

Progression across the Computing Curriculum

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	Year Rec / One: Technology around us	Year Two: IT around us	Year Three: Connecting computers	Year Four: The Internet	Year Five: Sharing information	Year Six: <u>Web page creation</u>
Creating media	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • Enter text into a keyboard. • Recognise that text can be changed. • Recognise tools can be used to produce different outcomes. • Choose options to achieve the desired effect. • Consider the impact of choices made 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • Use a computer to create a piece of music. • Identify there are patterns in music • Create music for a purpose. • Consider how different musical sequences create different effects. • Review and refine their computer work. • Recognise information on a computer can be saved and stored, retrieved, re-edited and resaved. • Share their work online, and this can be viewed around the world. • understand that work can be shared between devices, or it can be printed and shared. 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • recognise how text and images can be used together to convey information. • define landscape and portrait as two different page orientations. • show that page orientation can be changed. • consider how different layouts can suit different purposes. • add text to a placeholder. • organise text and image placeholders in a page layout. • add and remove images to and from placeholders. • move resize and rotate images. • recognise how different font styles and effects are used for particular purposes. • choose fonts and apply effects to text. • review a document. • consider the benefits 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • recognise that sound can be digitally recorded. • record sound • recognise that some digital devices have microphones. • recognised that audio is stored as a file. • located recorded audio. • recognise that audio can be edited and altered. • edit audio. • recognise that sound can be layered. • consider the result of editing choices. • save and export an audio file. 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • recognise that tools can be changed to produce a different outcome. • create graphical objects on a computer screen. • choose options to achieve a desired effect. • add or remove objects. • recognise that an image comprises of separate objects • select, duplicate and delete an object. • recognise that objects are layered. • modify an object. • combine options to achieve a desired effect. • consider the impact of choices. • recognise that objects can be modified in groups. • recognise that vector images can be scaled without impact on quality. 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • recognise the relationship between HTML and visual display. • recognise components of a web page layout. • consider the ownership and use of images (copyright) • create a website. • recognise the need to preview pages (different screens / devices). • Add text, change its appearance and position. • Add images and other content including embedded content. • recognise the need for a navigation path • Add additional pages and hyperlinks. • recognise the implications of linking to content owned by others.

			<ul style="list-style-type: none">• of using a DTP• application.			
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	Year Rec / One: Technology around us	Year Two: IT around us	Year Three: Connecting computers	Year Four: The Internet	Year Five: Sharing information	Year Six: <u>Communication</u>
Computing systems and networks	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • identify technology. • Recognise the uses and features of information technology. • Use a mouse in different ways. • Use a keyboard to type. • Use a keyboard to edit text. 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • Identify information technology in the home • Identify information technology beyond the school. • Choices are made when using technology. • Explain how information technology benefits us. • show how to use technology safely. • create rules for using technology responsibly. • Recognise how digital devices can change the way we work. 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • describe what an input is • explain that a process act on the inputs. • identify input and output devices. • explain that an output is produced by the process. • explain that a computer system accepts an input and processes it to produce an output. • explain how computer systems can change the way we work. • identify how changing the process can affect the output. • recognise that a digital device is made of several parts. • recognise that computers can be connected to each other. 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • describe how networks connect to other networks. • outline how information can be shared via the World Wide Web. • recognise that the World Wide Web is part of the Internet. • explain that the global interconnection of networks is the internet. • recognise the need for security on the internet. • know how to access the World Wide Web. • describe the types of content/media that can be added, created, and shared on the World Wide Web. • explain how the content of the 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • To recognise that computers can be part of a system in an electronic device. • understand that computers can be connected together to form systems. • see that computer communicate with other devices. • recognise input, process, and output in larger computer systems. • recognise how information is transferred across the internet. • recognise that data is transferred using agreed protocols. • recognise the role of computer systems in our lives. • explain that data is transferred in packets. • recognise that connections between computers allow us to access shared stored files and allow us to work together. 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • recognise that there are a number of search engines. • compare the results from different search engines. • demonstrate that different search terms produce different results. • explain that search terms need to be chosen carefully. • explain why search engines exist. • define the purpose of an index. • explain why search engines create indexes, and that they are different for each search engine. • explain how search results are selected. • explain the role of web crawlers. • explain that search results are ordered, and this is known as ranking. • explain how ranking is determined by rules, and that • different search engines use

