Coates Primary School

Computing Progression map - 2025-2026

Subject	Overview and goals	Knowledge	Skills	Key Vocabulary
Reception	I can show resilience and perseverance in the face of a challenge. I am confident to try new activities and I can show independence, resilience and perseverance in the face of challenge. I can explain the reasons for rules, know right from wrong and try to behave accordingly. I can develop my small motor skills so that I can use a range of tools competently, safely and confidently. I know and talk about the different factors that support my overall health and well-being, i.e. sensible amounts of screen-time.	I am learning how to explore and tinker with hardware to develop familiarity. I am learning the relevant vocabulary for different hardware. I recognise that a range of technology is used in places such as homes and schools. I am learning how to log in and out of a computer or program. I understand why we need to log in and out. I am learning what a mouse is. I understand how to sort and categorise objects. I can explain how items have been sorted and categorised. I understand how to represent data in a pictogram. I understand how to read a simple pictogram. I know the difference between a photo and a video. I understand the meaning of directional arrows. I follow a simple sequence of instructions.	I can play on a touchscreen game and use computers/keyboards and mouse in role-play. I can scan a QR code using the iPad. I can take a photograph on the iPad. I can move and resize images. I know what a keyboard is and how to locate relevant keys. I can type letters with increasing confidence. I am developing my basic mouse skills such as moving and clicking. I can follow instructions as part of practical activities and games. I am learning to give simple instructions. I can learn to debug instructions, with the help of an adult, when things go wrong. I am learning that an algorithm is a set of instructions to carry out a task, in a specific order. I can dictate short, clear sentences into a digital device. I can record my voice over a picture. I can record a short film using the iPad. I can play and watch my film back.	

			I can experiment with programming a Bee Bot. I am learning how to explore and tinker with hardware to develop familiarity. I am learning the relevant vocabulary for different hardware. I can learn to debug instructions, with the help of an adult, when things go wrong. I am learning that an algorithm is a set of instructions to carry out a task, in a specific order. I can follow an algorithm as part of an unplugged game.	
Y1	E-Safety	Understand the different methods of communication (e.g. email, online forums etc). Know you should only open email from a known source. Know that bookmarking is a way to find safe sites again quickly. Know that it is not always possible to copy some text and pictures from the internet. Know that personal information should not be shared online. Know they must tell a trusted adult immediately if anyone tries to meet them via the internet.	Follow the school's safer internet rules. Use the search engines agreed by the school. Act if they find something inappropriate online or something they are unsure of (including identifying people who can help; minimising screen; online reporting using school system etc). Send and receive email as a class.	
	Computing systems and networks – Digital literacy	- To identify technology - To identify a computer and its main parts - To use a mouse in different ways - To use a keyboard to type on a computer - To use the keyboard to edit text	- I can recognise and name a range of digital devices, e.g. laptop, phone, games console. - I can log on to the school computer / unlock the school tablet with support.	technology, computer, mouse, trackpad, keyboard, screen, double-click, typing.

		- To create rules for using technology responsibly	- I can identify the basic parts of a computer, e.g. mouse, keyboard, screen. - I can use a suitable access device (mouse, keyboard, touchscreen, switch). - I can explain why we use passwords and recognise examples of personal information - I know who to tell if concerned about content	
	Creating Media – Information technology	- To describe what different freehand tools do - To use the shape tool and the line tools - To make careful choices when painting a digital picture - To explain why I chose the tools I used - To use a computer on my own to paint a picture - To compare painting a picture on a computer and on paper - -To use a computer to write - -To add and remove text on a computer - -To identify that the look of text can be changed on a computer - -To make careful choices when changing text - -To explain why I used the tools that I chose - -To compare typing on a computer to writing on paper	- I can select basic tools/options to change the appearance of digital content, e.g. filter on an image / font / size of paintbrush. - I can combine media with support to present information, e.g. text and images. - I can type text using a keyboard	paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers word processor, keyboard, keys, letters, type, numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, select, font, undo, redo, format, compare, typing, writing.
	Data and Information - Information technology.	- -To label objects - -To identify that objects can be counted - -To describe objects in different ways	- I can describe objects using labels - I can find objects with similar properties - I can answer questions about groups of objects	object, label, group, search, image, property, colour, size, shape, value, data set, more, less, most, fewest, least, the same

