Whole School Computing Curriculum Map

Year Group		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Unit of Work	Computer Skills	Online Safety	Word Processing Skills	Programming Toys	Scratch Jr Programming	Using and Applying
	Key Vocabulary (Tier 2/Tier 3)	Paint, colour, brush, tools, settings, undo, redo, text, image, size, poster, launch, application, software, window, minimise, restore, size, move, screen, close, click, drag, log on, log off, keyboards, keys, mouse, click, button, double click, drag, present	Filter, Google, search engine, image, keyboard, email, internet, subject, address, communicate, sender, safe, secure, safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, question, share, stranger, danger	Paint, colour, brush, tools, settings, undo, redo, text, image, size, poster, launch, application, software, window, minimise, restore, size, move, screen, close, click, drag, log on, log off, keyboards, keys, mouse, click, button, double click, drag, present	Algorithm, instruction, order, debug, program, turn left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink	Algorithm, instruction, order, debug, program, turn left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink, loop	Revision of all previously taught key vocabulary from Y1 units of work
	Prior Knowledge	In EYFS, pupils will demonstrate the following outcomes (Understanding the World) which are prerequisite skills for Computing within the National Curriculum: ➢ To know how to operate simple equipment ➢ To show an interest in technological toys with knobs and pulleys, or real objects ➢ To show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images ➢ To know that information can be retrieved from computers ➢ To complete a simple program on a computer ➢ To interact with age-appropriate computer software ➢ To recognise that a range of technology is used in places such as homes and schools ➢ To select and use technology for particular purposes					
	Sticky Knowledge	Use applications and devices in order to communicate ideas, work, messages and demonstrate control Save, retrieve and organise work	Identify what things count as personal information Identify what is appropriate and inappropriate	Add text strings, text boxes and show and hide objects and images, manipulating features	Give commands one at a time to control direction and movement, including straight, forwards, backwards, turn	Give commands one at a time to control direction and movement, including straight, forwards, backwards, turn (prior)	Revision of prior knowledge and sticky knowledge from Y1 units of work

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Year 1			behaviour on the internet Demonstrate how to safely open and close applications and log on and off from websites Seek help from an adult when they see something that is unexpected or worrying Use safe search filters	Use various tools, such as brushes, pens, eraser, stamps and shapes, and set the size, colour and shape Use applications and devices in order to communicate ideas, work, messages and demonstrate control (prior) Save, retrieve and organise work (prior)	Give a set of instructions to follow and predict what will happen Improve/change their sequence of commands by debugging	Control the nature of events: repeat, loops, single events and add and delete features Give a set of instructions to follow and predict what will happen (prior)	
	Specific skills to be taught/applied (taken from subject skills progression map) (Skills from previous units of work/year groups will also be revisited over the course of the year)	I can use software under supervision to create, store and edit digital content using appropriate file and folder names I understand that people interact with computers I can share my use of technology in school I know common uses of information technology outside school	I can obtain content from the world wide web using a web browser I understand the importance of communicating safely and respectfully online and the need for keeping personal information private I know what to do when concerned about content or being contacted	I can recognise that digital content can be represented in many forms I can begin to distinguish between some of these forms and can explain the different ways that they communicate information I can organise, store, edit and manipulate data in different digital formats	I know that users can develop their own programs I can demonstrate this by creating simple programs I can execute, check and change programs I understand that programs execute by following precise instructions	I can begin to understand what an algorithm is I can begin to write a simple set of instructions for a purpose using symbols I understand that computers have no intelligence and can do nothing unless a program is used I recognise that all software used on	Revision of all specific skills taught during previous units of work in Y1

