




Carr Lodge Academy Computing Overview

Key

e-safety links

cross-curricular links

	Term 1 Identity and Social Justice	Term 2 Power, Leadership and Invasion EYFS	Term 3 Sustainability and the Impact on our World
Unit Title/Enquiry	Computer systems and networks	Programming	Creating media
Future Links to this Unit	Year 1 1A: Computing systems and networks – Technology around us	Year 1 2A: Programming A – Moving a robot Year 1 3B: Programming B - Programming animations	Year 1 2B: Creating media – Digital painting Year 1 3A: Creating media – Digital writing
New Knowledge	<p>FS1 - Pupils know the different parts of a computer, including keyboard, screen and mouse/trackpad.</p> <p>FS2 - Pupils know examples of technology in their home and school, including tablets, automatic doors and photocopiers.</p> <p>FS2 - Pupils know how to control a cursor using a mouse.</p>	<p>FS1 - Pupils know that things can be grouped, comparing and spotting similarities and differences, beginning to work out rules.</p> <p>FS1 - Pupils know that objects can be labelled.</p> <p>FS1 - Pupils know how to order and sequence, including for stories.</p> <p>FS2 - Pupils know that problems can be broken down in to steps.</p> 	<p>FS2 - Pupils know some letters on a keyboard.</p> <p>FS1 - Pupils know to make simple marks on a device, using a painting tool.</p> <p>FS2 - Pupils know how to take photographs using a device.</p> <p>FS2 - Pupils know how to record sounds and speech using a microphone and device.</p>



Year 1

Unit Title/Enquiry	1A: Computing systems and networks – Technology around us - Copyright and ownership - Health, well-being and lifestyle 2B: Creating media – Digital painting Art and Design	2A: Programming A – Moving a robot English 2B: Data and information – Grouping data - Copyright and ownership	3A: Creating media – Digital writing - Privacy and security 3B: Programming B - Programming animations
National Curriculum Link	<u>1A: Computing systems and networks – Technology around us</u> 1.4 use technology purposefully to create, organise, store, manipulate and retrieve digital content 1.5 recognise common uses of information technology beyond school 1.6 use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. <u>2B: Creating media – Digital painting</u> 1.4 use technology purposefully to create, organise, store, manipulate and retrieve digital content	<u>2A: Programming A – Moving a robot</u> 1.1 understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions 1.2 create and debug simple programs 1.3 use logical reasoning to predict the behaviour of simple programs 1.5 recognise common uses of information technology beyond school <u>2B: Data and information – Grouping data</u> 1.4 use technology purposefully to create, organise, store, manipulate and retrieve digital content 1.6 use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns	<u>3A: Creating media – Digital writing</u> 1.1 use technology purposefully to create, organise, store, manipulate and retrieve digital content use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns <u>3B: Programming B - Programming animations</u> 1.1 understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions 1.2 create and debug simple programs 1.3 use logical reasoning to predict the behaviour of simple programs 1.4 use technology purposefully to create, organise, store, manipulate and retrieve digital content
Prior Knowledge			
Future Links to this Unit	Year 2 1A: Computing systems and networks – IT around us 2B: Creating media – Digital photography	2A: Programming A – Robot algorithms 2B: Data and information – Pictograms	3A: Creating media - Digital music 3B: Programming B - Programming quizzes