		- -To count objects with the same properties - -To compare groups of objects - -To answer questions about groups of objects	- I can decide how to group objects to answer a question - I can record and share what I have found	
	Programming – Computer Science	- -To explain what a given command will do - -To act out a given word - -To combine forwards and backwards commands to make a sequence - -To combine four direction commands to make sequences - -To plan a simple program - -To find more than one solution to a problem	- I can create a simple program e.g. to control a floor robot. - I can predict the outcome of a simple algorithm or program. - I can explain what an algorithm is and create one - I can debug an error in a simple algorithm or program e.g. for a floor robot. -	Bee-Bot, forwards, backwards, turn, clear, go, commands, instructions, directions, left, right, route, plan, algorithm, program ScratchJr, command, sprite, compare, programming, area, block, joining, start, run, program, background, delete, reset, algorithm, predict, effect, change, value, instructions, design.
Y2	E-Safety	- Know the difference between email and communication systems such as blogs and wikis. - Know that websites sometimes include pop-ups that take them away from the main site. - Begin to evaluate websites and know that everything on the internet is not true.	- Use the internet for learning and communicating with others, making choices when navigating through sites. - Recognise advertising on websites and learn to ignore it. - Use a password to access the secure network.	

	Computing systems and networks Digital literacy	-To recognise the uses and features of information technology -To identify the uses of information technology in the school -To identify information technology beyond school -To explain how information technology helps us -To explain how to use information technology safely -To recognise that choices are made when using information technology	- I can explain how IT is used at home - I can explain how IT is used in different places - I can use a simple password to log onto the computer or a website. - I can identify rules for acceptable use of technology in school. - I know what personal information is and the need to keep it private. - I can recognise that some information found online may not be true.	Information technology (IT), computer, barcode, scanner/scan
	Creating media Information technology	-To use a digital device to take a photograph -To make choices when taking a photograph -To describe what makes a good photograph -To decide how photographs can be improved -To use tools to change an image -To recognise that photos can be changed -To say how music can make us feel -To identify that there are patterns in music -To experiment with sound using a computer -To use a computer to create a musical pattern -To create music for a purpose -To review and refine our computer work	- I can create simple digital content for a purpose, e.g. digital art. - I can capture, edit and improve my photos - Present ideas and information by combining media, e.g. text and images. - I can identify which photos are real and which have been changed	music, quiet, loud, feelings, emotions, pattern, rhythm, pulse, pitch, tempo, rhythm, notes, create, emotion, beat, instrument, open, edit. device, camera, photograph, capture, image, digital, landscape, portrait, framing, subject, compose, light sources, flash, focus, background, editing, filter, format, framing, lighting,
	Data and information Information technology	-To recognise that we can count and compare objects using tally charts -To recognise that objects can be represented as pictures -To create a pictogram -To select objects by attribute and make comparisons -To recognise that people can be described by attributes -To explain that we can present information using a computer	- I can recognise charts and pictograms and explain why we use them. - I can explain information shown in a simple chart or pictogram. - I can modify simple charts/pictograms, e.g. add title, item or labels.	more than, less than, most, least, common, popular, organise, data, object, tally chart, votes, total, pictogram, enter, data, compare, objects, count, explain, attribute, group, same, different, conclusion, block diagram, sharing

			- I can identify the key features of a chart or pictogram. - I can collect and present data on a topic	
	Programming Computer science	-To describe a series of instructions as a sequence -To explain what happens when we change the order of instructions -To use logical reasoning to predict the outcome of a program -To explain that programming projects can have code and artwork -To design an algorithm -To create and debug a program that I have written -To explain that a sequence of commands has a start -To explain that a sequence of commands has an outcome -To create a program using a given design -To change a given design -To create a program using my own design -To decide how my project can be improved	- I can predict the outcome of an algorithm or program with multiple steps. - I can identify and correct errors in a given algorithm or program, and recognise the term debugging. - I can explain what an algorithm and program are - I can plan out a program by creating an algorithm, and evaluate its success. -	instruction, sequence, clear, unambiguous, algorithm, program, order, prediction, artwork, design, route, mat, debugging, decomposition sequence, command, program, run, start, outcome, predict, blocks, design, actions, sprite, project, modify, change, algorithm, build, match, compare, debug, features, evaluate, decomposition, code.
Y3	E-Safety	- Understand the need for rules to keep them safe when exchanging learning and ideas online. - Understand that the internet contains fact, fiction and opinion and begin to distinguish between them. - Understand the need for caution when using an internet search for images and what to do if they find an unsuitable image. - Understand the need to keep personal information and passwords private.	- Follow the school's safer internet rules. - Begin to identify when emails should not be opened and when an attachment may not be safe - Explain how to use email safely	