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		I can talk about my work and make changes to improve it			I can begin to understand what an algorithm is I can begin to write a simple set of instructions for a purpose using symbols	digital devices is programmed	
Year 1	**Learning Sequence**	1. To know how to use a computer mouse 2. To know how to switch on and shut down a computer 3. To know how to launch an application and manipulate windows 4. To know how to save a file 5. To know how to drag objects 6. To know how to apply my computer skills	1. To know how to create, name and date my digital creative work 2. To know how to safely search for images online 3. To understand how to communicate safely online 4. To understand what personal information I need to keep safe 5. To know how to use email safely to communicate 6. To apply my online safety knowledge to help others make good choices online	1. To know how to type on a keyboard 2. To know how to type symbols and save files 3. To know how to edit text 4. To know how to use a keyboard 5. To know how to select and format text 6. To know how to format font	1. To know how to create instructions using pictures 2. To understand why it is important to be precise when writing an algorithm 3. To know how to write instructions to program a person like a computer 4. To know how to program a Bee-Bot to move 5. To know how to debug a Bee-Bot 6. To know how to program a sequence to make a Bee-Bot move	1. To know how to describe and use instructions to program a character 2. To know how to program a character to grow and shrink 3. To know how to use instructions to make characters move at different speeds and distance 4. To know how to use a repeat instruction to make a sequence of instructions run more than once 5. To know how to create a program that	1. To know how to demonstrate a range of basic skills to use a computer and its software 2. To know how to type and format text, then save my work 3. To know how to open saved work and edit text 4. To know how to use shapes to create a particular image 5. To know how to use different brush tools to create a particular image 6. To know how to create text and pictures about a shared theme

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Year 1						plays a recorded sound 6. To know how to create a program with a sequence of linked instructions	

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Year Group		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 2	Unit of Work	Online Safety	Using the Internet	Presentation Skills	Preparing for Logo Turtle	Programming Turtle Logo and Scratch	Using and Applying
	Key Vocabulary (Tier 2/Tier 3)	Filter, Google, search engine, image, keyboard, email, internet, subject, address, communicate, sender, safe, secure, safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, question, share, stranger, danger	Filter, Google, search engine, image, keyboard, email, internet, subject, address, communicate, sender, safe, secure	Paint, colour, brush, tools, settings, undo, redo, text, image, size, poster, launch, application, software, window, minimise, restore, size, move, screen, close, click, drag, log on, log off, keyboards, keys, mouse, click, button, double click, drag, present	Algorithm, instruction, order, debug, program, turn left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink, loop	Algorithm, instruction, order, debug, program, turn left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink, loop, command, add sound	Revision of all previously taught key vocabulary from Y1 and Y2 units of work
	Prior Knowledge	Identify what things count as personal information (Y1 Aut 2) Identify what is appropriate and inappropriate behaviour on the internet (Y1 Aut 2) Demonstrate how to safely open and close applications and log on and off from websites (Y1 Aut 2)	Identify what things count as personal information (Y1 Aut 2, Y2 Aut 1) Identify what is appropriate and inappropriate behaviour on the internet (Y1 Aut 2, Y2 Aut 1) Demonstrate how to safely open and close applications and log on and off	Add text strings, text boxes and show and hide objects and images, manipulating features (Y1 Spr 1) Use various tools, such as brushes, pens, eraser, stamps and shapes, and set the size, colour and shape (Y1 Spr 1) Use applications and devices in order to communicate ideas,	Give commands one at a time to control direction and movement, including straight, forwards, backwards, turn (Y1 Spr 2) Give a set of instructions to follow and predict what will happen (Y1 Spr 2) Improve/change their sequence of commands by	Give commands one at a time to control direction and movement, including straight, forwards, backwards, turn (Y1 Sum 1) Control the nature of events: repeat, loops, single events and add and delete features (Y1 Sum 1) Give a set of instructions to follow and predict what	Revision of prior knowledge and sticky knowledge from Y1 and Y2 units of work

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		Seek help from an adult when they see something that is unexpected or worrying (Y1 Aut 2) Use safe search filters (Y1 Aut 2)	from websites (Y1 Aut 2, Y2 Aut 1) Seek help from an adult when they see something that is unexpected or worrying (Y1 Aut 2, Y2 Aut 1) Use safe search filters (Y1 Aut 2, Y2 Aut 1)	work, messages and demonstrate control (Y1 Spr 1) Save, retrieve and organise work (Y1 Spr 1)	debugging (Y1 Spr 2)	will happen (Y1 Sum 1)	
Year 2	**Sticky Knowledge**	Recognise ways that technology is used in the home and community (e.g. taking photos, blogs, shopping) Recognise age-appropriate websites Use safe search filters Identify what is appropriate and inappropriate behaviour on the internet Seek help from an adult when they see something that is	Save, retrieve and organise work Recognise ways that technology is used in the home and community (e.g. taking photos, blogs, shopping) Use links to websites to find information Recognise age-appropriate websites Use safe search filters	Add text strings, text boxes and show and hide objects and images, manipulating the features Use applications and devices in order to communicate ideas, work, messages and demonstrate control Save, retrieve and organise work Demonstrate how to safely open and close applications and log on and log off from websites	Give commands one at a time to control direction and movement, including straight, forwards, backwards, turn Give a set of instructions to follow and predict what will happen Improve/change their sequence of commands by debugging	Use software to record sounds Change sounds recorded Save, retrieve and organise work Give commands one at a time to control direction and movement, including straight, forwards, backwards, turn Give a set of instructions to follow and predict what will happen Control the nature of events: repeat,	Revision of prior knowledge and sticky knowledge from Y1 and Y2 units of work