<p>New Knowledge</p>	<p><u>1A: Computing systems and networks – Technology around us</u></p> <p>Pupils know the main parts of a computer, including the switch to turn in on and mouse/track pad to click and drag.</p> <p>Pupils know how to use a mouse/track pad to open a program and create a picture.</p> <p>Pupils know how to save their work to a file, then open it again.</p> <p>Pupils know how to use a keyboard to type their name, use the arrow keys to move the cursor and delete letters.</p> <p>Pupils know some rules to keep us safe and healthy when using technology.</p> <p><u>2B: Creating media – Digital painting</u></p> <p>Pupils know how to draw lines on a screen and use paint tools, changing the colour and brush sizes.</p> <p>Pupils know how to use the line and shape tools to recreate the work of an artist.</p>	<p><u>2A: Programming A – Moving a robot</u></p> <p>Pupils know what a given command will do, predicting and matching it to an outcome.</p> <p>Pupils know how to run a command on a device.</p> <p>Pupils know how to compare forwards and backwards movements to predict a sequence, starting from the same place, with up to 4 commands.</p> <p>Pupils know how to use left and right commands to move a robot.</p> <p>Pupils know how to debug a program, knowing what it should do.</p> <p>Pupils know how to plan 2 different programs to get to the same place.</p> <p><u>2B: Data and information – Grouping data</u></p> <p>Pupils know how to describe objects using labels, identifying and matching the label.</p> <p>Pupils know how to describe the properties of an object, count and compare them.</p> <p>Pupils know how to record and share what they have found.</p>	<p><u>3A: Creating media – Digital writing</u></p> <p>Pupils know the keys on a keyboard (letter, number, space, back space).</p> <p>Pupils know how to open a word processor.</p> <p>Pupils know how to type capital letters, bold, italic and underline.</p> <p>Pupils know how to change font, by clicking and dragging or double clicking.</p> <p>Pupils know that the undo tool removes changes.</p> <p><u>3B: Programming B - Programming animations</u></p> <p>Pupils know which commands move a sprite, joining more than one block together to create an algorithm.</p> <p>Pupils know how to run and test a program using a start block.</p> <p>Pupils know how to change a value, and can say what happens.</p> <p>Pupils know how to use more than 1 sprite and delete them.</p>
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Year 2

<p>Unit Title/Enquiry</p>	<p><u>1A: Computing systems and networks – IT around us</u> - Health, well-being and lifestyle</p> <p><u>1B: Creating media – Digital photography</u> - Self-image and identity Art and Design</p>	<p><u>2A: Programming A – Robot algorithms</u> Music</p> <p><u>2B: Data and information – Pictograms</u> - Privacy and security Maths</p>	<p><u>3A: Creating media - Digital music</u> - Copyright and ownership Music</p> <p><u>3B: Programming B - Programming quizzes</u></p>
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<p>National Curriculum Link</p>	<p><u>1A: Computing systems and networks – IT around us</u> <u>2B: Creating media – Digital photography</u></p> <p>1.6 use technology purposefully to create, organise, store, manipulate and retrieve digital content</p> <p>1.7 recognise common uses of information technology beyond school</p> <p>1.8 use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</p>	<p><u>1A: Programming A – Robot algorithms</u></p> <p>1.1 understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</p> <p>1.5 create and debug simple programs</p> <p>1.6 use logical reasoning to predict the behaviour of simple programs</p> <p>1.7 use technology purposefully to create, organise, store, manipulate and retrieve digital content</p> <p><u>2B: Data and information – Pictograms</u></p>	<p><u>3A: Creating media - Digital music</u></p> <p>1.9 use technology purposefully to create, organise, store, manipulate and retrieve digital content</p> <p><u>3B: Programming B - Programming quizzes</u></p> <p>1.5 understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</p> <p>1.6 create and debug simple programs</p> <p>1.7 use logical reasoning to predict the behaviour of simple programs</p>
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		<p>1.7 use technology purposefully to create, organise, store, manipulate and retrieve digital content</p> <p>1.8 use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</p>	
Prior Knowledge	<p>Year 1 1A: Computing systems and networks – Technology around us</p> <p>Year 1 2B: Creating media – Digital photography</p>	<p>Year 1 2A: Programming A – Moving a robot</p> <p>Year 1 2B: Data and information – Grouping data</p>	<p>Year 1 3A: Creating media – Digital writing</p> <p>Year 1 3B: Programming B - Programming animations</p>
Future Links to this Unit	<p>Year 3 1A: Computing systems and networks – Connecting computers</p>	<p>Year 3 2A: Programming A - Sequencing sounds</p> <p>Year 3 2B: Data and information – Branching databases</p>	<p>Year 3 3A: Creating media – Desktop publishing - Copyright and ownership - Managing online information</p> <p>Year 3 3B: Programming B - Events and actions in programs</p>
New Knowledge	<p><u>1A: Computing systems and networks – IT around us</u></p> <p>Pupils know some uses of computers and that they are part of IT.</p> <p>Pupils know how to sort school IT by what it is used for.</p> <p>Pupils know how IT devices work together.</p> <p>Pupils know how some rules keep us safe when using IT.</p> <p><u>2B: Creating media – Digital photography</u></p> <p>Pupils know how to capture a digital photo, and which device to use, using portrait and landscape.</p> <p>Pupils know how to change images using tools.</p>	<p><u>1A: Programming A – Robot algorithms</u></p> <p>Pupils know how to create a series of words to create a sequence, following and giving instructions for these.</p> <p>Pupils know the different outcomes between 2 sequences that use the same commands.</p> <p>Pupils know how to program and predict a sequence for a floor robot, creating an algorithm.</p> <p>Pupils know how to test and debug a program.</p> <p><u>2B: Data and information – Pictograms</u></p> <p>Pupils know that data can be entered and viewed on computers in different ways, including pictograms.</p>	<p><u>3A: Creating media - Digital music</u></p> <p>Pupils know how to change pitch using a computer, using images to create sounds.</p> <p>Pupils know how to use a computer to refine a musical sequence.</p> <p><u>3B: Programming B - Programming quizzes</u></p> <p>Pupils know that a program needs to be started, knowing how to run one.</p> <p>Pupils know where the start of a sequence is, building the sequence of blocks they need and debugging.</p> <p>Pupils know how to change the outcome of a sequence of commands, matching 2 sequences with the same outcome.</p> <p>Pupils know how to change characters and backgrounds to create a program based on a design, using an algorithm.</p>
Year 3			
Unit Title/Enquiry	<p>1A: Computing systems and networks – Connecting computers</p> <p>1B: Creating media - Stop-frame animation - Copyright and ownership - Managing online information</p>	<p>2A: Programming A - Sequencing sounds</p> <p>2B: Data and information – Branching databases</p>	<p>3A: Creating media – Desktop publishing - Copyright and ownership - Managing online information</p> <p>3B: Programming B - Events and actions in programs</p>
National Curriculum Link	<p><u>1A: Computing systems and networks – Connecting computers</u></p> <p>2.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output</p>	<p><u>2A: Programming A - Sequencing sounds</u></p> <p>2.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p>	<p><u>3A: Creating media – Desktop publishing</u></p> <p>2.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p> <p>2.6 select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of</p>

