

COMPUTING Progression Framework

Focus	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
COMPUTER SYSTEMS AND NETWORKS	<ul style="list-style-type: none"> • I understand what a computer keyboard is and recognising some letters and numbers. • I can use a mouse to click, drag and create simple drawings. • I can use a computer to log in to it and then log out. • I know that different types of technology can be found at home and in school. • I can take 	<ul style="list-style-type: none"> • I know that "log in and log out" means to begin and end a connection with a computer. • I can use a computer and mouse to click, drag, fill and select and also add backgrounds, text, layers, shapes and clip art. • I know that passwords are important for security. • I know that when we create something on a computer it can be more 	<ul style="list-style-type: none"> • I know the difference between a desktop and laptop computer. • I know that people control technology. • I know that buttons are a form of input that give a computer an instruction about what to do (output). To know that computers often work together. To know that touch typing is the fastest way to type. To know that I can make text a 	<ul style="list-style-type: none"> • I know what a tablet is and how it is different from a laptop /desktop computer. • I understand what a network is and how a school network might be organised. • I know that a server is central to a network and responds to requests made. • I know how the internet uses networks to share files. • I know that a router connects us to the internet. 	<ul style="list-style-type: none"> • I understand that software can be used collaboratively online to work as a team. • I know what type of comments and suggestions on a collaborative document can be helpful. • I can use images, text, transitions and animation in presentation slides. 	<ul style="list-style-type: none"> • I know how search engines work. • I understand that anyone can create a website and therefore we should take steps to check the validity of websites. • I know that web crawlers are computer programs that crawl through the internet. • I understand what copyright is. • I know the difference between ROM and RAM. 	<ul style="list-style-type: none"> • I understand the importance of having a secure password and what "brute force hacking" is. • I know that the first computers were created at Bletchley Park to crack the Enigma code to help the war effort in World War 2. • I know about some of the historical figures that contributed to

	<p>simple photographs with a camera or iPad.</p> <ul style="list-style-type: none">• I can hold the camera still and ensure the subject is in the shot to take a photo.	<p>easily saved and shared than a paper version.</p> <ul style="list-style-type: none">• I know some of the simple graphic design features of a piece of online software.	<p>different style, size and colour. To know that "copy and paste" is a quick way of duplicating text.</p>	<ul style="list-style-type: none">• I know what a packet is and why it is important for website data transfer.• I know the roles that inputs and outputs play on computers.• I understand that email stands for 'electronic mail.'• I know that an attachment is an extra file added to an email.• I understand that emails should contain appropriate and respectful content.• I know what some of the different components inside a			<p>technological advances in computing.</p> <ul style="list-style-type: none">• I understand what techniques are required to create a presentation using appropriate software.
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				computer are e.g. CPU, RAM, hard drive, and how they work together.			
PROGRAMMING	<ul style="list-style-type: none"> • I can follow and give simple instructions. • I understand that it is important for instructions to be in the right order. • I understand why a set of instructions may have gone wrong. • I know that you can program a Bee-Bot with some simple commands. • I can use debugging to fix some 	<ul style="list-style-type: none"> • I understand that an algorithm is when instructions are put in an exact order. • I know that input devices get information into a computer and that output devices get information out of a computer. • I understand that decomposition means breaking a problem into manageable 	<ul style="list-style-type: none"> • I understand what machine learning is and how that enables computers to make predictions. • I know that loops in programming are where you set a certain instruction (or instructions) to be repeated multiple times. • I know that abstraction is the removal of unnecessary detail to help solve a problem. • I know that 	<ul style="list-style-type: none"> • I know that Scratch is a programming language and some of its basic functions. • I can use loops to improve programming. • I can use decomposition in programming. • I can remix and adapt existing code. 	<ul style="list-style-type: none"> • I understand that a variable is a value that can change (depending on conditions) and know that you can create them in Scratch. • I know what a conditional statement is in programming. • I can use variables to help you to create a quiz on Scratch. • I can combine computational thinking skills (sequence, abstraction, 	<ul style="list-style-type: none"> • I know that a soundtrack is music for a film/video and that one way of composing these is on programming software. • I can use loops to make the process of writing music simpler and more effective. • I can adapt code while performing music. • I know that a Micro:bit is a programmable device. • I know that 	<ul style="list-style-type: none"> • I know that there are text-based programming languages such as Logo and Python. • I know that nested loops are loops inside of loops. • I can use random numbers and remix Python code.