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		unexpected or worrying				loops, single events and add and delete features	
Year 2	**Specific skills to be taught/applied** (taken from subject skills progression map) (Skills from previous units of work/year groups will also be revisited over the course of the year)	I can navigate the web and can carry out simple web searches to collect digital content I can demonstrate use of computers safely and responsibly, knowing a range of ways to report unacceptable content and contact when online I can share my experiences of technology in school and outside school	I can navigate the web and can carry out simple web searches to collect digital content I can demonstrate use of computers safely and responsibly, knowing a range of ways to report unacceptable content and contact when online	I can use technology with increasing independence to purposefully organise digital content I can show an awareness of the quality of digital content collected I can use software to manipulate and present digital content, data and information I can recognise different types of data I can appreciate that programs can work with different types of data I can talk about my work and make some improvements to solutions based on feedback received	I can recognise that a range of digital devices can be considered a computer I can recognise and use a range of input and output devices I understand how programs specify the function of a general purpose computer I can develop my own programs I can use arithmetic operators and 'what if' statements and loops within programs I can use logical reasoning to predict the behaviour of programs I can detect and correct simple semantic errors	I understand what an algorithm is and can express simple linear algorithms as symbols I understand that computers need precise instructions I can demonstrate care and precision to avoid errors I understand that algorithms ae used on digital devices as programs I can devise simple algorithms using loops and selection I can use logical reasoning to predict outcomes I can detect and correct errors in algorithms	Revision of all specific skills taught during previous units of work in Y2

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Year 2	Learning Sequence	1. To understand that the information I put online leaves a digital footprint 2. To know how to use keywords in an online search to find out about a topic 3. To recognise whether a website is appropriate for children 4. To know how to rate and review informative websites 5. To know how to identify kind and unkind behaviour online 6. To apply my knowledge of safe and sensible online activities to different situations	1. To know how to search the internet using one word 2. To know how to search the internet to find results suitable for children 3. To know how to follow links to another web page safely 4. To know how to create content for an online blog 5. To understand how to use an online blog safely and respectfully 6. To know how to post positive comments and responses on a blog	1. To know how to use a folder 2. To know how to organise ideas for a presentation 3. To know how to create a simple presentation with text 4. To know how to add and format an image 5. To know how to reorder slides and present a presentation 6. To know how to search and print	1. To know how to give and follow an algorithm to turn right or left 2. To know how to give and follow an algorithm to make half and quarter turns 3. To know how to give and follow an algorithm using the commands 'right 90' and 'left 90' 4. To know how to give, follow and complete an algorithm 5. To know how to use recognised language in an algorithm 6. To know how to create, test and debug an algorithm	1. To know how to create an algorithm to move or rotate the turtle 2. To know how to create an algorithm and use the repeat command 3. To know how to create an algorithm and add sound 4. To know how to create an algorithm and use the repeat and say command 5. To know how to create an algorithm and use the green flag to start 6. To know how to create an algorithm and use the commands to change the backdrop and add sprites	1. To know how to use a specific computer skill to reproduce a style of art 2. To know how to use a specific computer skill to create and compare styles of art 3. To know how to create a presentation including text and images 4. To know how to retrieve, edit and organise a presentation 5. To know how to create precise instructions for a character on a particular theme 6. To know how to create code for a pair of characters involving speech and movement

