

KS1 Computing Knowledge, Skills and Vocabulary Progression

Class/Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year (2022-2023) Year A						
Topic	Improving mouse skills (Computing systems and networks) Y1	Algorithms unplugged (Programming) Y1	Rocket to the moon (Skills) Y1	What is a computer? (Computing systems and networks) Y2	Algorithms and debugging (Programming) Y2	Word processing (Computing systems and networks) Y2
Knowledge						
	To know that "log in and log out" means to begin and end a connection with a computer. To know that a computer and mouse can be used to click, drag, fill, and select and also add backgrounds, text, layers, shapes and clip art.	To understand that an algorithm is when instructions are put in an exact order To know that input devices get information into a computer and that output devices get information out of a computer To understand that decomposition means breaking a problem into manageable chunks and that it is important in computing To know that we call errors in an algorithm 'bugs' and fixing these 'debugging'	To know that when we create something on a computer it can be more easily saved and shared than a paper version. To know some of the simple graphic design features of a piece of online software. To know that a spreadsheet is an electronic 'table' for sorting data.	To know the difference between a desktop and laptop computer. To know that people control technology. To know some input devices that give a computer an instruction about what to do (input). To know that computers often work together.	To understand what machine learning is and how it enables computers to make predictions. To know that loops in programming are where you set a certain instruction (or instructions) to be repeated multiple times. To know that abstraction is the removing of unnecessary detail to help solve a problem.	To know that touch typing is the fastest way to type. To know that I can make text a different style, size and colour. To know that "copy and paste" is a quick way of duplicating text.
Skills						
Computer Science	Learning how to explore and tinker with hardware to find out how it works. Learning where keys are located on the keyboard.	Recognising that some devices are input devices and others are output devices. Learning that decomposition means breaking a problem down into smaller parts.	Learning where keys are located on the keyboard. Learning how to operate a camera to take photos and videos. Using logical reasoning to predict the behaviour of simple programs.	Understanding what a computer is and that it's made up of different components. Recognising that buttons cause effects and that technology follows instructions	Developing confidence with the keyboard and the basics of touch typing. Articulating what decomposition is.	Developing confidence with the keyboard and the basics of touch typing.

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		Using decomposition to solve unplugged challenges. Developing the skills associated with sequencing in unplugged activities. Following a basic set of instructions. Assembling instructions into a simple algorithm Learning to debug instructions when things go wrong. Learning to debug an algorithm in an unplugged scenario.	Developing the skills associated with sequencing in unplugged activities. Following a basic set of instructions. Assembling instructions into a simple algorithm Learning to debug instructions when things go wrong. Learning to debug an algorithm in an unplugged scenario.	Learning how we know that technology is doing what we want it to do via its output. Using greater control when taking photos with cameras, tablets or computers	Decomposing a game to predict the algorithms used to create it. Learning that there are different levels of abstraction. Explaining what an algorithm is. Following an algorithm. Creating a clear and precise algorithm Learning that programs execute by following precise instructions Incorporating loops within algorithms. Using logical thinking to explore software, predicting, testing and explaining what it does. Using an algorithm to write a basic computer program.	
Information Technology	Using a basic range of tools within graphic editing software. Developing control of the mouse through		Using a basic range of tools within graphic editing software. Taking and editing photographs	Developing word processing skills, including altering text, copying and pasting and using keyboard shortcuts.	Developing word processing skills, including altering text, copying and pasting and using keyboard shortcuts.	Developing word processing skills, including altering text, copying and pasting and using keyboard shortcuts.

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	dragging, clicking and resizing of images to create different effects. Developing understanding of different software tools. Recognising devices that are connected to the internet		Developing control of the mouse through dragging, clicking and resizing of images to create different effects. Developing understanding of different software tools. Recognising devices that are connected to the internet Understanding that technology can be used to represent data in different ways: pictograms, tables, pie charts, bar charts, block graphs etc	Using word processing software to type and reformat text. Creating and labelling images Learning how computers are used in the wider world.		Using word processing software to type and reformat text. Searching for appropriate images to use in a document. Understanding what online information is
Digital literacy	Logging in and out and saving work on their own account.		Logging in and out and saving work on their own account.		Identifying whether information is safe or unsafe to be shared online	
Vocabulary						
Vocabulary	account, click, ctrl, cursor, drag, drag and drop, digital photograph, drop, duplicate, keyboard, layers, log on/ in, log out/ off, menu, mouse, mouse pointer, password, right click, screen (monitor), software, tool, username	algorithm, automatic, bug, chunks, clear, code, debug, decompose, decomposition, device, directions, input, instructions, manageable, motion, order, organise, output, precise, programming, problem, robot, sensor, sequence, solution,	annotate, cells, components, create, data, debug, designing, digital content, digital image, document, e-document, edit, editing program, evaluate, folder, input, instructions, log in, photo, program, order, robot, save, sequence,	battery, buttons, camera, computer, desktop, device, digital, digital recorder, electricity, function, input, invention, keyboard, laptop, monitor, mouse, output, paying till, scanner, screen, system, tablet, technology, video, wires	abstraction, algorithm, artificial intelligence, bug, clear, correct, data, debug, decompose, error, key features, loop, predict, unnecessary	backspace, bold, copy, copyright, cut, delete, forward button, highlight, home row, home screen, image, import, italics, keyboard, keyboard character, keyword, layout, navigate, paste, redo, search, space bar, text, text effects, touch

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		specific, steps, tasks, virtual assistant	share, software, spreadsheet, table			typing, underline, undo, word processing