		- Know how to respond if asked for personal information or feel unsafe about content of a message. - Know how to report an incident of cyber bullying. - Understand the need to develop an alias for some public online use.		
	Computing systems and networks Digital literacy	-To explain how digital devices function -To identify input and output devices -To recognise how digital devices can change the way we work -To explain how a computer network can be used to share information -To explore how digital devices can be connected -To recognise the physical components of a network	- I can describe what a computer is (input > process > output). - I can recognise that school computers are connected. - Keeping password safe - When not to share personal info - Games/films have age ratings	digital device, input, process, output, program, digital, non-digital, connection, network, switch, server, wireless access point, cables, sockets
	Creating media Information technology	-To explain that animation is a sequence of drawings or photographs -To relate animated movement with a sequence of images -To plan an animation -To identify the need to work consistently and carefully -To review and improve an animation -To evaluate the impact of adding other media to an animation -To recognise how text and images convey information -To recognise that text and layout can be edited -To choose appropriate page settings -To add content to a desktop publishing publication -To consider how different layouts can suit different purposes -To consider the benefits of desktop publishing	- I can present ideas and information by combining media independently, e.g. text and images. - I can design and create simple digital content for a purpose/audience, e.g. poster. - I can edit digital content to improve it, e.g. resize text.	text, images, advantages, disadvantages, communicate, font, style, landscape, portrait, orientation, placeholder, template, layout, content, desktop publishing, copy, paste, purpose, benefits animation, flip book, stopframe, frame, sequence, image, photograph, setting, character, events, onion skinning, consistency, evaluation, delete, media, import, transition.

	Data and information Information technology	-To create questions with yes/no answers -To identify the attributes needed to collect data about an object -To create a branching database -To explain why it is helpful for a database to be well structured -To plan the structure of a branching database -To independently create an identification tool	- I can use a branching database - I can create a branching database - I can identify the features of a good question in a branching database - I can evaluate a given branching database and suggest improvements	attribute, value, questions, table, objects, branching, database, objects, equal, even, separate, structure, compare, order, organise, selecting, information, decision tree.
	Programming Computer science	-To explore a new programming environment -To identify that commands have an outcome -To explain that a program has a start -To recognise that a sequence of commands can have an order -To change the appearance of my project -To create a project from a task description -To explain how a sprite moves in an existing project -To create a program to move a sprite in four directions -To adapt a program to a new context -To develop my program by adding features -To identify and fix bugs in a program -To design and create a maze-based challenge	- Modify an existing program, - Create examples of algorithms containing count-controlled loops. - Use a forever loop in a program to keep something happening. - Identify errors in a block or text-based program and correct them. - Recognise that different inputs can be used to control a program	Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop, motion, turn, point in direction, go to, glide, sequence, event, task, design, run the code, order, note, chord, algorithm, bug, debug, code. motion, event, sprite, algorithm, logic, move, resize, extension block, pen up, set up, pen, design, action, debugging, errors, setup, code, test, debug, actions.
Y4	E-Safety	- Recognise that information on the internet may not be accurate or reliable and may be used for bias, manipulation or persuasion. - Use strategies to verify information, e.g. cross-checking.	- Recognise the difference between the work of others which has been copied (plagiarism) and re-structuring and re-presenting materials in ways which are unique and new.	