			<ul style="list-style-type: none"> • identify how devices in a network are connected with one another. • recognise that a network is made up of a number of components. 	<p>World Wide Web is created, owned, and shared by people.</p> <ul style="list-style-type: none"> • Know that the internet enables us to view the World Wide Web. • explain that the World Wide Web comprises of websites and web pages. • describe the current • limitations of World Wide Web media. • evaluate the reliability of content and the consequences of unreliable content. • explain the benefits of the World Wide Web 	<ul style="list-style-type: none"> • explain that the internet lets people in different places work together and media to be shared. • evaluate different ways of working together. • recognise that internet collaborations can be public or private 	<ul style="list-style-type: none"> • different rules. • examine the role of the searcher, search engine, and content creator in the searching process. • explain why the order of results is important and to whom. • identify some of the • limitations of search engines. • To explain how search engines make money by selling advertising space. • identify that results from search engines can include adverts, and that the adverts • can be targeted. • recognise that some information is not searchable
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	Year Rec / One: Programming A – Moving a robot	Year Two: Programming A – Robot algorithms	Year Three: Programming A: Sequencing in music	Year Four: Programming A: Sequencing in music	Year Five: Programming- Selection in quizzes	Year Six: Programming A – Selection in physical computing
Programming	<ul style="list-style-type: none"> • Pupils learn to: predict the outcome of a command on a device • list which commands can be used on a given device • explain what a given command does. • Match a command to an outcome. • recognise how to run a command • choose a command for a given purpose. • understand that a program is a set of commands that a computer can run. • choose a series of words that can be enacted as a program. • build a sequence of commands in steps 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • describe that a series of instructions is a sequence. • choose a series of words that can be enacted as a sequence. • explain what happens when we change the order of instructions. • choose a series of commands that can be run as a program. • use logical reasoning to predict the outcome of a program. • trace a sequence to make a prediction. • test a prediction by running the sequence. 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • explain that a program has a start. • explain what a sequence is. • identify that a program includes sequences of commands. • build a sequence of commands. • Combine commands in a program. • order commands in a program. • explain that the order of commands can affect the outcome. • identify that different sequences can achieve the same outcome. • create a sequence of commands to produce a given outcome. 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • relate what 'repeat' means. • identify everyday tasks that include repetition as part of a sequence. • list an everyday task as a set of instructions including repetition. • explain that we can use a loop command in a program to repeat instructions. • identify patterns in a sequence. • identify a loop within a program. • explain that in programming, there are indefinite loops and count-controlled loops. • explain that an indefinite loop will run until the program is stopped. • explain that you can program a loop to 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • define that conditional statements are used in computer programs. • relate that a conditional statement connects a condition to an outcome • outline that a condition is something that can either be true or false. • explain that instructions in a program will produce specific outcomes. • relate that a count-controlled loop contains a condition. • explain that a loop can stop when a condition is met. • explain that program flow can branch according to a condition. • explain a sequence within a count-controlled or event-controlled loop. 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • define 'variable' as something that is changeable. • Identify examples of information that is variable. • explain that a variable is something that we can use in a program. • define a program variable as a placeholder in memory for a single value. • explain that a variable has a name and a value • recognise that the value of a variable can be used by a program and that it can be updated. • identify that variables can hold numbers (integers) or letters (strings). • explain the importance of setting up a variable at the start of a program (initialisation). • explain that there is only one value for a variable at any one time.

	<ul style="list-style-type: none"> • run a program on a device 	<ul style="list-style-type: none"> • create and debug a program they have written. • run a program on a device 		<p>stop after a specific number of times.</p> <ul style="list-style-type: none"> • identify patterns in a sequence. • justify when to use a loop and when not to. • plan a program that includes appropriate loops to produce a given outcome. • explain the importance of instruction order in a loop. • recognise tools that enable more than one process to be run at the same time. Recognise not all tools enable this. 	<ul style="list-style-type: none"> • explain the importance of instruction order in 'if...then...' statements • conclude that a loop can be used to repeatedly check whether a condition has been met. 	<ul style="list-style-type: none"> • explain that if you change the value of a variable, you cannot access the previous value. • explain that if you read a variable, the value remains. • explain that the name of a variable is meaningless to the computer, but it needs to be unique.
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	Year 1: Programming B - Introduction to animation	Year 2: Programming B- An introduction to quizzes	Year 3: Creating media - Animation	Year 4: Data and Information: Data-logging	Y 5: Programming A - Selection in physical computing	Y6 Creating media - 3D Modelling
Taught at Camden CLC	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • predict the outcome of a command on a device • list which commands can be used on a given device. • explain what a given command does. • match a command to an outcome. • recognise how to run a command • choose a command for a given purpose. • understand that a program is a set of commands a computer can run. • choose a series of words that can be enacted as a program. • build a sequence of commands in steps • run a program on a device 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • describe that a series of instructions is a sequence. • choose a series of words that can be enacted as a sequence. • explain what happens when we change the order of instructions. • choose a series of commands that can be run as a program. • use logical reasoning to predict the outcome of a program. • trace a sequence to make a prediction. • test a prediction by running the sequence. • create and debug a program they have written. • run a program on a device 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • recognise that animation is made up for a sequence of images. • create an animation using a computer. • recognise the relationship between frames and motion. • understand the terms composition, stage and capture. • decompose a known story. • know how to fix mistakes. • add sound to an animation. • Recognise the impact of adding other media. • Add text to animation • review their animation. • export their animation. 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • suggest questions that can be answered using a given data set. • identify the data that we need to answer questions. • identify that sensors are input devices. • use a digital device to collect data automatically. • recognise that a sensor can be used as an input device for data collection. • choose how often to automatically collect data samples. • explain that a data logger captures 'data points' from sensors over time. • use a larger data set to find information. • use a computer program to sort data by one attribute. 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • define that conditional statements are used in computer programs. • relate that a conditional statement connects a condition to an outcome • outline that a condition is something that can either be true or false. • explain that instructions in a program will produce specific outcomes. • relate that a count-controlled loop contains a condition. • explain that a loop can stop when a condition is met. 	<p>Pupils learn to:</p> <ul style="list-style-type: none"> • create 3D graphical objects on a computer screen • recognise that 3D objects comprise length, width, and height (depth). • recognise the differences when working in 3D compared with 2D. • recognise that structures can be broken down into a collection of 3D objects. • recognise the similarities and differences between real-life 3D and virtual 3D.

				<ul style="list-style-type: none">• To export information in different formats	<ul style="list-style-type: none">• explain that program flow can branch according to a condition.• explain a sequence within a count-controlled or event-controlled loop.• explain the importance of instruction order in 'if...then...' statements• conclude that a loop can be used to repeatedly check whether a condition has been met.	
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