Year (2023-2024) Year B						
Ash & Beech	Bee-bots (Programming) Y1	Digital imagery (Creating media) Y1	Introduction to data (Data handling) Y1	Scratch Jr (Programming) Y2	Stop-motion (Creating media) Y2	International Space Station (Data handling) Y2
Knowledge						
	To understand the basic functions of a Bee-Bot. To know that you can use a camera/tablet to make simple videos. To know that algorithms move a Bee-Bot accurately to a chosen destination.	To understand that holding the camera still and considering angles and light are important to take good pictures To know that you can edit, crop and filter photographs. To know how to search safely for images online.	To know how that charts and pictograms can be created using a computer. To understand that a branching database is a way of classifying a group of objects. To know that computers understand different types of 'input'.	To know that coding is writing in a special language so that the computer understands what to do. To understand that the character in ScratchJr is controlled by the programming blocks. To know that you can write a program to create a musical instrument or tell a joke.	To understand that an animation is made up of a sequence of photographs. To know that small changes in my frames will create a smoother looking animation. To understand what software creates simple animations and some of its features e.g. onion skinning	To understand that you can enter simple data into a spreadsheet. To understand what steps you need to take to create an algorithm. To know what data to use to answer certain questions. To know that computers can be used to monitor supplies.
Skills						
Computer Science	Learning how to explore and tinker with hardware to find out how it works.. Learning how to operate a camera to take photos and videos. Using decomposition to solve unplugged challenges. Using logical reasoning to predict the behaviour of simple programs. Using logical reasoning to predict the behaviour of simple programs. Following a basic set of instructions.	Learning how to explore and tinker with hardware to find out how it works. Learning where keys are located on the keyboard Learning how to operate a camera to take photos and videos. Using logical reasoning to predict the behaviour of simple programs.	Learning how to explore and tinker with hardware to find out how it works. Recognising that some devices are input devices and others are output devices. Developing control of the mouse through dragging, clicking and resizing of images to create different effects Developing understanding of different software tools	Recognising that buttons cause effects and that technology follows instructions. Explaining what an algorithm is Following an algorithm. Creating a clear and precise algorithm Learning that programs execute by following precise instructions. Incorporating loops within algorithms.	Using greater control when taking photos with cameras, tablets or computers. Using logical thinking to explore software, predicting, testing and explaining what it does.	Developing confidence with the keyboard and the basics of touch typing.

	Assembling instructions into a simple algorithm. Programming a floor robot to follow a planned route. Learning to debug instructions when things go wrong. Using programming language to explain how a floor robot works Learning to debug an algorithm in an unplugged scenario.			Using logical thinking to explore software, predicting, testing and explaining what it does.		
Information Technology		Developing understanding of different software tools Searching and downloading images from the internet safely Using a basic range of tools within graphic editing software. Taking and editing photographs Developing control of the mouse through dragging, clicking and resizing of images to create different effects	Recognising devices that are connected to the internet. Understanding that technology can be used to represent data in different ways: pictograms, tables, pie charts, bar charts, block graphs etc. Using data representations to answer questions about data Using software to explore and create pictograms and branching databases.	Using software (and unplugged means) to create story animations. Using an algorithm to write a basic computer program. Using loop blocks when programming to repeat an instruction more than once	Using software (and unplugged means) to create story animations.	Creating and labelling images. Collecting and inputting data into a spreadsheet. Interpreting data from a spreadsheet. Learning how computers are used in the wider world.
Digital literacy		When using the internet to search for images,				

		learning what to do if they come across something online that worries them or makes them feel uncomfortable.				
Vocabulary						
Vocabulary	algorithm, artificial intelligence, Bee-Bot, clear, code, debug, demonstration, filming, inputting, instructions, pause, precise, predict, program, tinker, video, video recording	Background, blurred, camera, clear, crop, delete, device, digital camera, download, drag and drop, edit, editing software, filter, image, import, internet, keyword, online, photograph, resize, save as, screen, search engine, sequence, software, storage space, visual effects	bar chart, block graph, branching database, categorise, chart, click and drag, compare, count, data, data collection, data record, data representation, edit, input, keyboard, line graph, mouse, information, label, pictogram, pie chart, process, record, resize, sort, table, tally, values	algorithm, animation, blocks, bug, button, CGI, computer code, code (verb), debug, fluid, icon, imitate, instructions, loop, 'on tap', programming, repeat, Scratch JR, sequence, sound recording	abstraction, algorithm, artificial intelligence, bug, clear, correct, data, debug, decompose, error, key features, loop, predict, unnecessary	algorithm, astronaut, data, digital, digital content, experiment, galaxy, insulation, interactive map, International Space Centre, International Space Station, interpret, laboratory, monitor, planet, satellite, sensor, space, temperature, thermometer, water reservoir

Online safety

As part of celebrating Safer Internet Day, each class will have a day that week where they focus on online safety.

	Year 1	Year 2
Digital literacy skills	When using the internet to search for images, learning what to do if they come across something online that worries them or makes them feel uncomfortable Understanding how to interact safely with others online. Recognising how actions on the internet can affect others. To be able to recognise what a digital footprint is and how to be careful about what we "post".	Identifying whether information is safe or unsafe to be shared online. Learning how to create a strong password. Learning to be respectful of others when sharing online and ask for their permission before sharing content. Learning strategies for checking if something they read online is true. Understanding how to stay safe when talking to people online and what to do if they see or hear something online that makes them feel upset or uncomfortable
Vocabulary	communicate, connect, console, devices, digital footprint, emotion, feelings, instructions, internet, internet safety, laptop, mood, online, personal information, phone, posting, predict, respect, sharing, smart device, smartphone, smart TV, smartwatch, strangers, tablet, trust, wired, wireless	accept, comment, consent, content, deny, emojis, offline, online, password, permission, personal information, pop-ups, pressure, private information, reliable, share, terms and conditions, trusted adult