		- Understand that copyright exists on most digital images, video and recorded music. - Understand that if they make personal information available online it may be seen and used by others. - Recognise that cyber bullying is unacceptable and will be sanctioned in line with the school's policy. - Know the difference between online communication tools used in school and those used at home. - Understand that the outcome of internet searches at home may be different than at school.	- Use different search engines.	
	Computing systems and networks Digital literacy	-To describe how networks physically connect to other networks -To recognise how networked devices make up the internet -To outline how websites can be shared via the World Wide Web (WWW) -To describe how content can be added and accessed on the World Wide Web (WWW) -To recognise how the content of the WWW is created by people -To evaluate the consequences of unreliable content	- Remember and use an individual password. - Recognise what kinds of websites are trustworthy sources of information. - Recognise the benefits and risks of different apps and websites. - Recognise that the media can portray groups of people differently. - Can rate a game or film they have made and explain their rating	internet, network, router, security, switch, server, wireless access point (WAP), website, web page, web address, routing, web browser, World Wide Web, content, links, files, use, download, sharing, ownership, permission, information, accurate, honest, content, adverts
	Creating media Information technology	-To identify that sound can be recorded -To explain that audio recordings can be edited -To recognise the different parts of creating a podcast project -To apply audio editing skills independently -To combine audio to enhance my podcast project -To evaluate the effective use of audio	- Collect, organise and present information using a range of media. - Design, create and edit digital content for a specific purpose - Identify the features of a good piece of digital content and apply these in own design.	audio, microphone, speaker, headphones, input device, output device, sound, podcast, edit, trim, align, layer, import, record, playback, selection, load, save, export, MP3, evaluate, feedback. image, edit, digital, crop, rotate, undo, save, adjustments, effects, colours, hue, saturation, sepia, vignette, image, retouch, clone, select, combine, made up, real, composite, cut, copy, paste, alter,

		-To explain that the composition of digital images can be changed -To explain that colours can be changed in digital images -To explain how cloning can be used in photo editing -To explain that images can be combined -To combine images for a purpose -To evaluate how changes can improve an image	- Know where to find copyrightfree content, e.g. creative images. - Collaborate with peers using online tools	background, foreground, zoom, undo, font.
	Data and information Information technology	-To explain that data gathered over time can be used to answer questions -To use a digital device to collect data automatically -To explain that a data logger collects 'data points' from sensors over time -To recognise how a computer can help us analyse data -To identify the data needed to answer questions -To use data from sensors to answer questions	- Draw conclusions from information stored in a database, chart or table. - Design a questionnaire and collect a range of data on a theme. - Choose appropriate formats to present data to convey information	data, table, layout, input device, sensor, logger, logging, data point, interval, analyse, dataset, import, export, logged, collection, review, conclusion.
	Programming Computer science	-To identify that accuracy in programming is important -To create a program in a text-based language -To explain what 'repeat' means -To modify a count-controlled loop to produce a given outcome -To decompose a task into small steps -To create a program that uses count-controlled loops to produce a given outcome -To develop the use of count-controlled loops in a different programming environment -To explain that in programming there are infinite loops and count controlled loops -To develop a design that includes two or more loops which run at the same time -To modify an infinite loop in a given program -To design a project that includes repetition	- Create a program using a range of events/inputs to control what happens. - Explain when to use forever loops and count-controlled loops, and use them in programs. - Recognise selection in a program or algorithm. - Use selection in algorithms in programs e.g. if…then… - Design a program for a purpose. - Recognise common mistakes in programs and how to correct them.	Logo (programming environment), program, turtle, commands, code snippet, algorithm, design, debug, pattern, repeat, repetition, count-controlled loop, value, trace, decompose, procedure. Scratch, programming, sprite, blocks, code, loop, repeat, value, infinite loop, count-controlled loop, costume, repetition, forever, animate, event block, duplicate, modify, design, algorithm, debug, refine, evaluate.

