



TO LOVE GOD ABOVE ALL THINGS
BY
LEARNING TOGETHER
LOVING OURSELVES
LOVING EACH OTHER
LOVING ALL PEOPLE
LOVING LIFE ITSELF
AND
CONSTANTLY STRIVING FOR
EXCELLENCE
WORTHY OF OUR GOD GIVEN GIFTS.



Vision

Catholic vision and Catholic principles drive **the vision** of the school, at St. Mary's we aim: -

For every child to receive an outstanding education, so that they reach their full-human potential worthy of their God-given gifts.

For every child to leave St. Mary's equipped with the skills they need for the next stage of their education and lives, knowing their contribution makes a difference in our world.

Computing Progression Grid and Coverage Document

Vision

At St Mary's, children learn to use technology thoughtfully, creatively and responsibly. Our Catholic vision places the dignity of each person at the centre of digital life. Children learn that their choices, words and creations can help others and that everyone deserves respect, both online and offline.

Intent

Our Computing curriculum develops understanding of how digital systems work alongside the practical skills to create, communicate and solve problems. Children build secure knowledge through computer science, information technology and digital literacy. They learn to explain their thinking, test an idea, improve their work and make informed choices when using technology.

Aims

- Develop precise thinking through algorithms, programming and the representation of information.
- Build confidence in selecting digital tools and creating work for a clear purpose and audience.
- Develop critical judgement when researching, interpreting information and evaluating new technology.
- Establish safe, respectful and responsible habits that children can apply beyond school.

Implementation

Computing is taught through the school's selected Kapow Primary units, with practical work on computers and iPads, discussion and unplugged activities.

Teachers introduce concepts in manageable steps and revisit earlier knowledge before new learning. Children predict what will happen, practise using commands or tools, test their work and explain improvements. Shared vocabulary connects learning across year groups so that familiar ideas become more precise and are applied with increasing independence.

In Reception, Computing develops through practical exploration, play, talk and daily routines. All About Instructions, Exploring Hardware and Introduction to Data establish foundations in sequencing, purposeful control, representing information and safe use. Birth to 5 Matters informs these experiences; selected ELG contributions sit within wider Reception learning.

Online safety runs throughout the year through the year-group Kapow units, practical Computing work and the RHE and PSHE curriculum. Children revisit privacy, permission, respectful communication, wellbeing and seeking help in the contexts in which they use technology.

Teaching is adapted through modelling, accessible instructions, visual prompts, repeated practice and appropriate challenge. Teachers use discussion, observation and children's digital work to check understanding, address misconceptions and identify the next steps. Children explain both the process they followed and the choices that improved the outcome.

Curriculum organisation

Strand	Learning developed across the school
Computer science	Algorithms and programming; how hardware and networks work; how information is represented and transmitted.
Information technology	Selecting and combining software; creating and improving digital media; collecting, organising and interpreting information.
Digital literacy	Research and critical evaluation; communication and collaboration; safe, respectful and responsible participation.

Computing pathway at St Mary's

The school's units provide the contexts for the progression that follows. Online safety and opportunities to revisit and apply learning continue throughout the year.

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	All About Instructions		Exploring Hardware		Introduction to Data	
Y1	Improving Mouse Skills		Programming 1: Commands unplugged	Creating media: Digital imagery	Programming 2: Bee-Bots	
Y2	What is a computer?		Programming 1: Algorithms and debugging	Programming 2: Introduction to block coding Option 2: Scratch Jr	Data handling: International Space Station	
Y3	Networks and the internet	Computing systems and networks 3: Journey inside a computer	Video trailers – Option 2: Using iPads		Programming: Scratch	
Y4	Google: Computing systems and networks: Collaborative learning		Further Coding with Scratch	Programming 1: Further coding with Scratch	Data handling: Investigating weather	
Y5	Computing systems and networks: Search engines		Programming Music		Data handling: Mars Rover 1	Stop-motion animation – Option 1: Stop Motion Studio
Y6	Computing systems and networks: Bletchley Park and the history of computers		Data handling 1: Big Data 1		Computing systems and networks: Exploring AI	Programming: Intro to Python

Continuity across the curriculum

Children begin with practical instructions, familiar controls and sorting in Reception. Key Stage 1 develops precise sequences, simple programs, purposeful image creation and an understanding of technology in everyday life. In lower Key Stage 2, children explain systems and networks, create and refine Scratch programs and collaborate using digital tools. Upper Key Stage 2 extends this learning through musical programming, binary representation, data analysis, text-based coding and critical evaluation of AI.