	<p>2.4 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</p> <p>2.6 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</p> <p><u>B: Creating media - Stop-frame animation</u></p> <p>2.6 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</p> <p>2.7 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</p>	<p>2.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output</p> <p>2.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p> <p>2.6 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</p> <p><u>2B: Data and information – Branching databases</u></p> <p>2.6 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</p>	<p>programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</p> <p><u>3B: Programming B - Events and actions in programs</u></p> <p>2.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p> <p>2.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output</p> <p>2.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p>
Prior Knowledge	<p>Year 2 1A: Computing systems and networks – IT around us</p> <p>Year 2B: Creating media – Digital photography</p>	<p>Year 2 2A: Programming A – Robot algorithms</p> <p>Year 2 2B: Data and information – Pictograms</p>	<p>3A: Creating media - Digital music</p> <p>3B: Programming B - Programming quizzes</p>
Future Links to this Unit	<p>Year 4 1A: Computing systems and networks – The Internet</p> <p>Year 4 1B: Creating media - Audio production</p>	<p>Year 4 2A: Programming A – Repetition in shapes</p> <p>Year 4 2B: Data and information – Data logging</p>	<p>3A: Creating media – Photo editing</p> <p>3B: Programming B – Repetition in games</p>
New Knowledge	<p><u>1A: Computing systems and networks – Connecting computers</u></p> <p>Pupils know that a computer network is made up of multiple devices.</p> <p>Pupils know how digital devices function, using inputs and outputs.</p> <p>Pupils know how to follow a process.</p> <p>Pupils can classify input and output devices.</p> <p>Pupils know how a network can be used to share information, including how messages are passed through multiple connections.</p>	<p><u>2A: Programming A - Sequencing sounds</u></p> <p>Pupils know that objects in Scratch have attributes, identifying them in a project.</p> <p>Pupils know that commands in Scratch are represented as blocks.</p> <p>Pupils know how to create a program using a design and sequence.</p> <p>Pupils know that sprites are controlled by commands.</p> <p>Pupils know how to use sound commands.</p> <p><u>2B: Data and information – Branching databases</u></p> <p>Pupils know 2 sets of objects can be separated by 1 attribute.</p>	<p><u>3A: Creating media – Desktop publishing</u></p> <p>Pupils know the difference between text and images.</p> <p>Pupils know how to edit text, changing font size and colour.</p> <p>Pupils know the meaning of page orientation.</p> <p>Pupils know how to paste text and images, to create a magazine cover.</p> <p><u>3B: Programming B - Events and actions in programs</u></p> <p>Pupils know the relationship between an event and action.</p> <p>Pupils know how to program movement, using a sequence of commands.</p> <p>Pupils know how to match a piece of code to an outcome.</p>

