

Computing Progression of Knowledge, Skills and Vocabulary

Unit	Technology around us		IT around us		Connecting Computers		The Internet		Systems and searching		Communication and collaboration	
	Year 1	Year 2	Year 1	Year 2	LKS2	UKS2	LKS2	UKS2	LKS2	UKS2	LKS2	UKS2
Computing Systems and Networks	To identify technology To identify a computer and its main parts To use a mouse in different ways To use a keyboard to type on a computer To use the keyboard to edit text To create rules for using technology responsibly	To identify and explain technology as something that helps us To identify and use a computer and its main parts To use a mouse to open and create things To use a keyboard confidently to type on a computer To use the keyboard and arrow keys to edit text and move the cursor To create rules for using technology responsibly and keeping us safe	To recognise the uses and features of information technology To identify the uses of information technology in the school To identify information technology beyond school To explain how information technology helps us To explain how to use information technology safely To recognise that choices are made when using information technology	To recognise and identify the uses and features of information technology To identify the uses of information technology in the school and sort it in how it is used To identify information technology beyond school and talk about its uses To explain how information technology helps us and say how we use it To demonstrate how to use information technology safely To explain that choices are made when using information technology	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 how digital devices function and follow a process To identify and design input and output devices To recognise how digital devices can change the way we work and suggest differences To explain how a computer network can be used to share information and recognise different connections To recognise how digital devices can be connected To recognise the physical components of a network and identify the benefits	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 (WWW) To describe how content can be added and accessed on the World Wide Web (WWW) To recognise how the content of the WWW is created by people To evaluate the consequences of unreliable content	To describe and demonstrate how networks physically connect to other networks To recognise and explain how networked devices make up the internet To explain how websites can be shared via the World Wide Web (WWW) To recognise and explain how content can be added and accessed on the World Wide Web (WWW) To explain how the content of the WWW is created by people To evaluate and explain the consequences of unreliable content	To explain that computers can be connected together to form systems To recognise the role of computer systems in our lives To experiment with search engines 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 explain that computers can be connected together to form systems using a number of parts To recognise the role of computer systems in our lives and identify the human elements To experiment with search engines and refine my findings To describe and relate how search engines, select results To explain how search results are ranked and order by rank To understand why the order of results is important, and to whom	To explain the importance of internet addresses To recognise how data is transferred across the internet To explain how sharing information online can help people to work together To evaluate different ways of working together online To recognise how we communicate using technology To evaluate different methods of online communication	To explain the importance of internet addresses and how data is transferred To identify how data is transferred across the internet To demonstrate how sharing information online can help people to work together To evaluate different ways of working together online both privately and publicly To identify how we communicate using technology To evaluate different methods of online communication and explain how it might not be private
Vocabulary	(Cycle A - D) Technology, computer, mouse, trackpad, keyboard, screen, double-click, typing, Information technology (IT), computer, barcode, scanner/scan				(Cycle A) Digital device, input, process, output, program, digital, non-digital, connection, network, network switch, server, wireless access point, network cables, network sockets, information, download, content, (Cycle B) Internet, network, router, network security, network switch, server, wireless access point (WAP), router, website, web page, web address, router, routing, web browser, World Wide Web, content, links, files, use, content, download, sharing, ownership, permission, information, sharing, accurate, honest, content, adverts, search engine, connection, process (Cycle C) System, connection, digital, input, process, output, search, search engine, refine, index, crawler, bot, search engine, ordering, ranking, links, algorithm, search engine optimisation (SEO), content creator, selection, ranking, (Cycle D) Communication, protocol, data, address, Internet Protocol (IP) address, Domain Name Server (DNS), packet, header, data payload, chat, explore, slide deck, reuse, remix, collaboration, communication, internet, public, private, one-way, two-way, one-to-one, one-to-many							