Digital content becomes more carefully planned, combined and evaluated as children move through the school. Online safety develops from asking for help and following shared rules towards explaining risks, considering other people's rights and using appropriate ways to report concerns.

Hardware and computing systems

Computer science

Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Learning contexts	Exploring Hardware	Mouse Skills; Bee-Bots; Digital Imagery	What is a computer?; International Space Station	Networks and the internet; Journey inside a computer	Collaborative learning; Investigating weather	Search engines; Mars Rover 1	Bletchley Park; Big Data 1; Exploring AI
Key knowledge	Controls make devices respond. Cameras record photographs. Technology is used for different purposes at home and school. Bt5M — Technology, Ranges 5–6: purposeful operation of familiar equipment.	A mouse gives instructions to a computer; the screen shows its response. A floor robot carries out the commands entered. Devices may receive commands through buttons, touch or a mouse.	A computer takes input, processes information and produces output. Different devices suit different jobs. Sensors measure changes in the environment. Some everyday objects contain computers even when they have no keyboard.	The CPU processes instructions; RAM holds information in use; storage keeps files. Networks connect devices. The internet connects networks; the web is a service using it. A server provides resources; a router directs traffic between networks.	Online software allows several people to contribute to a shared file. Sensors can provide measurements to computer systems and support automatic responses.	Computers represent data using binary. A rover uses inputs, processing and outputs. Search engines build indexes of web content.	Codes can conceal information; code-breaking at Bletchley Park contributed to computing history. Computer designs have changed to meet new needs. RFID uses radio signals to identify tagged objects. AI outputs require human checking.
Key skills	Explore familiar devices and describe a visible part or control. Use a camera with support and handle equipment carefully. Name a use for a familiar device. ELG link — Managing Self: explain safe routines.	Log in with support and navigate to an activity. Click, drag and control a pointer to select tools. Use camera controls and Bee-Bot buttons for a chosen purpose; explain which action caused a response.	Identify peripherals and compare their functions. Classify inputs and outputs in familiar technology. Design an invention with an input and an output. Explain how sensors help monitor conditions on the ISS.	Compare desktops, laptops and tablets. Explain the roles of processor, working memory and storage. Model wired and wireless connections, a request to a server and the journey of data packets through a network.	Explain how shared online files help people work together. Design a weather station, labelling sensors and measurements. Explain how an automated machine could respond differently to different sensor readings.	Explain how a rover collects and communicates data remotely. Describe the role of a search engine when finding web content. Explain why transmitting data from Mars presents challenges.	Compare computing technologies across time. Explain examples of automated identification and AI. Propose a future computer for a stated need. Link a technological development to the problem it addressed.
Key vocabulary	camera, button, screen, device	mouse, cursor, click, drag, robot	computer, input, output, sensor	CPU, RAM, storage, network, server, router, packet	collaboration, shared file, weather station, sensor	rover, binary, data, signal, index	cipher, encryption, RFID, AI, training data