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Year Group		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3	Unit of Work	Online Safety	Word Processing	Internet Research and Communication	Presentation Skills	Programming Turtle Logo and Scratch	Using and Applying
	Key Vocabulary (Tier 2/Tier 3)	Filter, Google, search engine, communicate, sender, safe, secure, internet, world wide web, social media, password, cyberbullying, plagiarism, profile, account, private, public, privacy	Format, image, wrap text, plan, link, image, object, link, hyperlink, minimise, restore, size, move, screen, split, create, organise, file, folder, screenshot, snipping tool, shift, undo, redo, menu, highlight, cursor, toolbar, spellcheck	Internet, world wide web, communicate, message, online, trusted, information, safety, search engine, social media	Format, hyperlink, minimise, restore, organise, screenshot, snipping tool, cursor, toolbar, spellcheck, audio, embed, link, file format, transition, animation, template	Decompose, logical, sequence, flowchart, sprite, block, command, algorithm, answer, errors, program, instructions, variable, debug, rotate	Revision of all previously taught key vocabulary from Y1, Y2 and Y3 units of work
	Prior Knowledge	Recognise ways that technology is used in the home and community (e.g. taking photos, blogs, shopping) (Y2 Aut 1) Recognise age-appropriate websites (Y2 Aut 1) Use safe search filters (Y2 Aut 1) Identify what is appropriate and inappropriate behaviour on the internet (Y2 Aut 1)	Add text strings, text boxes and show and hide objects and images, manipulating features (Y1 Spr 1) Use various tools, such as brushes, pens, eraser, stamps and shapes, and set the size, colour and shape (Y1 Spr 1) Use applications and devices in order to communicate ideas, work, messages and	Save, retrieve and organise work (Y2 Aut 2) Recognise ways that technology is used in the home and community (e.g. taking photos, blogs, shopping) (Y2 Aut 2) Use links to websites to find information (Y2 Aut 2) Recognise age-appropriate websites (Y2 Aut 2)	Add text strings, text boxes and show and hide objects and images, manipulating the features (Y2 Spr 1) Use applications and devices in order to communicate ideas, work, messages and demonstrate control (Y2 Spr 1) Save, retrieve and organise work (Y2 Spr 1, Y3 Aut 2)	Use software to record sounds (Y2 Sum 1) Change sounds recorded (Y2 Sum 1) Save, retrieve and organise work (Y2 Sum 1, Y3 Spr 2) Give commands one at a time to control direction and movement, including straight, forwards, backwards, turn (Y2 Sum 1)	Revision of prior knowledge and sticky knowledge from Y1, Y2 and Y3 units of work

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		Seek help from an adult when they see something that is unexpected or worrying (Y2 Aut 1)	demonstrate control (Y1 Spr 1) Save, retrieve and organise work (Y1 Spr 1)	Use safe search filters (Y2 Aut 2, Y3 Aut 1)	Demonstrate how to safely open and close applications and log on and log off from websites (Y2 Spr 1)	Give a set of instructions to follow and predict what will happen (Y2 Sum 1) Control the nature of events: repeat, loops, single events and add and delete features (Y2 Sum 1)	
Year 3	**Sticky Knowledge**	Explain ways to communicate with others Identify what is appropriate and inappropriate behaviour on the internet, recognising the term cyberbullying Agree and follow sensible online safety rules (e.g. taking pictures, sharing information, storing passwords) Recognise age-appropriate websites and adverts	Create different effects with different technological tools, demonstrating control Use appropriate keyboard commands to amend text on a device Save, retrieve and evaluate work, making amendments	Identify what is appropriate and inappropriate behaviour on the internet, recognising the term cyberbullying Explain ways to communicate with others online Describe the world wide web as the part of the internet that contains websites Use search tools to find and use an appropriate website and content	Create different effects with different technological tools, demonstrating control Use applications and devices in order to communicate ideas, work and messages Insert a picture/text/graph/ Hyperlink from the internet or a personal file	Write a program, putting commands into a sequence to achieve a specific outcome Give a set of instructions to follow and predict what will happen Keep testing a program and recognise when it needs to be debugged Use variables to create an effect (e.g. repetition, if, when, loop)	Revision of prior knowledge and sticky knowledge from Y1, Y2 and Y3 units of work