		-To create a project that includes repetition		
Y5	E-Safety	- Discuss the positive and negative impact of the use of ICT in their own lives and those of their peers and family. - Recognise why people may publish content that is not accurate and understand the need to be critical evaluators of content. - Recognise the potential risks of using internet communication tools and understand how to minimise those risks (including scams and phishing). - Understand that some messages may be malicious and know how to deal with this. - Understand the benefits of developing a 'nickname' for online use. - Know that it is unsafe to arrange to meet unknown people online. - Know how to report any suspicions. - Know what to do if they discover something malicious or inappropriate.	- Follow the school's safer internet rules. - Make safe choices about use of technology. - Create strong passwords and manage them so that they remain strong. - Competently use the internet as a search tool. - Use appropriate strategies for finding, critically evaluating, validating and verifying information, e.g. using different keywords, skim reading to check relevance of information, cross checking with different websites or other non ICT resources.	
	Computing systems and networks Digital literacy	-To explain that computers can be connected together to form systems -To recognise the role of computer systems in our lives -To experiment with search engines -To describe how search engines select results	- I can explain the difference between the internet and the World Wide Web; and between a search engine and a web browser	system, connection, digital, input, process, storage, output, search, search engine, refine, index, bot, ordering, links, algorithm, search engine optimisation (SEO), web crawler, content creator, selection, ranking.

		-To explain how search results are ranked -To recognise why the order of results is important, and to whom	- I can perform a complex search for information - Know where to find copyright free images and audio, and why this is important. – - Critically evaluate websites for reliability of information and authenticity.	
	Creating media Information technology	-To explain what makes a video effective -To identify digital devices that can record video -To capture video using a range of techniques -To create a storyboard -To identify that video can be improved through reshooting and editing -To consider the impact of the choices made when making and sharing a video -To identify that drawing tools can be used to produce different outcomes -To create a vector drawing by combining shapes -To use tools to achieve a desired effect -To recognise that vector drawings consist of layers -To group objects to make them easier to work with -To apply what I have learned about vector drawings	- Use different drawing tools to create images - Create images by layering and duplicating images to create more complex pieces of work - Evaluate and improve their own designs	vector, drawing tools, object, toolbar, vector drawing, move, resize, colour, rotate, duplicate/copy, zoom, select, align, modify, layers, order, copy, paste, group, ungroup, reuse, reflection video, audio, camera, talking head, panning, close up, video camera, microphone, lens, mid-range, long shot, moving subject, side by side, angle (high, low, normal), static, zoom, pan, tilt, storyboard, filming, review, import, split, trim, clip, edit, reshoot, delete, reorder, export, evaluate, share
	Data and information Information technology	-To use a form to record information -To compare paper and computer-based databases -To outline how you can answer questions by grouping and then sorting data -To explain that tools can be used to select specific data -To explain that computer programs can be used to compare data visually -To use a real-world database to answer questions	- I know the difference between data and information - I can perform a search to answer questions about data - I can create graphs and charts from data	database, data, information, record, field, sort, order, group, search, value, criteria, graph, chart, axis, compare, filter, presentation.

	Programming Computer science	-To control a simple circuit connected to a computer -To write a program that includes count-controlled loops -To explain that a loop can stop when a condition is met -To explain that a loop can be used to repeatedly check whether a condition has been met -To design a physical project that includes selection -To create a program that controls a physical computing project -To explain how selection is used in computer programs -To relate that a conditional statement connects a condition to an outcome -To explain how selection directs the flow of a program -To design a program which uses selection -To create a program which uses selection -To evaluate my program	- Name a range of sensors in physical systems - Predict what will happen in a program or algorithm when the input changes - Use two-way selection i.e. if… then…else… - Recognise variables in a program - Create programs including 'repeat until' loops. - Create and use simple variables, e.g. to keep score. - Create an algorithm for a physical system (with sensor)	
Y6	E-Safety	- Understand the potential risk of providing personal information online. - Understand that some websites and/or pop-ups have commercial interests that may affect the way the information is presented. - Understand that some material on the internet is copyrighted and may not be copied or downloaded. - Understand that online environments have security settings, which can be altered, to protect the user. - Understand that some malicious adults may use various techniques to make	- Use technology in ways which minimises risk, e.g. responsible use of online discussions, etc. - Independently, and with regard for e-safety, select and use appropriate communication tools to solve problems by collaborating and communicating with others within and beyond school. - Reference information sources. - Use knowledge of the meaning of different domain names and	microcontroller, USB, components, connection, infinite loop, output component, motor, repetition, count-controlled loop, Crumble controller, switch, LED, Sparkle, crocodile clips, connect, battery box, program, condition, Input, output, selection, action, debug, circuit, power, cell, buzzer Selection, condition, true, false, count-controlled loop, outcomes, conditional statement, algorithm, program, debug, question, answer, task, design, input, implement, test, run, setup, operator

