



William Stukeley C of E School
Computing Curriculum Progression



EYFS Aims	Computer Science EYFS Early Learning Goals <ul style="list-style-type: none"> Communication and Language: Listening and attention Communication and Language: Understanding Literacy: Reading Maths: Shape, space and measure 	NC Aims	NC KS1: Computer Science <ul style="list-style-type: none"> Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. (CS 1) Create and debug simple programs (CS 2) Use logical reasoning to predict the behaviour of simple programs (CS 3) 		NC KS2: Computer Science <ul style="list-style-type: none"> Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts (CS 1) Use sequence, selection, and repetition in programs; work with variables and various forms of input and output (CS 2) Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs (CS 3) 			
Year	EYFS	Year	At Year 1	At Year 2	At Year 3	At Year 4	At Year 5	At Year 6
	Algorithms – Following instructions. Activities linked across Early Learning Goals. Use of control toys such as Beebots.	(CS 1)	Children understand that an algorithm is a set of instructions used to solve a problem. Children can write their own simple algorithms using practical examples, e.g. Getting ready for school, Beebots	Children can explain that an algorithm is a set of instructions to complete a task. When designing simple programmes children show an awareness of needing to be precise with their algorithms so that they can be successfully converted into code. Children know an algorithm written for a computer is called a program.	Children can turn a simple real-life situation into an algorithm for a programme by deconstructing it into manageable parts, e.g. the school day Children can identify an error within their program that prevents it following the desired algorithm and then fix it.	Children’s designs show that they are thinking of the required task and how accomplish this using sequencing effectively. Children make more intuitive attempts to debug their own programmes	Children may attempt to write more complex algorithms for programmes by deconstructing them into manageable parts. Children can test and debug their programmes as they go, identifying specific lines of code to be debugged.	Children can identify the important aspects of a task (abstraction) and then decompose them in a logical way. Children test and debug their programmes as they go, identifying specific lines of code to be debugged.



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		(CS 2)	<p>Children can work out what is wrong with an algorithm when the steps are out of order or missing.</p> <p>Children can write instructions to control the movement of a Beebot</p> <p>Children know that unexpected outcomes are due to the code they have created and can begin to make logical attempts to fix it.</p>	<p>Children can create a simple programme that achieves a specific purpose.</p> <p>Children can identify and correct some errors.</p> <p>Children's program designs display a growing awareness of the need for logical steps.</p>	<p>Children demonstrate the ability to design and code a program that follows a simple sequence.</p> <p>Children can experiment with repetition/loops in their programmes, beginning to understand how repetition can be used to avoid repeating commands.</p>	<p>Children's use of repetition effects is becoming more logical and are integrated into their designs.</p> <p>Children can translate algorithms that include sequence and repetition into code.</p> <p>Children understand if statements for selections.</p>	<p>Children can translate algorithms that include sequence, selection and repetition into code.</p> <p>Children can begin to use variables in their programmes and understand what these can be used for.</p>	<p>Children can translate algorithms that include sequence, selection and repetition into code.</p> <p>Children can show an understanding of outputs, such as sound and movement, and inputs from the users of the programme such as buttons and clicks.</p>
		(CS 3)	<p>Children can read pictorial code, e.g. arrows.</p> <p>Children can predict and interpret where the machine will end up at the end of the program.</p> <p>Children can apply their knowledge of algorithms to code on different platforms.</p>	<p>Children can identify the parts of a programme that respond to specific events, e.g. direction movements, start buttons, etc.</p>	<p>Children's designs show they are thinking of a logical structure in achievable steps, using some of the new knowledge, e.g. if statements, repetition and variables.</p> <p>Children can 'read' programmes with several steps and predict the outcome.</p>	<p>Children can trace code and use step by step methods to identify errors in code and make logical attempts to correct them.</p>	<p>Children are beginning to think about the structure of their code to make it easier to interpret and debug later.</p>	<p>Children can interpret a programme into separate parts and use this to explain the program.</p>
Vocabulary	Instructions, control	Vocabulary	Instructions, control, algorithm, code, fix, arrows, predict	Instructions, algorithm, control, code, fix, arrows, predict, program, purpose	Instructions, algorithm, control, code, fix, arrows, predict, program, purpose, error, sequence, repetition, loops, outcome	Instructions, algorithm, control, code, fix, arrows, predict, program, purpose, error, sequence, repetition, loops, outcome, debug	Instructions, algorithm, control, code, fix, arrows, predict, program, purpose, error, sequence, repetition, loops, outcome, debug, deconstruct, variable	Instructions, algorithm, control, code, fix, arrows, predict, program, purpose, error, sequence, repetition, loops, outcome, debug, deconstruct, variable, abstraction, output, input