Computational thinking and programming

Computer science

Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Learning contexts	All About Instructions	Commands unplugged; Bee-Bots	Algorithms and debugging; ScratchJr	Programming Scratch	Further Coding with Scratch; Investigating weather	Programming Music using Scratch	Intro to Python
Key knowledge	An instruction tells someone what to do. The order and clarity of steps affect the result. Bt5M — Speaking, Range 6; Mathematics — Measures, Range 5; Spatial Reasoning, Range 6.	An algorithm is an ordered set of instructions. Decomposition breaks a task into smaller steps. A program makes a device follow commands precisely; mistakes must be found and changed.	Decomposition makes a problem manageable; abstraction keeps important details. An event starts an action; a loop repeats instructions. Code blocks form a program. The order of blocks changes the outcome.	A loop avoids writing the same instructions many times. A sprite's behaviour is controlled by its scripts. Remixing changes an existing program for a purpose. Testing should check whether the program meets its intended purpose.	A variable stores a value that can change, such as a score. Selection makes an action depend on a condition. User answers can affect a quiz response. A score variable needs a starting value as well as changes during play.	Events can start a musical sequence; sound blocks control musical output. Loops repeat phrases efficiently. A nested loop places one repeat inside another. Testing sections separately helps locate errors before combining them.	Text-based languages require precise syntax. A nested loop runs inside another loop. Random values can vary an output. Existing algorithms can be adapted for a new design. Indentation helps define which instructions belong inside a Python loop.
Key skills	Follow and give a short sequence of practical instructions. Predict what will happen and, with an adult, change a step that does not work. Use first, next and last to explain a sequence. ELG links — Self-Regulation: follow multi-step instructions; Speaking: explain a sequence.	Break a task into steps. Order clear commands and predict a route. Program a Bee-Bot, compare its movement with the plan and correct an error. Check one command at a time against the planned route.	Decompose a task and identify the details that matter. Write an ordered algorithm and recognise useful repetition. Create ScratchJr movement and sound sequences, including an on-tap event. Predict, run, explain and amend code when the result differs from the plan.	Decompose a story, animation or game. Use Scratch loops, explain what code does and adapt existing scripts. Locate errors by checking steps systematically. Explain why a loop improves a repeated sequence.	Use ask and answer, conditions and a score variable to build a Scratch quiz. Initialise the score; test correct and incorrect answers and debug the response. Explain the selection rule in a design for a weather-responsive machine.	Plan a themed soundtrack in Scratch and break it into sections. Combine sound blocks and loops; explore repeated patterns within repeated sections. Test timing and musical effects, debug a section and explain how the changed code improves the soundtrack.	Transfer sequencing and repetition into Logo and Python. Adapt loops and nested loops, use random values and comment on code. Test, explain and improve a drawing program. Distinguish an error in the algorithm from a mistake in typed code.
Key vocabulary	instruction, order, next, predict	algorithm, command, sequence, decompose, debug	decompose, abstraction, event, repeat, ScratchJr	script, sprite, loop, remix, repetition	variable, condition, selection, score, input	event, sound block, pitch, tempo, rhythm, loop, nested loop, soundtrack	Python, Logo, syntax, indentation, nested loop, random

Using software and creating media

Information technology

Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Learning contexts	Exploring Hardware and everyday provision	Mouse Skills; Digital imagery	What is a computer?; ScratchJr	Video trailers using iPads; Scratch	Google Collaborative learning; Investigating weather	Stop Motion Studio; Programming Music	Bletchley Park; Exploring AI
Key knowledge	A photograph is a record that can be viewed again. Holding a camera still helps make an image clear. Bt5M — Technology, Range 6; Literacy — Writing, Range 6: communicate through images and captions.	Different tools change the appearance of an image. Crop, resize and filter have different effects; the order of pictures changes a story. The original and edited image can communicate different details.	Software can combine words, pictures and movement to communicate an idea. Saving preserves work so it can be retrieved and developed.	Storyboards organise scenes before filming. Camera shots, sound, text and transitions influence how an audience understands a trailer. Editing involves choosing what to retain as well as what to add.	Shared files support teamwork; editing another person's work requires care. Layout, readable text and relevant images make a presentation clearer. Comments provide feedback without replacing the author's words.	A rapid sequence of still images can appear to move. Small changes between frames and suitable timing create smoother animation. A storyboard helps plan the sequence before capturing frames.	Audio can be recorded, selected and edited to fit a purpose. AI can suggest content and code, but people remain responsible for checking and adapting it.
Key skills	Take a photograph of something chosen and say what it shows. Share a picture with an adult and explain why it matters. Review the image and say whether it shows the intended subject. ELG links — Speaking: explain a choice; Creating with Materials: discuss the making process.	Plan a photo story and capture clear images. Search for and import suitable images with adult guidance. Crop, resize, filter and arrange photographs to communicate the sequence. Save and reopen work with support; explain why a chosen edit helps.	Create a digital drawing to communicate an idea, including items needed in space. Choose ScratchJr characters and backgrounds and combine movement or sound for a scene. Reopen and improve a project, explaining how a change affects the result.	Storyboard a book trailer and capture purposeful camera shots on an iPad. Import and arrange photographs or clips. Add text and transitions, review the sequence and use feedback to improve clarity and interest for the audience.	Co-edit a Google document and respond constructively to comments. Combine text and images in slides. Plan and record a weather forecast for an audience. Use comments to suggest improvements and agree changes with a partner.	Storyboard and make a stop-motion sequence with small movements between frames. Edit timing, titles and effects; use feedback to improve the final film. Keep the camera steady and check continuity between frames.	Research and present a computing pioneer. Record and edit an audio advert for a future computer. Evaluate and refine AI-assisted text, images or simple webpage content in supervised activities. Select and combine material to suit an audience and purpose.
Key vocabulary	photo, picture, still, choose	image, crop, resize, filter, save	text, image, background, retrieve	storyboard, shot, clip, transition, trailer	slide, comment, edit, resolve, audience	frame, animation, duration, title, evaluate	record, audio, edit, prompt, generated content