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Year 3	**Specific skills to be taught/applied** (taken from subject skills progression map) (Skills from previous units of work/year groups will also be revisited over the course of the year)	I can recognise what is acceptable and unacceptable behaviour when using technologies and online services	I can confidently collect, organise and present data and information in digital content I can create digital content to achieve a given goal through combining software, packages and internet services to communicate with a wider audience I can make effective improvements to solutions based on feedback received and can comment on the success of the solution	I understand the difference between the internet and internet services (e.g. world wide web) I can show an awareness of, and can use of internet services I can recognise what is acceptable and unacceptable behaviour when using technologies and online services	I can confidently collect, organise and present data and information in digital content I can create digital content to achieve a given goal through combining software, packages and internet services to communicate with a wider audience I can make effective improvements to solutions based on feedback received and can comment on the success of the solution	I recognise that computers collect data from various input devices I understand the difference between hardware and application software and their roles within a computer system I can design solutions (algorithms) that use repetition and two-way selection I can use diagrams to express solutions I can use logical reasoning to predict outputs, showing some awareness of inputs	Revision of all specific skills taught during previous units of work in Y3
	Learning Sequence	1. To know what cyberbullying is and how to address it 2. To understand how websites use advertisements	1. To know how to use basic computer skills 2. To know how to change the case of text 3. To know how to align text	1. To understand how word order affects search results 2. To understand how searches return results	1. To know how to plan a branching story 2. To know how to create slide templates and organise slides with hyperlinks	1. To know how to create and debug an algorithm using the move, rotate and repeat commands 2. To know how to create and	1. To know how to use and combine appropriate software to design, create and present an electronic presentation

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Year 3		to promote products 3. To know how to create strong passwords and understand privacy settings 4. To know how to safely send and receive emails 5. To know different ways children can communicate online 6. To use and apply my knowledge about online safety	4. To know how to use bullet points and numbering 5. To know how to use the <ctrl> key 6. To know how to insert and format text boxes	3. To know how to save and share webpages 4. To understand the ways, and investigate how, we communicate online 5. To know how to stay safe when communicating online 6. To understand why I need to be responsible online	3. To know how to add theme, transitions and animation to a presentation 4. To know how to use action settings 5. To know how to insert audio and video 6. To know how to evaluate slide layout and make improvements	debug algorithms using 'pen-up' and 'pen-down' 3. To know how to create and debug algorithms that draw regular polygons 4. To know how to create and debug algorithms that draw shapes 5. To know how to create and debug algorithms that draw regular polygons 6. To know how to create and debug algorithms to draw patterns	*To be completed as a project over the course of the half term*

Whole School Computing Curriculum Map

Year Group		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 4	Unit of Work	Online Safety	Word Processing	Programming Turtle Logo	Animation	Scratch: Questions and Quizzes	Using and Applying
	Key Vocabulary (Tier 2/Tier 3)	Filter, Google, search engine, communicate, sender, safe, secure, internet, world wide web, social media, password, cyberbullying, plagiarism, profile, account, private, public	Format, image, wrap text, plan, link, image, object, link, hyperlink, minimise, restore, size, move, screen, split, create, organise, file, folder, screenshot, snipping tool, shift, undo, redo, menu, highlight, cursor, toolbar, spellcheck	Decompose, logical, sequence, flowchart, sprite, block, command, algorithm, answer, errors, program, instructions, variable, debug, arc	Decompose, logical, sequence, flowchart, sprite, block, command, algorithm, answer, errors, program, instructions, variable, debug, stop-motion	Decompose, logical, sequence, flowchart, sprite, block, command, algorithm, answer, errors, program, instructions, variable, debug, sequence, selection	Revision of all previously taught key vocabulary from Y1, Y2, Y3 and Y4 units of work
	Prior Knowledge	Explain ways to communicate with others (Y3 Aut 1) Identify what is appropriate and inappropriate behaviour on the internet, recognising the term cyberbullying (Y3 Aut 1) Agree and follow sensible online safety rules (e.g. taking pictures, sharing information, storing	Create different effects with different technological tools, demonstrating control (Y3 Aut 2) Use appropriate keyboard commands to amend text on a device (Y3 Aut 2) Save, retrieve and evaluate work, making amendments (Y3 Aut 2)	Write a program, putting commands into a sequence to achieve a specific outcome (Y3 Sum 1) Give a set of instructions to follow and predict what will happen (Y3 Sum 1) Keep testing a program and recognise when it needs to be debugged (Y3 Sum 1)	Write a program, putting commands into a sequence to achieve a specific outcome (Y3 Sum 1, Y4 Spr 1) Give a set of instructions to follow and predict what will happen (Y3 Sum 1, Y4 Spr 1) Keep testing a program and recognise when it needs to be debugged (Y3 Sum 1, Y4 Spr 1)	Write a program, putting commands into a sequence to achieve a specific outcome (Y3 Sum 1, Y4 Spr 1, Y4 Spr 2) Give a set of instructions to follow and predict what will happen (Y3 Sum 1, Y4 Spr 1, Y4 Spr 2) Keep testing a program and recognise when it needs to be debugged (Y3 Sum	Revision of prior knowledge and sticky knowledge from Y1, Y2, Y3 and Y4 units of work

