

# The KS1 and KS2 Computing Curriculum Road Map

Inspiring digital citizens, creative problem solvers and confident technologists.



## OUR DIGITAL JOURNEY

### EYFS Ages 3-5

Exploring technology through play and discovery



### KS1 Years 1-2

Building skills and developing digital confidence



### LKS2 Years 3-4

Expanding knowledge and applying skills



### UKS2 Years 5-6

Applying knowledge creatively and solving problems



| AUTUMN 1                                                                                                                                                                                                            | AUTUMN 2                                                                                                                                                                   | SPRING 1                                                                                                                                                         | SPRING 2                                                                                                                                                 | SUMMER 1                                                                                                                                                      | SUMMER 2                                                                                                                                              | ACROSS THE YEAR                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Computing through continuous provision</b><br><br>Exploring technology through play, using digital resources to investigate, create and communicate ideas.                                                       | <b>Computing systems and networks 1: Using a computer</b><br><br>Investigating the main parts of a computer and learning how to log in, log out and navigate simple tasks. | <b>Programming 1: All about instructions</b><br><br>Developing an understanding of how to give and follow instructions and why clear instructions are important. | <b>Computing systems and networks 2: Exploring hardware</b><br><br>Investigating different computer hardware parts and learning how to operate a camera. | <b>Programming 2: Programming Bee-Bots</b><br><br>Exploring simple programming by experimenting with Bee-Bots and learning how hardware responds to commands. | <b>Data handling: Introduction to data</b><br><br>Learning how to sort and categorise data and an introduction to branching databases and pictograms. | <b>Skills we build</b> <ul style="list-style-type: none"> <li>Exploring technology</li> <li>Using tools safely</li> <li>Making choices</li> <li>Sharing ideas</li> <li>Reflecting on learning</li> </ul>      |
| <b>Year 1 Computer systems: Using computers 1</b><br><br>Exploring different computers, their parts and uses. Learning to log in, use software, save work and understand how devices connect and share information. | <b>Programming: Commands unplugged</b><br><br>Learning how to give clear commands through fun, unplugged activities and games.                                             | <b>Creating media</b><br><br>Using digital tools to create, edit and improve text, pictures and other simple media.                                              | <b>Programming: Bee-Bots</b><br><br>Writing and testing simple programs for Bee-Bots to solve problems and navigate routes.                              | <b>Creating media</b><br><br>Capturing and modifying digital content, developing ideas and sharing creations.                                                 | <b>Data handling</b><br><br>Collecting, sorting and presenting data using tables, pictograms and simple charts.                                       | <b>Skills we build</b> <ul style="list-style-type: none"> <li>Using technology</li> <li>Creating content</li> <li>Solving problems</li> <li>Evaluating work</li> <li>Being safe online</li> </ul>             |
| <b>Programming: Scratch</b><br><br>Creating animations and programs in Scratch. Learning key coding concepts and improving projects through testing and debugging.                                                  | <b>Year 3: Connecting devices</b><br><br>Exploring how devices connect using wired and wireless connections to share information and communicate.                          | <b>Programming: MakeCode loops</b><br><br>Using loops in MakeCode to create efficient programs and solve problems more effectively.                              | <b>Creating media</b><br><br>Planning, creating and editing digital media including images, sound and video.                                             | <b>Creating media</b><br><br>Designing and producing digital content to express ideas and solve problems.                                                     | <b>Data handling</b><br><br>Collecting, presenting and interpreting data using a range of digital tools.                                              | <b>Skills we build</b> <ul style="list-style-type: none"> <li>Computational thinking</li> <li>Digital literacy</li> <li>Creating and innovating</li> <li>Data understanding</li> <li>Online safety</li> </ul> |
| <b>Programming 1: Music</b><br><br>Using code and digital tools to explore music, patterns and sequencing.                                                                                                          | <b>Computing systems and networks</b><br><br>Understanding how networks connect devices and how information is shared safely and securely.                                 | <b>Programming: BBC Micro:bit (Scratch/MakeCode)</b><br><br>Designing and coding interactive programs for micro:bit using sensors and inputs.                    | <b>Creating media</b><br><br>Planning, capturing and editing digital media for a chosen purpose.                                                         | <b>Creating media</b><br><br>Developing digital projects using video, audio and images with creativity and control.                                           | <b>Data handling</b><br><br>Collecting, analysing and presenting data to answer questions and support decisions.                                      | <b>Skills we build</b> <ul style="list-style-type: none"> <li>Problem solving</li> <li>Programming and coding</li> <li>Data and information</li> <li>Collaboration</li> <li>Online safety</li> </ul>          |
| <b>*New* Programming 1: Scratch: Pixels and positions</b><br><br>Using Scratch to explore co-ordinates, movement and design to create interactive projects.                                                         | <b>Computing systems and networks</b><br><br>Deepening understanding of networks, the internet and how data travels and is managed.                                        | <b>Programming: Exploring python</b><br><br>Writing and testing programs in Python to solve problems and create projects.                                        | <b>Computing systems and networks</b><br><br>Exploring systems security, reliability and managing data in different contexts.                            | <b>Creating media</b><br><br>Designing and producing high-quality digital content for an audience.                                                            | <b>Online safety</b><br><br>Understanding how to stay safe, respectful and responsible online.                                                        | <b>Skills we build</b> <ul style="list-style-type: none"> <li>Independent thinking</li> <li>Creativity</li> <li>Resilience</li> <li>Digital citizenship</li> <li>Reflecting on learning</li> </ul>            |

**COMPUTATIONAL THINKING**

- Decomposing problems
- Spotting patterns
- Designing algorithms
- Debugging and improving
- Thinking logically

**PROGRAMMING AND CODING**

- Understanding code
- Writing and testing programs
- Using sequences and loops
- Using inputs and outputs
- Creating algorithms

**DATA AND INFORMATION**

- Collecting data
- Analysing information
- Presenting data
- Interpreting results
- Making decisions

**DIGITAL LITERACY**

- Using technology effectively
- Creating digital content
- Finding and evaluating information
- Managing files
- Staying safe and responsible

**ONLINE SAFETY**

- Being safe online
- Respectful communication
- Protecting personal information
- Recognising risks
- Seeking help when needed