



Computing Curriculum Progression

Computing Systems & Networks KS1	Reception – Technology in Our World	Year 1 – Technology Around Us	Year 2 – IT Around Us
Skills	• Technology role play • Talking about how devices are used • Buttons and cause/effect toys • Technology awareness • Sorting technology vs non-technology	• Choose a piece of technology to do a job • Identify the main parts of a computer • Use a keyboard to type, edit and delete • Turn on the computer and log on • Use a mouse in different ways – click, select and drag • Demonstrate that they can use technology safely	• Identify technology at home, in school and beyond. • Choosing an appropriate device and application to carry out a task (photo, drawing, voice or video recording) • Obtaining consent when recording others • Consider how to use different forms of information technology safely.
Knowledge	• What technology helps people do • Technology in everyday life • Talking about observations • Devices have purposes • Technology is part of daily life	• Identify examples of technology and explain how they can help us • Recognise that a computer is an example of technology • Describe what a keyboard is for • Know a computer stores work in files • Give examples of rules to keep safe when using technology in and beyond the home	• Devices made to work with computers: barcode scanners, printers, speakers • Some devices can work with a computer or independently. For example, a multifunction printer has a computer (processor) inside. • Technology beyond home and school: ○ Barcode scanner, till, chip and PIN card reader, traffic light, crossing button, crossing signal
Vocabulary	device computer tablet camera button screen help work machine	Technology Computer Mouse Trackpad Keyboard Screen double-click typing	Information technology (IT) Computer Barcode scanner/scan printer

Computing Curriculum Progression

Computing Systems & Networks KS2	Year 3 – Connecting Computers	Year 4 – The Internet	Year 5 – Systems and Searching	Year 6 – Communication and Collaboration
Skills	- Identify the main physical parts of a network and their roles. - Explain how devices connect and send messages across a network. - Identify input and output devices and create a secure password.	- Demonstrate how information is shared across the internet. - Navigate and access websites on different devices. - Evaluate online information and make responsible sharing decisions.	- Explain how computer systems support everyday tasks. - Use search engines effectively by refining searches and comparing results. - Evaluate how search engines organise and rank information.	- Share and collaborate online using shared files or tools. - Choose appropriate digital communication methods for different purposes. - Evaluate online communication and privacy, including reporting concerns.
Knowledge	- Digital devices use inputs, processes and outputs. - Computers can connect to form networks that share information. - Computers connect to networks to share information and resources.	- The internet is a network of networks, including the World Wide Web. - Websites contain different types of media and are created by people. - Online information may not always be reliable or trustworthy.	- Digital systems connect and communicate to perform tasks. - Search engines index and rank web pages to return results. - Search results can be influenced by algorithms and user behaviour.	- Devices communicate using protocols and IP addresses. - Data is transferred in packets across networks. - The internet enables real-time communication and collaboration.
Vocabulary	network connection switch server wireless access point (WAP) input output	router World Wide Web website web page browser content download copyright	system process search engine index web crawler algorithm ranking	protocol IP address DNS packet header payload collaboration public/private

Computing Curriculum Progression

Creating Media KS1	Reception – Making & Capturing Media	Year 1 – Digital Painting and Writing	Year 2 – Digital Music and Photography
Skills	- Take photographs and record voice or sounds. - Draw or create digitally using simple tools. - Record stories or videos to share ideas.	- Choose appropriate digital tools to create artwork. - Format and edit text using a computer. - Compare digital creations to non-digital work.	- Capture and edit digital photographs for different purposes. - Create musical compositions exploring rhythm, pulse, and pitch. - Combine sound and images to produce simple digital media.
Knowledge	- Devices can capture images and sounds. - Digital creations represent experiences and ideas. - Media can be shared to communicate with others.	- Digital tools allow creativity and editing. - Text and images can be formatted and styled digitally. - Digital work can be compared to traditional methods.	- Photographs and music can be edited and combined. - Media can have purpose and audience. - Digital creations can communicate mood, feeling, or information.
Vocabulary	photo picture record sound draw create camera play	paint program brush fill erase word processor text font type design	music rhythm pitch instrument photograph edit layer capture

Computing Curriculum Progression

Creating Media KS2	Year 3 – Desktop Publishing and Stop-Frame Animations	Year 4 – Audio Production and Photo Editing	Year 5 – Vector Graphics and Video Production	Year 6 – Webpage Creation and 3D Modelling
Skills	• Capture and edit digital images for stop-frame animations. • Create documents and modify text, images, and layouts. • Plan and tell stories using digital media.	• Capture and edit audio to produce podcasts. • Manipulate digital images for effect and purpose. • Evaluate media for impact and suitability.	• Create vector graphics using layers and object groups. • Plan, capture, and edit video to tell a story. • Combine audio, images, and text for creative media.	• Design and create webpages considering copyright and navigation. • Plan and develop 3D models of objects using software. • Evaluate digital creations and refine designs.
Knowledge	• Stop-frame animation combines images to create motion. • Documents and layouts can be edited for purpose. • Digital media allows creative storytelling.	• Audio can be captured, edited, and layered. • Digital images can be manipulated to achieve desired effects. • Media should meet purpose, audience, and copyright rules.	• Vector graphics use objects, layers, and groups for design. • Video combines camera work, editing, and audio. • Digital media can integrate multiple types of content for creative outcomes.	• Webpages and 3D models communicate information or represent objects. • Layout, navigation, and copyright are important in digital creation. • Evaluation and refinement improve the effectiveness of digital media.
Vocabulary	desktop publishing document layout image animation frame sequence story	audio record edit podcast layer effect export evaluate	vector layer object duplicate video clip timeline combine	website webpage navigation 3D shape select modify evaluate