Collecting representing and using data

Information technology

Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Learning contexts	Introduction to Data	Revisit sorting through image collections	International Space Station	Revisit organisation through media projects	Collaborative learning; Investigating weather	Mars Rover 1	Big Data 1
Key knowledge	Information can be grouped using a shared feature. One picture can represent one object or response in a simple pictogram. Bt5M — Mathematics, Ranges 5–6: Comparison, Counting and Cardinality.	Collections can be organised by a shared feature. Clear organisation helps people retrieve digital content. This is consolidation within media work.	Sensors collect measurements, such as temperature, which help people monitor conditions. Recorded values can be compared with what humans or plants need. A label and unit give a measurement meaning; data supports an explanation.	The way digital content is named and organised affects how easily it is found. Earlier grouping and retrieval skills help organise the resources needed to make a trailer.	Questions must collect useful responses. Spreadsheets can organise, compare and calculate with numerical information. Accurate measurements support useful conclusions. A formula calculates from cell values; an average summarises a set of values.	A bit represents one binary digit; a byte contains eight bits. Binary place values represent numbers. Character codes, including ASCII, represent text. A rover collects and transmits encoded information, with distance affecting communication.	Machine-readable codes identify or link to information. RFID uses radio signals; infrared is another way to transmit data. Large data collections can reveal patterns and improve decisions; security still matters. A conclusion is useful only if the data and calculation support it.
Key skills	Sort and re-sort a collection; explain the rule. Use yes or no questions and make a pictogram with one picture per item. ELG links — Numerical Patterns: compare quantities within 10; Number: recognise quantities up to five without counting.	Group selected photographs by what they show. Explain why an image belongs in a collection and find it again. Use an agreed grouping rule when retrieving pictures.	Read temperatures and interpret recorded planet data. Decide whether stated conditions could support life and explain the evidence. Design a display of the conditions sensors need to monitor on the ISS. Sequence an algorithm to meet plants' needs.	Organise images and clips for retrieval during a project. Explain how a label or grouping helps a partner find the right item. Review labels and remove confusion when locating a file.	Create Google Forms questions and export responses to a spreadsheet. Use sums, averages and conditional formatting to interpret results. Record weather information accurately with units, compare values and use the data to explain a forecast.	Identify the rover's data, inputs and outputs. Read and represent numbers using up to eight bits; add two eight-bit binary values. Explain how a character code represents text and why reliable transmission matters over the distance to Mars.	Investigate barcodes, QR codes, infrared and RFID. Enter and sort spreadsheet data, create formulas and analyse records to answer a real-world question. Check a formula and use the results to justify a conclusion.
Key vocabulary	sort, group, yes, no, data, pictogram	group, collection, feature, find	data, sensor, temperature, thermometer, monitor, record, compare	organise, label, retrieve	survey, response, sort, formula, average	bit, byte, binary, ASCII, transmit	barcode, QR code, infrared, RFID, formula, analyse

