

Computing Key knowledge and End points Cycle B

EYFS	Computing Systems and networks 1	Programming 1	Computing systems and networks 2	Programming 2	Data Handling	Online Safety
	Using a computer	All about instructions	Exploring hardware	Programming Beebots	Introducing Data	
End point	Create a poster	Predict an outcome	Class photo album	Program a Beetbot	Interpret a pictogram	
Key Knowledge for the unit	To be able to understand what a computer keyboard is and recognise some letters and numbers.	To know that being able to follow and give simple instructions is important in computing.	To know that different types of technology can be found at home and in school.	To know that you can program a Bee-Bot with some simple commands.	To know that sorting objects into various categories can help you locate information.	To know that I can recognise, online or offline, that anyone can say 'no thank you'/'please stop'/'I'll tell'/'I'll ask' to somebody who makes them feel sad, uncomfortable, embarrassed or upset To know that I can recognise some ways in which the internet can be used to communicate. To know that I can identify ways that I can put information on the internet.
	To know that a mouse can be used to click, drag and create simple drawings.	To understand that it is important for instructions to be in the right order.	To know that you can take simple photographs with a camera or iPad.	To understand that debugging means how to fix some simple programming errors.	To know that using yes/no questions to find an answer is known as a branching database.	To know that I can describe ways that some people can be unkind online To know that I can identify and give examples of rules that help keep us safe and healthy in and beyond the home when I am using technology.

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	To know that to use a computer you need to log in to it and then log out at the end of your session.	To understand why a set of instructions may have gone wrong.	o know that you must hold the camera still and ensure the subject is in the shot to take a photo.	To understand that an algorithm is a set of clear and precise instructions.	To know that a pictogram is a way of showing information.	To know that I can identify some simple examples of my personal information (e.g. name, address, birthday, age, location) To know that I can describe who would be trustworthy to share this information with; I can explain why they are trusted To know that work I create belongs to me
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KS1	Programming (Y1)	Creating Media (Y1)	Data Handling (Y1)	Programming (Y2)	Creating Media (Y2)	Data Handling (Y2)	Online Safety (Y2)
	Beebots	Digital imagery	Introduction to data	Scratch Jr	Stop-motion	International space station	
End point	To create a programme for the 3 little pigs.	To create a photo collage	To design an invention to gather data	To plan and use code to create and algorithm (3 little pigs)	To create a stop motion animation.	To create a fact file of a planet	
Key Knowledge for the unit	To understand the basic functions of a Bee-Bot.	To understand that holding the camera still and considering angles and light are important to take good pictures.	To know how that charts and pictograms can be created using a computer.	To know that coding is writing in a special language so that the computer understands what to do.	To understand that an animation is made up of a sequence of photographs.	To understand that you can enter simple data into a spreadsheet.	To understand the difference between online and offline.
							To understand what information, I should not post online
	To know that you can use a camera/tablet to make simple videos.	To know that you can edit, crop and filter photographs.	To understand that a branching database is a way of classifying a group of objects.	To understand that the character in ScratchJr is controlled by the programming blocks.	To know that small changes in my frames will create a smoother looking animation.	To understand what steps you need to take to create an algorithm.	To know what the techniques are for creating a strong password
	To know that algorithms move a Bee-Bot accurately to a chosen destination.	To know how to search safely for images online.	To know that computers understand different types of 'input'.	To know that you can write a program to create a musical instrument or tell a joke.	To understand what software creates simple animations and some of its features e.g. onion skinning.	To know what data to use to answer certain questions.	To understand that not everything I see or read online is true

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						To know that computers can be used to monitor supplies.	To know that you should ask permission from others before sharing about them online and that they have the right to say 'no.'
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LKS2	Computing and System Networks (Y3)	Programming (Y3)	Creating Media (Y3)	Creating Media (Y4)	Programming (Y4)	Programming (Y4)	Online Safety (Y4)
	Emailing	Scratch	Video trailers	Website Design	Further coding with Scratch	Computational thinking	
End point	Interland Reality River game	To programme a game	To evaluate video editing	To create and evaluate a website	To use knowledge of how variables work to create a quiz	To combine computational thinking to solve a problem	
Key Knowledge for the unit	To understand that email stands for 'electronic mail.'	To know that Scratch is a programming language and some of its basic functions	To know that different types of camera shots can make my photos or videos look more effective	To know that a website is a collection of pages that are all connected.	To understand that a variable is a value that can change (depending on conditions) and know that you can create them in Scratch	To know that combining computational thinking skills can help you to	To understand some of the methods used to encourage people to buy things online
	To know that an attachment is an extra file added to an email.	To understand how to use loops to improve programming.	To know that I can edit photos and videos using film editing software	To know that websites usually have a homepage and subpages as well as clickable links to new pages, called hyperlinks.	To know what a conditional statement is in programming	o understand that pattern recognition means identifying patterns to help them work out how the code works	To understand that technology can be designed to act like or impersonate living things.
	To understand that emails should contain appropriate and respectful content.	To understand how decomposition is used in programming	To understand that I can add transitions and text to my video	To know that websites should be informative and interactive	To understand that variables can help you to create a quiz on Scratch.	To understand that algorithms can be used for a number of purposes e.g.	To understand that technology can be a distraction and identify when someone might

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						animation, games design etc.	need to limit the amount of time spent using technology.
	To know that cyberbullying is bullying using electronics such as a computer or phone.	To understand that you can remix and adapt existing code					To understand what behaviours are appropriate in order to stay safe and be respectful online.

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UKS2	Data Handling (Y5)	Skills showcase (Y5)	Programming (Y5)	Computer systems and networks (Y6)	Creating Media (Y6)	Skills showcase (Y6)	Online Safety (Y6)
	Mars Rover 1	Mars Rover 2	Micro:bit	Bletchley Park	History of a computer	Inventing a product	
End point	To represent binary as text	To modify the design of a 3D object using CAD software	To programme a scoreboard	To research and present information about historical figures in computing	To design a computer of the future	Design product, create website, create video. Advertisement	
Key Knowledge for the unit	To know that Mars Rover is a motor vehicle that collects data from space by taking photos and examining samples of rock.	To understand that bit patterns represent images as pixels.	To know that a Micro:bit is a programmable device.	To understand the importance of having a secure password and what "brute force hacking" is.	To know that radio plays are plays where the audience can only hear the action so sound effects are important	To know what designing an electronic product involves	To know that a digital footprint means the information that exists on the internet as a result of a person's online activity
	To know what numbers using binary code look like and be able to identify how messages can be sent in this format.	To understand that the data for digital images can be compressed.	To know that Micro:bit uses a block coding language similar to Scratch.	To know that the first computers were created at Bletchley Park to crack the Enigma code to help the war effort in World War 2	To know that sound clips can be recorded using sound recording software	To know which programming software/ language is best to achieve a purpose	To know what steps are required to capture bullying content as evidence

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	To understand that RAM is Random Access Memory and acts as the computer's working memory	To know the difference between ROM and RAM.	To understand and recognise coding structures including variables.	To know about some of the historical figures that contributed to technological advances in computing.	To know that sound clips can be edited and trimmed	To know the building blocks of computational thinking e.g. sequence, selection, repetition, variables and inputs and outputs	To understand that it is important to manage personal passwords effectively
	To know what simple operations can be used to calculate bit patterns	To understand various techniques that will improve the design of a 3D object (using CAD software)	To know what techniques to use to create a program for a specific purpose (including decomposition).	o understand what techniques are required to create a presentation using appropriate software			To understand what it means to have a positive online reputation.
							To know some common online scams.