	<p>Pupils know how digital devices can be connected, including how information can be passed between them. Pupils know the role of a switch, server and wireless access point in a network.</p> <p><u>1B: Creating media - Stop-frame animation</u></p> <p>Pupils know how to create a flip-book style animation, explaining how it works.</p>	<p>Pupils know how to arrange objects in a tree structure using yes/no answers.</p>	
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Year 4

Year Group and Title	<p>1A: Computing systems and networks – The Internet</p> <p>1B: Creating media - Audio production - Copyright and ownership</p>	<p>2A: Programming A – Repetition in shapes</p> <p>2B: Data and information – Data logging</p>	<p>3A: Creating media – Photo editing - Copyright and ownership - Self-image and identity</p> <p>3B: Programming B – Repetition in games</p>
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National Curriculum Link	<p><u>1A: Computing systems and networks – The Internet</u></p> <p>2.4 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 2.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 2.6 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 2.7 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</p> <p><u>1B: Creating media - Audio production</u></p> <p>2.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 2.6 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,</p>	<p><u>2A: Programming A – Repetition in shapes</u></p> <p>2.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts 2.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output 2.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs 2.6 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</p> <p><u>2B: Data and information – Data logging</u></p> <p>2.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output 2.6 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</p>	<p><u>3A: Creating media – Photo editing</u></p> <p>2.6 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 2.7 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p> <p><u>3B: Programming B – Repetition in games</u></p> <p>2.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts 2.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output 2.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p>
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	including collecting, analysing, evaluating and presenting data and information 2.7 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.		
Prior Knowledge	Year 3 1A: Computing systems and networks – Connecting computers	Year 3 2A: Programming A – Sequencing sounds Year 3 2B: Data and information – Branching databases	Year 3 3A: Creating media – Desktop publishing Year 3 3B: Programming B – Events and actions in programs
Future Links to this Unit	Year 5 1A: Computing systems and networks – Systems and searching Year 5 2A: Creating media - Video production	Year 5 2A: Programming A – Selection in physical computing Year 5 2B: Data and information – Flat-file databases	Year 5 3A: Creating media – Introduction to vector graphics Year 5 3B: Programming B – Selection in quizzes
New Knowledge	<p><u>1A: Computing systems and networks – The Internet</u></p> <p>Pupils know that the internet is a network of networks. Pupils know how information is shared across the internet. Pupils know why a network needs protecting. Pupils know how devices can connect to create a network. Pupils know how to access websites on the World Wide Web (WWW). Pupils know where websites are stored on the WWW. Pupils know that different media can be shared on the WWW, and these are created by people. Pupils know that there are rules to protect content on the WWW. Pupils know that not everything on the WWW is true, and why it may not be honest, accurate or legal.</p> <p><u>1B: Creating media – Audio production</u></p> <p>Pupils know that input and output devices are used to record and play sound. Pupils know how to use a computer to record audio. Pupils can add sounds to a podcast. Pupils know how to trim a sound recording and save an editable document. Pupils know how to open files and export audio files.</p>	<p><u>2A: Programming A – Repetition in shapes</u></p> <p>Pupils know how to write code, changing the value of a command. Pupils know how to program a computer by typing commands. Pupils know how to write an algorithm to achieve an outcome. Pupils know how to use a count controlled loop, knowing which values to change. Pupils know how to use a procedure in a program, and debug.</p> <p><u>2B: Data and information – Data logging</u></p> <p>Pupils know how to collect and record data using sensors, identifying the intervals. Pupils know that data loggers collect data at given points. Pupils know how to view and sort data.</p>	<p><u>3A: Creating media – Photo editing</u></p> <p>Pupils know how to use software to crop and rotate an image. Pupils know how to use cloning and colour effects to edit an image. Pupils know how to combine text and an image.</p> <p><u>3B: Programming B – Repetition in games</u></p> <p>Pupils know how to use count controlled and infinite loops, modifying them to create a given outcome. Pupils know that more than one process can run at once. Pupils know how to use existing code on new sprites.</p>
Year 5			
Unit Title/Enquiry	1A: Computing systems and networks - Systems and searching - Copyright and ownership	2A: Programming A – Selection in physical computing 2B: Data and information – Flat-file databases	3A: Creating media – Introduction to vector graphics - Copyright and ownership

