Computing New Knowledge Progression Document

Thinking digitally

	Reception	Y1	Y2	Y3	Y4	Y5	Y6
Computer Science	Use parts of a digital device competently and independently with an awareness that digital devices help us	Use a computer to begin to create and save meaningful text and art Use a computer to produce a given outcome	Use a computer to edit text and pictures	Show awareness of the connections between computers, their inputs and outputs	Show awareness of the internet and its uses Layer multiple media forms to create a complex piece of work	Use the computers and the internet efficiently to find out new information and create projects	Use a range of digital devices to communicate, collaborate and create in a safe way
Information technology	Use instructions to move an object	Identify similarities and differences between objects to explore pattern recognition Use a group of instructions	Begin to use decomposition to debug programs to check that they will work	Use decomposition to check that the sequence of commands is correct	Use decomposition to break down codes into procedures to be reused	Use decomposition to ensure all individual procedures are correct and in the correct order	Begin to use abstraction to only focus on the relevant information when debugging

Digital literacy	**Online reputation**		Know that information stays online Know not to put information online without an adult	Know that it is wrong to put information online about someone without consent	Know that information about others can be found online	Know that information online has been created, copied or shared by others	Search for an individual online	Explain strategies we can use to protect our 'digital personality', online reputation and anonymity
	Managing online information	Identify devices that can access the internet	Know how to find out information online Know that we can find things online that we don't like and how to get help	Find and navigate a webpage Explain voice-activated searching Explain the difference between true and false Know that true and false information can be online	Explain what autocomplete is Know that the internet can be used to buy and sell Know the difference between a belief, opinion and fact	Know that opinions can be shared online and these shouldn't be accepted as facts Know how people can be encouraged to buy things online Know that technology can be designed to	Explain the benefits and risks of using different search functions Know why it is important to be sceptical of information online and be able to make a choice about what is trustworthy	Explain the difference between 'influence', 'manipulation' and 'persuasion' Identify, flag and report inappropriate content

						impersonate living things		
	Privacy and security	Know some examples of personal information	Give examples of what needs to be kept private and what can be shared Know what passwords are and that passwords mustn't be shared	Know where and why passwords are used Create own password	Know simple strategies to keep passwords private Describe how connected devices can share information	Know how to keep some information private (depending on context) Know that some online services may ask for information Know digital ages of consent	Create a strong password Know that free apps share information Know what app permissions are	Know how to manage passwords securely Explain what to do if a password is forgotten or lost Know why apps and software needs to be kept up to date

Component 1: Know how networks and computing systems work

	Reception	Y1	Y2	Y3	Y4	Y5	Y6
Computers	Use a mouse to move the cursor Use a touchscreen	Use the touchpad to click and drag and open a program Use the keyboard to type name, save work, edit work and delete	Use the arrow keys to move the cursor and scroll Use a computer to create a picture				
		Know the main parts of a computer	Know the uses of computers	Explain how digital devices can have inputs and outputs Know how digital devices help us	Know how websites can be created, edited and shared on the World Wide Web	Know how information can be communicated across the internet	Compare methods of communication and collaboration on the internet
Networks				Know how connections are made between digital devices and that computers can be connected to create a network	Know how networks can be connected to other networks to create the internet	Know how to use a search engine effectively	Know how searches are selected, ranked and influenced

Component 2: Know how to create media using a computer

	Reception	Y1	Y2	Y3	Y4	Y5	Y6
Capture, record and create	Use a camera to take a photograph	Use a variety of tools to make marks and draw shapes on a computer	Transfer a photograph from a digital device to a computer to edit the photograph Identify photos that are real and those that have been edited	Use photographs and tools to draw a stop-frame animation	Use a sound recording device to enhance a stop-frame animation	Capture and edit a video using a digital device	Plan and create a webpage that includes videos and images
Writing and editing text		Use a computer to write using letters, numbers and spaces Change size of text, capital and lowercase letters	Edit text by using bold, italic, underline and font tools				

Component 3: Know how to use algorithms to create a program

	Reception	Y1	Y2	Y3	Y4	Y5	Y6
Programming A	Use commands to move a Beebot	Use commands to move a Beebot in two directions	Use a sequence of commands to create a planned outcome with a Beebot	Use a sequence of commands and create a project on Scratch with sequences Debug algorithms (including motion and sounds)	Use a sequence of commands to create a count-controlled loop on Logo (drawing initials and a shape)	Control a simple circuit using a condition-controlled loop in Crumble (pedometer)	Design and create a project using variables in a program on Scratch (game)
Programming B		Use a series of commands to control a sprite on Scratch	Create a program on Scratch	Design and create a maze with a sprite that moves in four directions on Scratch	Use two count-controlled loops that run simultaneously to design a project on Scratch	Design a program that uses selection in Scratch	Use a conditional statement design a program that uses inputs and outputs on a controllable device (micro:bit)

Component 4: Know how to present data using a computer

Reception	Y1	Y2	Y3	Y4	Y5	Y6
	Know that objects can be labelled, grouped, counted and compared	Know how to create a pictogram to count and compare	Set up a data logger to collect data automatically over time	Plot from a data logger and analyse results and benefits of using a data logger	Use a spreadsheet to build a data set	Calculate data using formulae
			Create closed questions to use in a branching database	Present data in a branching database	Use a paper-based and computer databases to present data	Use a spreadsheet to present data in a graph