	<p>simple programming errors.</p> <ul style="list-style-type: none"> • I understand that an algorithm is a set of clear and precise instructions. 	<p>chunks and that it is important in computing.</p> <ul style="list-style-type: none"> • I know that we call errors in an algorithm 'bugs' and fixing these 'debugging'. • I understand the basic functions of a Bee-Bot. • I can use a camera/tablet to make simple videos. • I know that algorithms move a bee-bot accurately to a chosen destination. 	<p>coding is writing in a special language so that the computer understands what to do.</p> <ul style="list-style-type: none"> • I understand that the character in ScratchJr is controlled by the programming blocks. • I can write a program to create a musical instrument or tell a joke. 		<p>decomposition etc) to help to solve a problem.</p> <ul style="list-style-type: none"> • I can use pattern recognition to identify patterns to work out how the code works. • I can use algorithms for a number of purposes e.g. animation, games design etc. 	<p>Micro:bit uses a block coding language similar to Scratch.</p> <ul style="list-style-type: none"> • I understand and recognise coding structures including variables. • I can use different techniques to create a program for a specific purpose (including decomposition). 	
CREATING MEDIA		<ul style="list-style-type: none"> • I understand that holding the camera still and considering 	<ul style="list-style-type: none"> • I understand that an animation is made up of a sequence of 	<ul style="list-style-type: none"> • I know that different types of camera shots can make my 	<ul style="list-style-type: none"> • I know some of the features of web design software. 	<ul style="list-style-type: none"> • I can use stop motion animation, an animation filmed one 	<ul style="list-style-type: none"> • I know that radio plays are plays where the audience can

		<p>angles and light are important to take good pictures.</p> <ul style="list-style-type: none"> • I can edit, crop and filter photographs. • I can search safely for images online. 	<p>photographs.</p> <ul style="list-style-type: none"> • I can make small changes in my frames to create a smoother looking animation. • I can use software to create simple animations and some of its features e.g. onion skinning. 	<p>photos or videos look more effective.</p> <ul style="list-style-type: none"> • I can edit photos and videos using film editing software. • I can add transitions and text to my video. 	<ul style="list-style-type: none"> • I know that a website is a collection of pages that are all connected. • I know that websites usually have a homepage and subpages as well as clickable links to new pages, called hyperlinks. • To know that websites should be informative and interactive. 	<p>frame at a time using models, and with tiny changes between each photograph.</p> <ul style="list-style-type: none"> • I know that decomposition as an idea is important when creating stop-motion animations. • I can use editing as an important feature of making and improving a stop motion animation. 	<p>only hear the action so sound effects are important.</p> <ul style="list-style-type: none"> • I can use sound clips to be recorded using sound recording software. • I know that sound clips can be edited and trimmed.
DATA HANDLING	<ul style="list-style-type: none"> • I know that sorting objects into various categories can help you locate information. • I can use 	<ul style="list-style-type: none"> • I can use charts and pictograms created using a computer. • I can use a branching database as a way of 	<ul style="list-style-type: none"> • I can enter simple data into a spreadsheet. • I can use different steps to create an algorithm. 	<ul style="list-style-type: none"> • I know that a database is a collection of data stored in a logical, structured and orderly manner. • I can use databases to be 	<ul style="list-style-type: none"> • I know that computers can use different forms of input to sense the world around them so that they can record and respond to 	<ul style="list-style-type: none"> • I know that Mars Rover is a motor vehicle that collects data from space by taking photos and examining samples of 	<ul style="list-style-type: none"> • I know that data contained within barcodes and QR codes can be used by computers. • I can use