	<p>2A: Creating media - Video production</p> <ul style="list-style-type: none"> - Managing online information - Online relationships - Online reputation - Self-image and identity 		<p>3B: Programming B – Selection in quizzes</p>
National Curriculum Link	<p><u>1A: Computing systems and networks - Systems and searching</u></p> <p>2.4 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</p> <p>2.6 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</p> <p><u>2A: Creating media - Video production</u></p> <p>2.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p> <p>2.6 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</p> <p>2.7 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>	<p><u>2A: Programming A – Selection in physical computing</u></p> <p>2.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p> <p>2.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output</p> <p>2.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p> <p>2.6 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</p> <p><u>2B: Data and information – Flat-file databases</u></p> <p>2.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p> <p>2.6 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</p>	<p><u>3A: Creating media – Introduction to vector graphics</u></p> <p>2.6 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</p> <p><u>3B: Programming B – Selection in quizzes</u></p> <p>2.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p> <p>2.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output</p> <p>2.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p> <p>2.6 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</p>
Prior Knowledge	<p>Year 4 1A: Computing systems and networks – The Internet</p> <p>Year 4 1B: Creating media - Audio production</p>	<p>Year 4 2A: Programming A – Repetition in shapes</p> <p>Year 4 2B: Data and information – Data logging</p>	<p>Year 4 3A: Creating media – Photo editing</p> <p>Year 4 3B: Programming B – Repetition in games</p>
Future Links to this Unit	<p>Year 6 1A: Computing systems and networks - Communication and collaboration</p> <p>Year 6 1B: Creating media – Web page creation</p>	<p>Year 6 2A: Programming A – Variables in games</p> <p>Year 6 2B: Data and information – Spreadsheets</p>	<p>Year 6 3A: Creating media – 3D Modelling</p> <p>Year 6 3B: Programming B - Sensing movement</p>
New Knowledge	<p><u>1A: Computing systems and networks - Systems and searching</u></p>	<p><u>2A: Programming A – Selection in physical computing</u></p>	<p><u>3A: Creating media – Introduction to vector graphics</u></p>

	<p>Pupils know that computers can be connected together to form systems, and that these feature inputs, outputs and processes.</p> <p>Pupils know that computer systems communicate with other devices.</p> <p>Pupils know that systems are built using a number of parts.</p> <p>Pupils know how to use a search engine to find specific information, refining their results.</p> <p>Pupils know how to compare results from different search engines.</p> <p>Pupils know that web crawlers create indexes.</p> <p>Pupils know that search engines follow rules to rank results, knowing how they can be influenced.</p> <p>Pupils know how search engines make money, knowing their limitations.</p> <p style="text-align: center;">2A: Creating media - Video production</p> <p>Pupils know the features on a digital video recording device, including a microphone.</p> <p>Pupils know how to save, retrieve and export video content.</p> <p>Pupils know the tools used to edit their video.</p>	<p>Pupils know how to create a simple circuit and connect it to a microcontroller, controlling an LED.</p> <p>Pupils know what an infinite loop does.</p> <p>Pupils know how to connect more than 1 output device to a microcontroller.</p> <p>Pupils know that count controlled loops can control outputs.</p> <p>Pupils know how to create a conditional loop, that is either true or false.</p> <p>Pupils know that a condition being met can start an action.</p> <p>Pupils know that a condition (if, then) can control a program.</p> <p>Pupils know how to debug their program.</p> <p style="text-align: center;">2B: Data and information – Flat-file databases</p> <p>Pupils know how to navigate a flat file database to compare information.</p> <p>Pupils know how 'and and or' can be used to refine data.</p> <p>Pupils know how filters can refine data and charts.</p>	<p>Pupils know that vector graphics are made using shapes, or objects.</p> <p>Pupils know how to move, rotate, resize and duplicate objects, using the shape and line tools.</p> <p>Pupils know that alignment grids and resize handles are used to improve consistency.</p> <p>Pupils know how to use the zoom tool and can reorder layers, grouping and ungrouping objects.</p> <p style="text-align: center;">3B: Programming B – Selection in quizzes</p> <p>Pupils know, and can modify, conditions in a program, knowing how they are used in selection.</p> <p>Pupils know the outcomes in an 'if...then...else' statement, including within infinite loops.</p> <p>Pupils know that a program can branch based on a condition.</p> <p>Pupils know how to share their program with others.</p>
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Year 6