Finding information and evaluating technology

Digital literacy

Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Learning contexts	Exploring Hardware and adult-guided enquiry	Digital imagery; Online safety	What is a computer?; Online safety	Networks; Journey inside a computer; Online safety	Investigating weather; Online safety	Search engines; Online safety	Bletchley Park; Exploring AI; Online safety
Key knowledge	Devices can help people communicate, record and find things out. Pictures on a screen may show real events or things someone has invented. Bt5M — Technology, Range 6: adult-supported enquiry and awareness of real or generated content.	People use connected technology to find information. Online content can be helpful, but children should use agreed sources and adult support.	Not everything found online is true. The person who made a claim and other evidence can help us decide whether to trust it.	The web contains information created by many people. Facts can be checked; opinions and beliefs express viewpoints. A confident claim is not proof. Different sources may present the same topic in different ways.	Search order does not guarantee accuracy. Sponsored content, influencers, in-app purchases and automated bots can affect what people see and do. An advertisement aims to influence a choice, not simply inform.	Search engines select and rank indexed pages. Precise keywords help; results still require judgement. Many images and texts are protected by copyright; reuse may require permission and credit. A high-ranked result is not automatically the best evidence.	AI predicts or generates outputs from learned patterns; it can produce errors and biased material. Human judgement and source checking are essential when using research or generated content.
Key skills	Talk about what a familiar device helps someone do. Ask an adult for help to find a picture or information; discuss whether an image is real or pretend. Explain what they want to find out. ELG link — Listening, Attention and Understanding: ask questions to clarify.	Use simple search words with adult support to find and select a suitable image. Explain how it helps the task. Recognise a use of connected technology beyond school and tell a trusted adult about uncomfortable content.	Explain a useful purpose for an input or output device. Question an unfamiliar online claim and use a trusted adult to help check it. Explain why asking an adult is useful when a claim is uncertain.	Describe how information travels across a network. Distinguish fact, opinion and belief, and explain why an online statement may need checking. Use reasons or evidence to explain a judgement.	Compare information from searches and consider which result answers the question. Recognise advertising and other attempts to influence choices. Check another source before accepting an unfamiliar claim.	Refine keywords and compare sources for relevance and reliability. Recognise copyright and give credit for permitted images and information. Explain why one source is more useful than another.	Check research against more than one source. Refine AI prompts, check generated claims and discuss bias, privacy, ownership and the effects of AI on people's roles. Compare a generated response with reliable evidence before using it.
Key vocabulary	help, information, real, pretend	search, online, image, help	true, check, source, technology	internet, web, fact, opinion, belief	ranking, advert, sponsored, bot, reliable	keyword, search engine, index, copyright, source	AI, prompt, evidence, bias, authenticity, ethics

Online safety and responsible use

Digital literacy

Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Learning contexts	Safe routines throughout all three units	Online safety Year 1 and unit routines	Online safety Year 2 and unit routines	Online safety Year 3 and unit routines	Online safety Year 4 and unit routines	Online safety Year 5 and unit routines	Online safety Year 6; Bletchley Park; Exploring AI
Key knowledge	Adults help keep us safe. Other people may not want their photo taken. Technology has agreed rules and is one part of a balanced day. Bt5M — Technology, Range 6; PSSED — Making relationships, Ranges 5–6.	Personal information should not be shared freely. People online may be unfamiliar; kind behaviour matters and uncomfortable experiences should be reported. A trusted adult can help even when a mistake has already happened.	Passwords help protect accounts. Consent means giving permission and can be refused. Online information and requests are not automatically trustworthy. A password should not be given to friends.	Privacy choices affect who can see information. Online activities can change feelings. Age limits and help routes support safer participation.	Design features and advertising can encourage continued use or spending. A bot is a program, even when it appears to talk like a person.	Apps may request access to personal data. Repeated hurtful behaviour online is bullying; reporting and adult support are important. Wellbeing includes breaks and healthy boundaries. Permission to access data should relate to the app's purpose.	A digital footprint can affect reputation; private posts may still be copied. Strong passwords, extra authentication and updates help protect accounts. AI prompts must not expose private information.
Key skills	Ask before using a device or photographing someone. Take turns, handle equipment gently and stop to tell a trusted adult if something worries them. Practise saying or signalling stop and asking for help. ELG links — Building Relationships: cooperate; Managing Self: explain reasons for rules.	Identify a trusted adult and practise asking for help. Keep personal information private, use kind words and describe feelings about online experiences. Practise what to do if an unfamiliar message or image appears.	Use passwords with adult guidance. Ask permission before sharing information or images. Practise saying no and getting help with unwanted online contact. Respect another person's choice not to share a photograph.	Use agreed privacy settings with adult support. Explain how online experiences can affect mood; respond to upsetting material and respect age restrictions. Explain whom to tell and what information would help them.	Identify persuasion, distractions and possible risks when using apps or games. Make sensible choices about attention and time; communicate respectfully in shared work. Explain when to pause, leave an activity or ask an adult.	Choose appropriate ways to communicate and report online bullying. Consider app permissions and what information they access. Explain habits that support wellbeing. Explain how a permission request could affect personal privacy.	Explain benefits and risks of sharing, including consent and reputation. Recognise scams and protect accounts. Use school reporting routes and trusted adults; explain how blocking and reporting tools help. Preserve bullying evidence safely with adult support and respond appropriately to a compromised password.
Key vocabulary	safe, permission, share, adult, worried	private, personal information, trusted adult, kind	password, consent, permission, report	privacy, age restriction, mood, fact	influence, purchase, bot, distraction	permissions, bullying, wellbeing, balance	digital footprint, reputation, scam, authentication, evidence

