Barham's Computing Progression Overview 2026-2027

At Barham Primary School, our Computing curriculum is designed to prepare all children to thrive in an increasingly digital and interconnected world. Reflecting our school vision, we aim for pupils to become **safe, happy, and kind learners** who are **curious**, **ambitious**, and capable of becoming **change makers** in the 21st century.

We recognise that digital literacy is an essential life skill, and through Computing, we aim to:

- Develop confident, creative, and critical thinkers
- Equip pupils with knowledge of computer science, information technology, and digital literacy
- Ensure children understand how to stay safe, responsible, and respectful online
- Provide meaningful learning experiences that link to real-world contexts and future career paths

Our Computing curriculum is underpinned by Barham's **five core values – the 5Rs**:

- **Respect** for others in online and collaborative spaces
- **Resilience** in tackling coding challenges and debugging
- **Risk-taking** in trying new tools, programming languages, and creative digital tasks
- **Reflectiveness** when evaluating their own and others' digital work
- **Resourcefulness** in applying computational thinking and problem-solving skills

Ultimately, we want all children to leave Barham equipped with the digital fluency and confidence to access future learning, navigate the modern world, and make informed, ethical choices as digital citizens.

Year 1	**Computing systems and networks** Technology is devices we recognise and use. Computers have parts. We log in, use an input device, and keep personal information safe.	**Creating media** Digital tools can change how a picture or piece of text looks. Text and images can be combined	**Data and information** Objects have properties. We use labels to group them and share what we find.	**Programming and algorithms** An algorithm is a precise set of steps. A simple program makes a robot or sprite follow those steps. We can predict and fix mistakes.
	• Identify technology used at school and at home • Name a range of digital devices (laptop, tablet, phone, games console) • Name the main parts of a computer (mouse, keyboard, screen) • Turn on a computer and log in with support • Use a mouse, trackpad, touchscreen or switch to click, select and move • Explain why we use passwords • Recognise examples of personal information • Know who to tell if concerned about content or contact • Use technology safely and respectfully	• Use a paint program to create a picture • Select tools to change colour, brush size and shape • Use fill, undo, erase, line and shape tools • Compare painting on a computer with painting on paper • Type simple sentences using a keyboard • Use space bar, backspace, shift and enter • Change how text looks (size, colour, bold) • Combine text and images to present information	• Describe objects using labels • Find objects with similar properties • Answer questions about groups of objects • Decide how to group objects to answer a question • Collect simple data by counting and grouping • Record and share what has been found	• Follow, give and sequence simple instructions • Create a simple program to control a floor robot • Explain what an algorithm is and create one. • Predict the outcome of a simple program • Debug an error in a simple program • Use commands such as forwards, backwards, turn, clear and go • Design a simple on-screen animation using blocks • Combine start blocks and movement blocks to make a character move

Year 2	**Computing systems and networks** IT is technology used for a purpose in school and beyond. We use it responsibly and save our work.	**Creating media** Photographs and music are digital media. They can be captured, edited and improved for a purpose.	**Data and information** Data can be counted, compared and presented. Some information should stay private.	**Programming and algorithms** Programs are sequences of commands. Changing the sequence changes the outcome. We design, test, debug and improve programs.
	• Identify technology and explain how it helps us • Recognise technology used in the classroom • Name the main parts of a computer • Turn on and log into a computer • Use a mouse to click, drag, and open programs and files • Use arrow keys and delete keys correctly • Save and open work files • Understand and follow rules for safe and responsible use of technology and know who to tell if something online or on a device upsets me	• Recognise devices that can take photographs • Take and improve digital photographs using lighting, portrait, and landscape formats • Explain what makes a good photograph • Understand that photos and images can be edited or changed • Use simple editing tools to change images • Create and perform rhythm patterns • Experiment with sound and pitch using computers • Create and refine digital musical patterns • Compose music for a specific purpose	• Create and interpret pictograms • Collect, record, and compare data using tally charts • Sort and compare objects and people using attributes • Use computers to enter, organise, and present information • Share information safely and understand why some information should stay private	• Follow, give and sequence instructions clearly • Understand that changing the order of instructions changes the outcome • Predict the result of a simple program • Create a program using a floor robot or block-based code • Test and debug a program when it does not work • Identify the start and the outcome of a sequence • Design, test and improve a program for a purpose

Year 3	**Computing systems and networks** Digital devices use input, process and output, and can be connected in a network.	**Creating media** Animation is a sequence of images; text and images can be laid out to share a message.	**Data and information** Yes/no questions can sort objects in a branching database according to their attributes.	**Programming and algorithms** Programs follow sequences of commands; events can start those commands.
	• Understand that digital devices use inputs and outputs • Follow and explain a simple digital process • Identify and classify input and output devices • Design a simple digital device with input, process and output • Compare digital devices with non-digital tools • Explain how digital devices support different activities • Understand how computer networks share information • Identify switches, servers and wireless access points • Recognise how devices are connected in a network • Identify benefits of networks in everyday life • Use passwords and personal information securely	• Understand that animation is created from a sequence of images • Plan an animation using a storyboard • Use editing techniques such as onion skinning • Review, evaluate and improve an animation • Understand how text and images communicate information • Edit text, fonts, colours and layout for a purpose • Choose suitable page settings and templates • Add and arrange text and images in a publication • Compare digital publishing with hand-created work	• Create and answer yes/no questions about groups of objects • Identify attributes and use them to sort data • Organise objects into a tree / branching structure • Create and test a branching database • Understand why a database needs a clear structure • Plan questions that identify objects effectively • Recognise real-world uses of branching databases	• Explore the Scratch environment • Identify sprites, backdrops, commands and blocks • Understand that programs need a start and then follow a sequence • Predict the outcome of a sequence of blocks • Create sequences that include movement, sound and events • Understand that events can trigger actions • Program a sprite to move in different directions • Turn a task description into an algorithm, then into code • Test, debug and improve a program, including a maze challenge