<p>Unit Title/Enquiry</p>	<p>1A: Computing systems and networks - Communication and collaboration - Managing online information - Online reputation</p> <p>1B: Creating media – Web page creation - Copyright and ownership - Online relationships</p>	<p>2A: Programming A – Variables in games</p> <p>2B: Data and information – Spreadsheets</p>	<p>3A: Creating media – 3D Modelling - Privacy and security</p> <p>3B: Programming B - Sensing movement</p>
<p>National Curriculum Link</p>	<p>1A: Computing systems and networks - Communication and collaboration</p> <p>2.4 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</p> <p>2.6 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,</p>	<p>2A: Programming A – Variables in games</p> <p>2.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p> <p>2.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output</p> <p>2.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p> <p>2.6 select, use and combine a variety of software (including internet services) on a range of digital devices to design and</p>	<p>3A: Creating media – 3D Modelling</p> <p>2.6 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</p> <p>2.7 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p> <p>3B: Programming B - Sensing movement</p>

	<p>including collecting, analysing, evaluating and presenting data and information 2.7 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</p> <p><u>1B: Creating media – Web page creation</u></p> <p>2.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 2.6 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 2.7 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>	<p>create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</p> <p><u>2B: Data and information – Spreadsheets</u></p> <p>2.6 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</p>	<p>2.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts 2.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output 2.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs 2.6 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</p>
Prior Knowledge	<p>Year 5 1A: Computing systems and networks - Systems and searching Year 5 2A: Creating media - Video production</p>	<p>Year 5 2A: Programming A – Selection in physical computing Year 5 2B: Data and information – Flat-file databases</p>	<p>Year 5 3A: Creating media – Introduction to vector graphics Year 5 3B: Programming B – Selection in quizzes</p>
New Knowledge	<p><u>1A: Computing systems and networks - Communication and collaboration</u></p> <p>Pupils know how computers use addresses to access websites, and that devices also have addresses. Pupils know how data packets transfer information over the internet. Pupils know that the internet allows media to be shared. Pupils know how to access shared files, stored online. Pupils know how to send information over the internet in different ways. Pupils know how to collaborate online, and that this can be done publically or privately. Pupils know how to compare ways of communicating on the internet, deciding when to share information as they understand it may not be private.</p> <p><u>1B: Creating media – Web page creation</u></p>	<p><u>2A: Programming A – Variables in games</u></p> <p>Pupils know that variables can hold numbers or letters, knowing that they have names and values. Pupils know that program variables can hold the place of a single variable. Pupils know that events in a program can set variables. Pupils know how to create algorithms for a program, and test code.</p> <p><u>2B: Data and information – Spreadsheets</u></p> <p>Pupils know how to enter data in to a spreadsheet and construct formulas to answer questions. Pupils know that cells can be formatted and duplicated. Pupils know the inputs and outputs in a spreadsheet. Pupils know that data can be calculated using different operations. Pupils know how to produce a chart to show answers to questions.</p>	<p><u>3A: Creating media – 3D Modelling</u></p> <p>Pupils know how to add, move, lift/lower, resize, recolour, duplicate, group, rotate and view 3D objects.</p> <p><u>3B: Programming B - Sensing movement</u></p> <p>Pupils know that emulators can be used to test programs and transferred to controllable devices. Pupils know that if, then and else statements can be used to control the flow of a program, knowing the importance of the order of these. Pupils know that operands (<=>) can be used in if, then statements. Pupils know that conditions can be used to change variables. Pupils know how to find and fix bugs in their programs.</p>

Pupils know the different types of **media** used on websites.

Pupils know that **websites** are written in **HTML**.

Pupils know the common features of a web page.

Pupils know the term **fair use**, and can find **copyright free images**.

Pupils know how to add content to a webpage and preview it.

Pupils know what a **navigation path** is, and can link webpages using **hyperlinks**.