Key organising concepts

These concepts connect the units and show how children build on earlier understanding. Later learning continues to draw on the foundations established in Reception and Key Stage 1.

Concept	Reception	Years 1 and 2	Years 3 and 4	Years 5 and 6
Algorithms and decomposition	Order practical actions and explain what should happen next.	Give precise instructions, divide familiar tasks into steps and predict a Bee-Bot or ScratchJr sequence.	Break a Scratch project into manageable parts; explain the role of events, loops, conditions and variables.	Plan and test sections of music or Python code; explain how a chosen algorithm produces the intended result.
Patterns repetition and selection	Notice repeated actions and try a different instruction when needed.	Recognise repeated steps and use repetition in algorithms and ScratchJr.	Use Scratch loops and conditions; choose a response according to an answer or sensor value.	Combine musical patterns; use loops and nested loops in text-based designs and explain their effect.
Systems and communication	Explore controls and explain what a familiar device does.	Connect an input with an output; identify computers used beyond the classroom.	Explain how components work together, how networks move information and how shared files support collaboration.	Explain how rovers and identification systems transmit data; evaluate changing technology and AI applications.
Data and representation	Sort by a rule and compare a simple picture record.	Organise images and interpret measurements used to monitor conditions in space.	Organise media; collect survey or weather information and calculate with spreadsheet values.	Represent numbers and text digitally; sort, calculate and interpret data to justify conclusions.
Creation evaluation and responsibility	Make a choice, discuss the result and follow shared routines.	Create and improve simple digital content; keep information private and ask for help.	Select and combine media, test programs, work respectfully together and check online information.	Refine work for its audience; explain evidence, ownership, privacy and the consequences of digital choices.

Reception foundations

Reception learning contributes through communication and language, mathematical reasoning, purposeful exploration of technology and personal development. Birth to 5 Matters references and selected ELG contributions are included within the Reception column of the main grids. The separate Reception Computing Teaching and Progression document sets out the learning in greater depth. There is no separate statutory Computing or Technology ELG.

National Curriculum coverage

Key Stage 1 Years 1 and 2

The tables map the statutory Computing content to the school's selected units. Requirements are summarised below; the Department for Education programme of study provides the full wording. The progression grids show how knowledge and skills develop within this coverage.