Blue text indicates UKS2 vocabulary

Unit	Programming Animations		Programming Quizzers		Events and Actions in Programs		Repetition in Games		Selection in Quizzers		Sensing Movement	
	Year 1	Year 2	Year 1	Year 2	LKS2	UKS2	LKS2	UKS2	LKS2	UKS2	LKS2	UKS2
Programming B	To choose a command for a given purpose	To demonstrate a command for a given purpose	To explain that a sequence of commands has a start	To demonstrate that a sequence of commands has a start	To explain how a sprite moves in an existing project	To identify and explain how a sprite moves in an existing project	To develop the use of count-controlled loops in a different programming environment	To develop the use of count-controlled loops in a different programming environment and predict the outcome	To explain how selection is used in computer programs	To explain and recall how selection is used in computer programs	To create a program to run on a controllable device	To create and transfer a program to run on a controllable device
	To show that a series of commands can be joined together	To explain that a series of commands can be joined together	To explain that a sequence of commands has an outcome	To explain that a sequence of commands and can predict the outcome	To create a program to move a sprite in four directions	To confidently create a program to move a sprite in four directions	To explain that in programming there are infinite loops and count controlled loops	To relate that a conditional statement connects a condition to an outcome	To confidently relate that a conditional statement connects a condition to an outcome	To explain that selection can control the flow of a program	To confidently explain that selection can control the flow of a program	
	To identify the effect of changing a value	To identify and explain the effect of changing a value	To create a program using a given design	To create a program using a given design and work out its actions	To adapt a program to a new context	To adapt a program to a new context by using a programming extension	To develop a design that includes two or more loops which run at the same time	To demonstrate that in programming there are infinite loops and count controlled loops	To explain how selection directs the flow of a program	To update a variable with a user input	To update a variable with a user input and use a condition to change a variable	
	To explain that each sprite has its own instructions	To explain that each sprite has its own instructions and show that a project can include more than one sprite	To change a given design	To create a new design	To develop my program by adding features	To develop my program by adding features and identify additional features (from a given set of blocks)	To modify an infinite loop in a given program	To explain how selection directs the flow of a program	To design a program which uses selection	To use a conditional statement to compare a variable to a value	To use a conditional statement to compare a variable to a value using an operand (e.g. <>=) in an if, then statement	
	To design the parts of a project	To design the parts of a project and decide how each sprite will move	To create a program using my own design	To create an algorithm using my own design	To identify and fix bugs in a program	To develop my program by adding features and identify additional features (from a given set of blocks)	To design a project that includes repetition	To design a design that includes two or more loops which run at the same time and explain the outcome	To create a program which uses selection	To design a project that uses inputs and outputs on a controllable device	To design a project that uses inputs and outputs on a controllable device	
	To use my algorithm to create a program	To design the parts of a project and decide how each sprite will move	To decide how my project can be improved	To decide how my project can be improved by adding features	To design and create a maze-based challenge	To identify, test and fix bugs in a program	To create a project that includes repetition	To modify an infinite loop in a given program by re-using existing code	To evaluate my program	To design and use a program which uses selection	To develop a program to use inputs and outputs on a controllable device	
		To use and test my algorithm to create a program				To identify, test and fix bugs in a program	To create a project that includes repetition	To design and develop a project that includes repetition	To evaluate my program and identify ways the program could be improved		To accurately design a project that uses inputs and outputs on a controllable device	
						To design and create a maze-based challenge and make design choices and justify them		To design and develop a project that includes repetition			To develop a program to use inputs and outputs on a controllable device and find and fix bugs	
Vocabulary	(Cycle A and C) Scratch Jr, Bee-Bot, command, sprite, compare, programming, block, joining, command, Start, run, program, background, delete, reset, algorithm, predict, effect, change, value, instructions, appropriate, program, build, design, (Cycle B and D) Sequence, command, program, run, start, outcome, blocks, sprite, algorithm, design, change, build, compare, design, debug, program, features, evaluate, predict, match, modify				(Cycle A) Motion, event, sprite, algorithm, logic, move, resize, extension block, pen up, set up, pen, design, event, action, debugging, errors, setup, code, test, debug, actions, evaluate, modify, question, (Cycle B) Motion, event, sprite, algorithm, logic, move, resize, extension block, pen up, set up, pen, design, event, action, debugging, errors, setup, code, test, debug, actions, evaluate, modify, question, (Cycle C) Selection, condition, true, false, count-controlled loop, outcomes, conditional statement, algorithm, program, question, input, design, , run, test, setup, implement, debug, answer, (Cycle D) input, process, output, flashing, USB, trace, selection, condition, if then else, variable, random, sensing, value, compass, direction, variable, algorithm, step counter, plan, create, code, test, debug Micro:bit, MakeCode, accelerometer, navigation, design, task,							
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