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EYFS Aims	Information Technology- Software EYFS Early Learning Goals <ul style="list-style-type: none"> Understanding the World: Technology Interact with age appropriate computer software (40-60+ months) Knows how to operate simple equipment (30-50 months) Children recognise that a range of technology is used in places such as homes and schools They select and use technology for particular purposes 	NC Aims	NC KS1: Information Technology- Software <ul style="list-style-type: none"> Use technology purposefully to create, organise, store, manipulate and retrieve digital content 		NC KS2: Information Technology- Software <ul style="list-style-type: none"> Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information 			
	Year		EYFS	Year	At Year 1	At Year 2	At Year 3	At Year 4
	<p>Children begin to use a mouse and keyboard and touch screen.</p> <p>Children begin to select and use technology for a particular purpose</p> <p>Children begin to use devices to record sound and speech</p>		<p>Children can follow simple instructions to access online resources, e.g. follow links, qr codes, log on.</p> <p>Children can complete simple tasks on a computer/tablet following simple instructions</p> <p>Children can sort, collate, edit, and store simple digital content, e.g. they can edit items on the iPad, they can save pictures/documents, they can name documents.</p> <p>Children are beginning to understand where the letters are located on a keyboard.</p>	<p>Children are confident when creating, naming, saving, and retrieving content.</p> <p>Children can explore a range of media when creating digital content, including photos, text, and sound.</p> <p>Children can retrieve relevant information using a search information (which may be provided for them).</p> <p>Children can locate letters on a keyboard with increasing confidence.</p>	<p>Children can collect, analyse, evaluate, and present data and information using a selection of software.</p> <p>Children can consider what software is most appropriate for a given task.</p> <p>Children have a basic understanding of the tools on Microsoft Word.</p>	<p>Children make informed software choices when presenting information and data.</p> <p>Children can combine more than one source of information, e.g. picture, text, video, animation, sound.</p> <p>Children share digital content with others.</p> <p>Children can apply the tools on Microsoft word to create purposeful documents.</p>	<p>Children can understand how the software chosen can be affected by the purpose of the task and the audience.</p> <p>Children can make improvements to digital creations based on feedback.</p>	<p>Children make clear connections to the audience when designing and creating digital content.</p> <p>Children can pick from a wide knowledge of different software when creating content and evaluate their choices.</p>



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Vocabulary	Keyboard, mouse, screen	Vocabulary	Keyboard, edit, save, document	Keyboard, edit, save, document, media, photo, text, sound	Keyboard, edit, save, document, media, photo, text, sound, collect, analyse, present, data, tools	Keyboard, edit, save, document, media, photo, text, sound, collect, analyse, present, data, tools, animation, digital content	Keyboard, edit, save, document, media, photo, text, sound, collect, analyse, present, data, tools, animation, digital content, task, audience, feedback	Keyboard, edit, save, document, media, photo, text, sound, collect, analyse, present, data, tools, animation, digital content, task, audience, feedback, software, evaluate
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EYFS Aims	Information Technology- Uses EYFS Early Learning Goals	NC Aims	NC KS1: Information Technology- Uses		NC KS2: Information Technology- Uses			
	<ul style="list-style-type: none"> Understanding the World: Children recognise that a range of technology is used in places such as home and schools Communication and Language: Listening and Attention Communication and Language: Understanding Communication and Language: Speaking 		<ul style="list-style-type: none"> Recognise common uses of information technology beyond school 	<ul style="list-style-type: none"> Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration 				
Year	EYFS	Year	At Year 1	At Year 2	At Year 3	At Year 4	At Year 5	At Year 6
	Children understand the different parts of a computer. Children can identify technology in the outside world.		Children understand what is meant by technology and can identify a variety of examples both in and out of school. Children can identify the difference between objects that use modern technology and those that do not, e.g. a microwave and a chair.	Children make links between technology they see around them and in the wider world.	Children can list the ways that the internet can be used to provide different methods of communication. Children can describe and partake in appropriate conversations when communicating online. Children can understand how digital devices work and how they help us.	Children can interact and collaborate online using a variety of different platforms. Children can describe appropriate conversations when communicating online. Children have an awareness of the internet and websites.	Children understand the value of technical equipment, beginning to look at connections in a school network. Children can select the most appropriate form of online communications dependant on the audience and digital content. Children can explain how information is transferred and how we can use this to work together online.	Children can identify how the school network works.
Vocabulary	Computer, technology, names of objects	Vocabulary	Technology, modern technology, names of objects	Technology, modern technology, names of objects	Internet, communication, online, device	Internet, communication, online, device, appropriate conversation, platform	Internet, communication, online, device, appropriate conversation, platform, Technical equipment, network, digital content, audience, information, transfer	Internet, communication, online, device, appropriate conversation, platform, Technical equipment, network, digital content, audience, information, transfer



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EYFS Aims	N/A	NC Aims	N/A		NC KS2: Information Technology- Searching			
Year	EYFS	Year	At Year 1	At Year 2	At Year 3	At Year 4	At Year 5	At Year 6
	N/A		N/A	N/A	<p>Children can carry out simple searches to retrieve digital content.</p> <p>Children should begin to look at how search engines rank their searches and have an understanding of web crawling.</p>	<p>Children understand the function, features and layout of search engines.</p> <p>Children can begin to look at effective search results and how ranking supports this.</p>	<p>Children search with greater complexity for digital content when using a search engine.</p> <p>Children can identify false websites and evaluate the information they find online.</p>	<p>Children can evaluate and modify real life search engines.</p> <p>Children use critical thinking skills in everyday use of online information and communication.</p>
Vocabulary		Vocabulary			Search, digital content, search engine, rank, web crawling	Search, digital content, search engine, rank, ranking, web crawling, function, layout, search results	Search, digital content, search engine, rank, ranking, web crawling, function, layout, search results, false websites	Search, digital content, search engine, rank, ranking, web crawling, function, layout, search results, false websites, modify, online information, communication