	<p>yes/no questions to find an answer in a branching database.</p> <ul style="list-style-type: none"> • I can use a pictogram as a way of showing information. 	<p>classifying a group of objects.</p> <ul style="list-style-type: none"> • I know that computers understand different types of 'input'. 	<ul style="list-style-type: none"> • I can use data to use to answer certain questions. • I can use computers to monitor supplies. 	<p>useful for sorting and filtering data.</p> <ul style="list-style-type: none"> • I can use different visual representations of data that can be made on a computer. 	<p>data. This is called 'sensor data'.</p> <ul style="list-style-type: none"> • I can use a weather machine as an automated machine that responds to sensor data. • I understand that weather forecasters use specific language, expression and pre-prepared scripts to help create weather forecast films. 	<p>rock.</p> <ul style="list-style-type: none"> • I can use numbers using binary code and be able to identify how messages can be sent in this format. • I know that RAM is Random Access Memory and acts as the computer's working memory. • I can use simple operations to calculate bit patterns. 	<p>infrared waves as a way of transmitting data.</p> <ul style="list-style-type: none"> • I know that Radio Frequency Identification (RFID) is a more private way of transmitting data. • I know that data is often encrypted so that even if it is stolen it is not useful to the thief. • I know that data can become corrupted within a network but this is less likely to happen if it is sent in 'packets'.
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ONLINE SAFETY	<ul style="list-style-type: none"> • I know that to stay safe online it is important to keep personal information safe. • I can tell a trusted adult if I feel unsafe or worried online. • I know that people you do not know on the internet 	<ul style="list-style-type: none"> • I know that the internet has many devices connected to one another. • I can tell a trusted adult if I feel unsafe or worried online. • I know that people you do not know on the internet (online) are strangers and are not always who they say 	<ul style="list-style-type: none"> • I understand the difference between online and offline. • I understand what information I should not post online. • I know what the techniques are for creating a strong password. • I know that you should ask permission from others before sharing about 	<ul style="list-style-type: none"> • I know that not everything on the internet is true: people share facts, beliefs and opinions online. • I understand that the internet can affect your moods and feelings. • I know that privacy settings limit who can access your important personal 	<ul style="list-style-type: none"> • I understand some of the methods used to encourage people to buy things online. • I understand that technology can be designed to act like or impersonate living things. • I understand that technology can be a distraction and identify when 	<ul style="list-style-type: none"> • I know different ways we can communicate online. • I understand how online information can be used to form judgements. • I understand some ways to deal with online bullying. • I know that apps require permission to access private 	<ul style="list-style-type: none"> • I know that a 'digital footprint' means the information that exists on the internet as a result of a person's online activity. • I know what steps are required to capture bullying content as evidence. • I understand

	<p>(online) are strangers and are not always who they say .</p>	<p>they are.</p> <ul style="list-style-type: none">• I know that to stay safe online it is important to keep personal information safe.• I know that 'sharing online means giving something specific to someone else via the internet and 'posting' online means placing information on the internet.	<p>them online and that they have the right to say 'no.'</p> <ul style="list-style-type: none">• I understand that not everything I see or read online is true.	<p>information. Information, such as your name, age, gender etc.</p> <ul style="list-style-type: none">• I know what social media is and that age restrictions apply.	<p>someone might need to limit the amount of time spent using technology.</p> <ul style="list-style-type: none">• I understand what behaviours are appropriate in order to stay safe and be respectful online.	<p>information and that you can alter the permissions.</p> <ul style="list-style-type: none">• I know where I can go for support if I am being bullied online or feel that my health is being affected by time online.	<p>that it is important to manage personal passwords effectively.</p> <ul style="list-style-type: none">• I understand what it means to have a positive online reputation.• I know some common online scams.
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