Year 4	**Computing systems and networks** The internet is a network of networks. Websites are content stored on the WWW.	**Creating media** Sound and photos can be captured, edited and improved for a purpose.	**Data and information** Data loggers record data over time. That data can be reviewed and used to answer questions.	**Programming and algorithms** Repetition (loops) makes a sequence happen more than once.
	• Describe the internet as a network of networks • Explain how the World Wide Web is different from the internet • Recognise that websites are content stored on the WWW • Explain why some websites and content are more trustworthy than others, and how to report content that is upsetting or unkind • Evaluate whether a website is reliable • Explain who owns content on a website • Explain that websites are made up of media that someone has created / owned. • Use a password to access school systems	• Record and play digital audio • Edit a sound file (trim, split, combine) • Combine sounds for a purpose, such as a podcast • Take and import a digital photograph • Edit a photo (crop, colour, lighting, effects) • Explain how editing can change meaning • Know that some images and sounds are copyrighted	• Use a data logger to collect data over time • Recognise that a sensor is an input • Sort and review logged data • Draw conclusions from data in a table or graph • Choose a question that logged data can answer	• Use a count-controlled loop • Use a forever loop • Predict the outcome of a loop • Create a program that repeats shapes or actions • Modify a loop to change the outcome • Design, test, debug and improve a program that uses repetition

Year 5	**Computing systems and networks** Computer systems are made of connected parts that work together. Search engines find web pages using selected words.	**Creating media** A video is planned, filmed and edited. Vector drawings are built from shapes that can be layered, grouped and changed.	**Data and information** A flat-file database stores data in records and fields. We can search, sort and chart that data to answer questions.	**Programming and algorithms** Selection means a program chooses what to do when a condition is true or false (if…then…else). This can control a quiz or a physical device.
	• Explain that a computer system is made of connected parts • Describe how systems use inputs, processes and outputs • Explain how IT systems can work together • Compare a web browser with a search engine • Perform a search and refine it to find useful results • Explain why search results are ranked • Evaluate how reliable a webpage is • Explain how to use search and shared systems responsibly, including what is safe to share and how to report a concern	• Plan a short video using a storyboard • Film clips considering camera, lighting and sound • Edit clips: trim, order, add titles and transitions • Evaluate a video and improve it • Use vector tools to draw with shapes • Layer, group, duplicate and resize objects • Compare vector drawings with painting or photos	• Explain the difference between data and information • Understand records and fields in a flat-file database • Search and sort a database to answer a question • Group data and choose a chart to present findings • Choose questions a database can and cannot answer	• Explain that a condition is either true or false • Use selection: if…then and if…then…else • Predict how a program changes when the input or condition changes • Use selection in a quiz • Connect and program a simple physical system (e.g. microcontroller and sensor) • Use an infinite loop so a physical program keeps checking a condition • Test, debug and improve a program that uses selection

Year 6	**Computing systems and networks** The internet lets people communicate and work together. Data is transferred across networks, so privacy, respect and strong passwords matter.	**Creating media** A webpage is built from content, layout and links. 3D models are objects that can be shaped, combined and viewed from different angles.	**Data and information** A spreadsheet organises data in cells. Formulae can calculate, and charts can show what the data means.	**Programming and algorithms** A variable stores a value that can change, such as a score. Programs can use variables and sensors to decide what happens next.
	• Explain how the internet is used for communication and collaboration • Describe how data is transferred across the internet • Choose a suitable tool for sharing or working online • Explain how to keep a strong password and why it matters • Recognise that online activity can be tracked and used for advertising • Use online tools respectfully and privately	• Plan a webpage for a purpose and audience • Create a webpage with text, images and links • Preview a webpage and consider how it looks on screen • Explain what is fair to reuse and what needs permission • Create a 3D model by adding and combining shapes • Resize, rotate, group and colour 3D objects • Compare 3D modelling with 2D drawing	• Recognise what a spreadsheet is and when it is useful • Enter data into cells and use cell references • Use a formula to calculate from a set of data • Create a graph or chart from spreadsheet data • Collect data for a purpose and organise it in a spreadsheet • Analyse spreadsheet data to answer a question	• Explain that a variable stores a value that can change • Create and use a variable, e.g. a score • Use a variable in a condition (comparison: < > =) • Design a game or program that uses variables • Use a sensor as an input in a physical or on-screen program • Plan a program using algorithm, code and test • Use sequence, selection, repetition and variables together • Test, debug and improve a program