- Recognise the main component parts of **hardware** which allow computers to join and form a **network**.
- Understand the **online safety** implications associated with the ways the internet can be used to provide different methods of communication.

Purple Mash Unit 4.1:
Coding - **2Code**
Purple Mash Unit 4.2:
Online Safety -
**2Connect / 2Publish
Plus / Display
Boards**
Purple Mash Unit 4.5:
Logo - **2Logo**
Purple Mash Unit 4.7:
Effective Searchers -
**Browsers, 2Quiz,
2Connect**
Purple Mash Unit 4.8:
Hardware
Investigators -
2Quiz, 2Connect

Information Technology	• Understand the function, features and layout of a search engine. • Appraise selected webpages for credibility and information at a basic level. • Make improvements to digital solutions based on feedback. • Make informed software choices when presenting information and data. • Create linked content using a range of software. • Share digital content within their community, i.e. using Virtual Display Boards.	Purple Mash Unit 4.1: Coding - 2Code Purple Mash Unit 4.3: Spreadsheets - 2Calculate Purple Mash Unit 4.4: Writing for Different Audiences - Writing Templates, 2Simulate/2Connect /2Publish Plus Purple Mash Unit 4.6: Animation - 2Animate Purple Mash Unit 4.7: Effective Searchers - Browsers, 2Quiz, 2Connect
Digital Literacy	• Children can explore key concepts relating to online safety using concept mapping. • Help others to understand the importance of online safety. • Know a range of ways of reporting inappropriate content and contact.	Purple Mash Unit 4.2: Online Safety - 2Connect / 2Publish Plus / Display Boards
Cycle B (Formerly Year 3) Progression of Knowledge and Skills		
Computer Science	• Children can turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. • Identify an error within their program that prevents it from following the desired algorithm and then fix it. • Design and code a program that follows a simple sequence. • Experiment with timers to achieve repetition effects in their programs. • Begin to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects. • Understand how variables can be used to store information while a program is executing. • Use logical, achievable steps and absorb some new knowledge of coding structures. • Make good attempts to 'step through' more complex code in order to identify errors in algorithms and can correct this. • 'Read' programs with several steps and predict the outcome accurately. • List a range of ways that the internet can be used to provide different methods of communication. • Use some methods of communication, e.g. being able to open, respond to and attach files to emails. • Describe appropriate email conventions when communicating in this way.	Purple Mash Unit 3.1: Coding - 2Chart / 2Code Purple Mash Unit 3.5: Emailing - 2Respond / 2Connect

Information Technology	- Carry out simple searches to retrieve digital content. - Understand that to search online they are connecting to the internet and using a search engine such as Purple Mash search or internet-wide search engines. - Collect, analyse, evaluate and present data and information using a selection of software. - Consider what software is most appropriate for a given task. - Create purposeful content to attach to emails.	Purple Mash Unit 3.3: Spreadsheets - 2Calculate Purple Mash Unit 3.4: Touch Typing - 2Type Purple Mash Unit 3.5: Emailing - 2Respond Purple Mash Unit 3.6: Branching Databases - 2Question Purple Mash Unit 3.7: Simulations - 2Simulate Purple Mash Unit 3.8: Graphing - 2Graph
Digital Literacy	- Demonstrate the importance of having a secure password and not sharing this with anyone else. - Explain the negative implications of failure to keep passwords safe and secure. - Understand the importance of staying safe and the importance of their conduct when using familiar communication tools. - Know more than one way to report unacceptable content and contact.	Purple Mash Unit 3.2: Online Safety Purple Mash Unit 3.5: Emailing - 2Respond

Assessment End Points Cycle A (Formerly Year 4)

Knowledge	Skills
- I know how to format cells in a range of ways. - I know how font size and style can affect the impact of a text. - I know how to report inappropriate content and contact.	- I can debug my own programs. - I can create a 'stop motion' animation. - I can search effectively to find out information.

Assessment End Points Cycle (Formerly Year 3)

Knowledge	Skills
- I know how to use logical, achievable steps and absorb some new knowledge of coding structures. - I know that to search online I am connecting to the internet and using a search engine.	- I can design and code a program that follows a simple sequence. - I can 'read' programs with several steps and predict the outcome accurately.