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Computing Progression Map

	Connecting Systems and Networks	Creating Media	Data and Information	Programming
EYFS	To identify types of technology in home and in school To experiment with different types of technology and understand their purpose To develop the use of keyboard and mouse to input	To use technology to create pictures To use technology to produce writing/mark making To talk about what has been produced and say what went well and even better if.	To begin to be able to label objects To begin to be able to identify that objects can be counted To begin to be able to count objects with the same properties To compare groups of objects To answer questions about groups of objects	To explain what a given command will do To combine 2 direction commands to make a sequence To begin to plan a simple program To identify the effect of changing an instruction.
Y1	To identify technology To identify a computer and its main parts To use a mouse in different ways To use a keyboard to type To use the keyboard to edit text To create rules for using technology responsibly	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 writing on a computer with writing on paper	To label objects To identify that objects can be counted To describe objects in different ways To count objects with the same properties To compare groups of objects To answer questions about groups of objects	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 To choose a command for a given purpose To show that a series of commands can be joined together To identify the effect of changing a value To explain that each sprite has its own instructions To design the parts of a project To use my algorithm to create a program

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Y2	To recognise the uses and features of information technology To identify information technology in the home To identify information technology beyond school To explain how information technology benefits us To show how to use information technology safely To recognise that choices are made when using information technology	To know what devices can be used to take photographs To use a digital device to take 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 images can be changed To say how music can make us feel To identify that there are patterns in music To describe how music can be used in different ways To show how music is made from a series of notes To create music for a purpose To review and refine our computer work	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	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 (series of commands) 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

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Y3	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	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	To create questions with yes/no answers To identify the object attributes needed to collect relevant data To create a branching database To explain why it is helpful for a database to be well structured To identify objects using a branching database To compare the information shown in a pictogram with a branching database	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
Y4	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 To describe how content can be added and accessed on the World Wide Web To recognise how the content of the WWW is created by people To evaluate the consequences of unreliable content	To identify that sound can be digitally recorded To use a digital device to record sound To explain that a digital recording is stored as a file To explain that audio can be changed through editing To show that different types of audio can be combined and played together To evaluate editing choices made To explain that digital images can be changed To change the composition of an image To describe how images can be changed for different uses To make good choices when selecting different tools To recognise that not all images are real To evaluate how changes can improve an image	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 use data collected over a long duration to find information To identify the data needed to answer questions To use collected data to answer questions	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 program into parts 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 which 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 To create a project that includes repetition

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Y5	To explain that computers can be connected together to form systems To recognise the role of computer systems in our lives To recognise how information is transferred over the internet To explain how sharing information online lets people in different places work together To contribute to a shared project online To evaluate different ways of working together online	To recognise video as moving pictures, which can include audio To identify digital devices that can record video To capture video using a digital device To recognise the features of an effective video 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 evaluate my vector drawing	To use a form to record information To compare paper and computer-based databases To outline how grouping and then sorting data allows us to answer questions To explain that tools can be used to select specific data To explain that computer programs can be used to compare data visually To apply my knowledge of a database to ask and answer real-world questions	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, eg number of times To conclude 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 controllable system that includes selection 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

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Y6	To identify how to use a search engine To describe how search engines select results To explain how search results are ranked To recognise why the order of results is important, and to whom To recognise how we communicate using technology To evaluate different methods of online communication	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 use a computer to create and manipulate three-dimensional (3D) digital objects To compare working digitally with 2D and 3D graphics To construct a digital 3D model of a physical object To identify that physical objects can be broken down into a collection of 3D shapes To design a digital model by combining 3D objects To develop and improve a digital 3D model	To identify questions which can be answered using data To explain that objects can be described using data To explain that formulas can be used to produce calculated data To apply formulas to data, including duplicating To create a spreadsheet to plan an event To choose suitable ways to present data	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 an 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
KS3	To create a memorable and secure password for an account on the school network To remember the rules of the computing lab To find personal documents and common applications To recognise a respectful email To construct an effective email and send it to the correct recipients To describe how to communicate with peers online To plan effective presentations for a given audience To describe cyberbullying To explain the effects of cyberbullying	To describe what HTML is To use HTML to structure static web pages To modify HTML tags using inline styling to improve the appearance of web pages To display images within a web page To apply HTML tags to construct a web page structure from a provided design To describe what CSS is To use CSS to style static web pages To assess the benefits of using CSS to style pages instead of in-line formatting To describe what a search engine is To explain how search engines 'crawl' through the World Wide Web and how they select and rank results To analyse how search engines select and rank results when searches are made	To identify columns, rows, cells, and cell references in spreadsheet software To use formatting techniques in a spreadsheet To use basic formulas with cell references to perform calculations in a spreadsheet (+, -, *, /) To use the autofill tool to replicate cell data To explain the difference between data and information To explain the difference between primary and secondary sources of data To collect data	To compare how humans and computers understand instructions (understand and carry out) To define a sequence as instructions performed in order, with each executed in turn To predict the outcome of a simple sequence To modify a sequence To define a variable as a name that refers to data being stored by the computer To recognise that computers follow the control flow of input/process/output To predict the outcome of a simple sequence that includes variables To trace the values of variables within a sequence To make a sequence that includes a variable

Computing Progression Map

	To check who you are talking to online To define 'protocol' and provide examples of non-networking protocols	To use search technologies effectively To discuss the impact of search technologies and the issues that arise by the way they function and the way they are used To create hyperlinks to allow users to navigate between multiple web pages To discuss issues of safety and security from a technological perspective To discuss the impact of networking technologies and services	To create appropriate charts in a spreadsheet To use the functions SUM, COUNTA, MAX, and MIN in a spreadsheet To analyse data To use a spreadsheet to sort and filter data To use the functions AVERAGE, COUNTIF, and IF in a spreadsheet To use conditional formatting in a spreadsheet To apply all of the spreadsheet skills covered in this unit	To define a condition as an expression that will be evaluated as either true or false To identify that selection uses conditions to control the flow of a sequence To identify where selection statements can be used in a program To modify a program to include selection To create conditions that use comparison operators (>,<,=) To create conditions that use logic operators (and/or/not) To identify where selection statements can be used in a program that include comparison and logical operators To define iteration as a group of instructions that are repeatedly executed To describe the need for iteration To identify where count-controlled iteration can be used in a program To implement count-controlled iteration in a program To detect and correct errors in a program (debugging) To independently design and apply programming constructs to solve a problem (subroutine, selection, count-controlled iteration, operators, and variables)