National Curriculum requirement	Year groups	Units covered	How it is covered
Explain algorithms, their implementation as device programs and the need for precise instructions.	Y1–Y2	Y1 Commands unplugged; Bee-Bots. Y2 Algorithms and debugging; ScratchJr.	Pupils order instructions for a person or device, explain the sequence and relate their algorithm to the commands a robot or on-screen character follows.
Build and debug simple programs.	Y1–Y2	Y1 Bee-Bots. Y2 Algorithms and debugging; ScratchJr.	Pupils create routes and block sequences, run them, compare the result with their intention and change the command responsible for a mistake.
Predict program behaviour through logical reasoning.	Y1–Y2	Y1 Commands unplugged; Bee-Bots. Y2 Algorithms and debugging; ScratchJr.	Pupils explain what should happen before testing, follow a sequence step by step and use the actual outcome to refine their prediction.
Create, organise, save, change and retrieve digital content purposefully.	Y1–Y2	Y1 Improving Mouse Skills; Digital Imagery. Y2 What is a computer?; ScratchJr; International Space Station.	Pupils produce drawings and photo stories, arrange and edit images, save and reopen work with growing independence, and create digital scenes or displays for a clear purpose.
Identify everyday uses of information technology beyond school.	Y1–Y2	Y1 Online safety and digital imagery contexts. Y2 What is a computer?; International Space Station.	Pupils identify technology used for communication and everyday tasks, investigate inputs and outputs and explain how computers and sensors support work in different settings.
Use technology respectfully and safely, protect personal information and seek help about online content or contact.	Y1–Y2	Online safety Y1 and Y2; routines in every unit.	Pupils practise keeping information private, obtaining permission before sharing, responding kindly and telling a trusted adult about upsetting content or unwanted contact.

National Curriculum coverage

Key Stage 2 Years 3 to 6

National Curriculum requirement	Year groups	Units covered	How it is covered
Plan, write and debug goal-directed programs, including physical control or simulation; decompose problems.	Y3–Y6	Y3 Scratch. Y4 Further Coding with Scratch; Investigating weather. Y5 Programming Music. Y6 Intro to Python.	Pupils break projects into steps, build and test code for animations, quizzes, musical output and drawings. Weather work develops designs for sensor-controlled machines and selection rules; Scratch projects control on-screen movement and sound.
Program sequences, selection and repetition, using variables and different inputs and outputs.	Y3–Y6	Y3 Scratch. Y4 Further Coding with Scratch. Y5 Programming Music. Y6 Intro to Python.	Events and loops develop into conditional quiz responses and score variables. Keyboard or answer inputs affect visual or sound outputs. Pupils apply repetition to music and progress to loops and nested loops in text-based code.
Explain algorithms logically and find and correct algorithmic and coding errors.	Y3–Y6	Scratch in Y3–Y5; Intro to Python in Y6.	Pupils trace commands, explain expected results, test a section, locate a mismatch and revise it. They explain the effect of a correction and distinguish a mistaken plan from incorrectly entered code.
Explain networks, internet services and opportunities for communication and collaboration.	Y3–Y6	Y3 Networks and the internet; Journey inside a computer. Y4 Google Collaborative learning. Y5 Mars Rover 1. Y6 Big Data 1; Exploring AI.	Pupils model connected devices, servers, routers and packet journeys; distinguish the web from the internet; use shared documents, slides and forms; and explain examples of remote communication and data transmission.

National Curriculum coverage

Key Stage 2 Years 3 to 6 continued

National Curriculum requirement	Year groups	Units covered	How it is covered
Search effectively, explain selection and ranking of results and evaluate digital material.	Y3–Y6	Y3–Y6 Online safety. Y4 Investigating weather. Y5 Search engines. Y6 Exploring AI; Bletchley Park and the history of computers.	Pupils refine keywords, explain how search engines find and rank information, compare sources and distinguish fact from opinion. They check evidence and evaluate generated content before using it.
Combine software and internet services across devices to meet goals, including collecting, analysing, evaluating and presenting information.	Y3–Y6	Y3 iPad Video trailers. Y4 Google Collaborative learning; Investigating weather. Y5 Stop Motion Studio; Search engines. Y6 Big Data 1; Bletchley Park and the history of computers; Exploring AI.	Pupils combine images, text, video or audio for an audience; create forms and spreadsheets; interpret survey, weather and transport data; and evaluate whether their media or data product fulfils its purpose.
Act safely, respectfully and responsibly; distinguish acceptable behaviour and use different reporting routes.	Y3–Y6	Online safety Y3–Y6; collaborative, media, research and AI work.	Pupils recognise risks, respect consent, manage privacy and account security, and seek help. They identify trusted adults, school reporting routes and appropriate block or report tools, applying these to content, contact and bullying concerns.