		contact and elicit personal information. - Understand they should not publish other people's pictures or tag them on the internet without permission. - Know that content put online is extremely difficult to remove.	common website extensions (e.g. .co.uk; .com; .ac; .sch; .org; .gov; .net) to support validation of information.	
	Computing systems and networks Digital literacy	-To explain the importance of internet addresses -To recognise how data is transferred across the internet -To explain how sharing information online can help people to work together -To evaluate different ways of working together online -To recognise how we communicate using technology -To evaluate different methods of online communication	- Explain what makes a strong password and why this is important at school and in the wider world. - Explain how algorithms are used to track online activities with a view to targeting advertising and information. - Know that there are laws around the purchase of games; the production, sending and storage of images; what is written online; and around online gambling	communication, protocol, data, address, Internet Protocol (IP), Domain Name Server (DNS), packet, header, data payload, chat, explore, slide deck, reuse, remix, collaboration, internet, public, private, oneway, two-way, one-to-one, one-to-many.
	Creating media Information technology	-To review an existing website and consider its structure -To plan the features of a web page -To consider the ownership and use of images (copyright) -To recognise the need to preview pages -To outline the need for a navigation path -To recognise the implications of linking to content owned by other people -To recognise that you can work in three dimensions on a computer -To identify that digital 3D objects can be modified -To recognise that objects can be combined in a 3D model -To create a 3D model for a given purpose -To plan my own 3D model -To create my own digital 3D model	- Select, combine and remix a range of media to create original content. - Consider all steps of the design process when creating content (e.g. identify problem, plan, create, evaluate, share.) - Identify the most effective tools to present information for a specific purpose. -	website, web page, browser, media, Hypertext Markup Language (HTML), logo, layout, header, media, purpose, copyright, fair use, home page, preview, evaluate, device, Google Sites, breadcrumb trail, navigation, hyperlink, subpage, evaluate, implication, external link, embed. TinkerCAD, 2D, 3D, shapes, select, move, perspective, view, handles, resize, lift, lower, recolour, rotate, duplicate, group, cylinder, cube, cuboid, sphere, cone, prism, pyramid, placeholder, hollow, choose, combine, construct, evaluate, modify.

	Data and information Information technology	-To create a data set in a spreadsheet -To build a data set in a spreadsheet -To explain that formulas can be used to produce calculated data -To apply formulas to data -To create a spreadsheet to plan an event -To choose suitable ways to present data	- Recognise what a spreadsheet is and what it is used for. - Use simple formulae in a spreadsheet to find out information from a set of data. - Collect data for a purpose and plan out a spreadsheet to present it effectively, using relevant formulae. - Produce graphs from data in a spreadsheet to answer a question. - Analyse and evaluate data and information in a spreadsheet, chart or database.	data, collecting, table, structure, spreadsheet, cell, cell reference, data item, format, formula, calculation, spreadsheet, input, output, operation, range, duplicate, sigma, propose, question, data set, organised, chart, evaluate, results, sum, comparison, software, tools.
	Programming Computer science	-To define a 'variable' as something that is changeable -To explain why a variable is used in a program -To choose how to improve a game by using variables -To design a project that builds on a given example -To use my design to create a project -To evaluate my project -To create a program to run on a controllable device -To explain that selection can control the flow of a program -To update a variable with a user input -To use a conditional statement to compare a variable to a value -To design a project that uses inputs and outputs on a controllable device -To develop a program to use inputs and outputs on a controllable device	- Design and program a system that uses sensors. - Recognise and use procedures (sub-routines) in programs. - Plan out a program in detail, including task, algorithm, code and execution level. - Use nested selection statements in a program - Combine a variable with relational operators (< = >) to determine when a program changes - Recognise key concepts (sequence, selection, repetition and variables)	variable, change, name, value, set, design, event, algorithm, code, task, artwork, program, project, code, test, debug, improve, evaluate, share, assign, declare Micro:bit, MakeCode, input, process, output, flashing, USB, trace, selection, condition, if then else, variable, random, sensing, accelerometer, value, compass, direction, navigation, design, task, algorithm, step counter, plan, create, code, test, debug.