Computing Curriculum Progression

Programming KS1	Reception – Following Instructions and Cause & Effect Toys	Year 1 – Moving a robot and Programming animations	Year 2 – Robot Algorithms and Programming Quizzes
Skills	- Follow and give simple instructions in order. - Sequence actions in routines, games, or obstacle courses. - Predict what will happen and correct mistakes. - Explore cause-and-effect with toys or “teacher is a robot” games.	- Write short algorithms for robots or characters on screen. - Design sequences of movement or actions. - Predict outcomes and test programs for correctness.	- Create and debug programs using logical reasoning. - Design algorithms with events to trigger actions. - Build interactive quizzes or simple programs that respond to user input.
Knowledge	- Instructions happen in a specific order. - Sequencing actions produces predictable results. - Mistakes can be identified and corrected. - Actions can cause effects that can be observed.	- Algorithms are step-by-step instructions to complete tasks. - Programming allows robots or characters to follow sequences. - Programs can be tested, debugged, and refined.	- Events trigger sequences in programs. - Logical reasoning predicts program behaviour. - Interactive programs respond to user inputs and choices.
Vocabulary	instruction step sequence order predict move fix	algorithm program command sprite block debug design	sequence event condition input output debug evaluate

Computing Curriculum Progression

Programming KS2	Year 3 – Sequencing Sounds & Events and Actions	Year 4 – Repetition in Shapes and Repetition in Games	Year 5 – Selection in Physical Computing and Making Quizzes	Year 6 – Variables in Games and Sensing Movement
Skills	- Create sequences in a block-based language to make music. - Write programs using events to trigger actions. - Predict program outcomes and debug as needed.	- Use loops (count-controlled & infinite) to repeat commands in shapes or games. - Explore repetition to simplify programs. - Test, debug and refine programs.	- Explore conditions and selection (if/then) in microcontrollers or quizzes. - Design interactive programs using inputs and outputs. - Debug programs using logical reasoning.	- Use variables to store and change values in games. - Capture inputs from physical devices (sensors, buttons) to control outputs. - Design and evaluate programs that respond to user actions.
Knowledge	- Programs are sequences of instructions executed in order. - Events can trigger actions in a program. - Debugging fixes errors and improves program behaviour.	- Loops repeat sequences to make programs efficient. - Repetition can simplify code and reduce errors. - Programs can combine sequences and loops for creative outcomes.	- Selection allows programs to make decisions based on conditions. - Inputs and outputs allow interaction with programs or devices. - Logical reasoning helps predict and test program behaviour.	- Variables store data that can change during a program. - Programs can respond to sensors or user input. - Testing and evaluation ensure programs work correctly and are improved over time.
Vocabulary	Scratch block commands sprite stage event algorithm	loop repetition count-controlled infinite procedure pattern repeat	microcontroller selection condition input output if/then event	variable value sensor operator random input output

Computing Curriculum Progression

Data and Information KS1	Reception – Sorting & Grouping	Year 1 – Grouping	Year 2 – Pictograms
Skills	- Sort objects by simple features (colour, size, type). - Take part in simple class voting or grouping activities. - Compare groups using language such as more, less, same. - Explain how objects have been grouped.	- Sort and group objects using labels or properties. - Identify similarities and differences between objects. - Use simple digital tools to organise information. - Begin to search for objects within groups.	- Collect simple data (e.g. votes or tallies). - Create pictograms using digital tools. - Interpret pictograms to answer questions. - Compare results using simple data language.
Knowledge	- Objects can be sorted into groups based on their features. - Grouping helps organise information. - Information can be represented visually (e.g. charts or pictures).	- Objects can belong to different groups depending on their properties. - Labels can be used to organise and identify groups. - Computers can help sort and organise information.	- Data can be collected and counted. - Pictograms represent data using symbols or images. - Data can be used to answer questions and compare results.
Vocabulary	sort group same different category more less	label property data search dataset criteria	tally pictogram symbol compare total data set vote

Computing Curriculum Progression

Data and Information KS2	Year 3 – Branching Databases	Year 4 – Data Logging	Year 5 – Flat-File Databases	Year 6 – Introduction to Spreadsheets
Skills	- Create and use branching databases using yes/no questions. - Identify attributes to classify objects. - Use a database to locate and organise information.	- Use data loggers and sensors to collect data over time. - Carry out simple investigations using logged data. - Analyse and interpret collected data.	- Use a database to sort and filter information. - Search records to answer questions. - Create charts to present data.	- Organise data in spreadsheet tables. - Use formulae to perform calculations. - Create charts to analyse and present results.
Knowledge	- Branching databases classify objects using attributes and questions. - Decision paths help locate information quickly. - Databases help organise and retrieve information.	- Sensors measure environmental changes automatically. - Data logging records measurements at regular intervals. - Logged data can be analysed to identify patterns.	- Databases store information using records and fields. - Data can be sorted, filtered and searched using criteria. - Charts help visualise patterns in data.	- Spreadsheets organise data using cells, rows and columns. - Formulae automate calculations. - Graphs and charts help interpret data.
Vocabulary	branching database attribute value question table decision	sensor data logger data point interval dataset record	database record field filter criteria sort chart	spreadsheet cell cell reference formula range calculation graph