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		passwords) (Y1 Aut 1) Recognise age-appropriate websites and adverts (Y3 Aut 1)			Use variables to create an effect (e.g. repetition, if, when, loop) (Y3 Sum 1, Y4 Spr 1)	1, Y4 Spr 1. Y4 Spr 2)	
Year 4	**Sticky Knowledge**	Recognise that the world wide web is the part of the internet that contains websites Use search tools to find and use an appropriate website and content Use strategies to improve results when searching online	Use applications and devices in order to communicate ideas, work and messages Insert a picture/text/graph/ Hyperlink from the internet or a personal file	Use variables to create an effect (e.g. repetition, if, when, loop) Write a program, putting commands into a sequence to achieve a specific outcome Keep testing a program and recognise when it needs to be debugged	Use software to record, create and edit sounds and capture still images Use software to capture video for a purpose Crop and arrange clips to create a short film Plan an animation and move items within each animation for playback	To break open-ended problems into smaller parts by applying logical thinking Use variables to create an effect (e.g. repetition, if, when, loop)	Revision of prior knowledge and sticky knowledge from Y1, Y2, Y3 and Y4 units of work
	Specific skills to be taught/applied (taken from subject skills progression map) (Skills from previous units of work/year groups will also be	I understand how to effectively use search engines and know how search results are selected, including that search engines are 'web crawler programs'	I can make judgements about digital content when evaluating and assigning it for a given audience I can recognise the audience when designing and	I can describe which tasks are best completed by humans or computers I can design solutions by decomposing a problem an creating a sub-solution for	I understand why and when computers are used I understand the main functions of the operating systems	I understand differences between and appropriate uses of 'if' and 'if, then' and 'else' statements I can use variable and relational operators within a loop to control	Revision of all specific skills taught during previous units of work in Y4

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Year 4	revisited over the course of the year)	I can select, combine and use internet services I can demonstrate responsible use of technologies and online services and know a range of ways to report concerns I know the difference between physical, wireless and mobile networks	creating digital content I understand the potential of information technology for collaboration when computers are networked I can use criteria to evaluate the quality of solutions I can identify improvements, making some refinements to the solution and future solutions	each part of the problem (decomposition) I can recognise that there is more than one solution to a problem		'endings' in programs I can design, write and debug (modular) programs using procedures (algorithms0 I know that a procedure can be used to hide details in programs	
	Learning Sequence	1. To understand how I should respond to a hurtful message online 2. To know how to use a search engine accurately 3. To understand the term 'plagiarism' and how to avoid it	1. To know how to format images for a purpose 2. To know how to use formatting tools to create an effective layout 3. To know how to use the spellcheck tool 4. To know how to insert and format a table in a word	1. To know how to create a debug an algorithm to create a procedure 2. To know how to create and debug an algorithm that uses setpos to draw shapes 3. To know how to create and debug an	1. To understand early forms of animation before computers and how computers have made a difference 2. To know how to create a short computer animation using one or more stick figures	1. To understand how to decompose a problem into smaller parts 2. To know how to use sequence and selection 3. To know how to write and debug a program which uses sequence and repetition	1. To know how to use appropriate software to design, create and present details of a new cartoon character *To be completed as a project over the course of the half term*

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Year 4		4. To know how to create a safe online profile 5. To understand how to be a responsible digital citizen 6. To know how to create an online safety ambassador	processing document 5. To know how to change a page layout for a purpose 6. To know how to create hyperlinks within a word document	algorithm with different colours 4. To know how to create and debug an algorithm to fill areas with colour 5. To know how to create and debug an algorithm to produce text 6. To know how to create and debug an algorithm to draw arcs	3. To know how to create a recorded animation involving a number of moving characters on a background 4. To know how to structure specific timing of animations using a time slider 5. To know how to use a camera to create a short stop-motion animation clip 6. To know how to analyse and evaluate software	4. To know how to work with variables 5. To know how to write a program 6. To know how to write, design and debug my own program by selecting appropriate visual block commands to create a sequence	

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Year Group		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 5	Unit of Work	Online Safety	Internet Research and Webpage Design	Scratch: Developing Games	Controlling Devices: Flowol	3D Modelling: SketchUp	Using and Applying
	Key Vocabulary (Tier 2/Tier 3)	World wide web, search, search engine, advanced search, results, Google, browser, terms of use, bias, authority, citation, plagiarism, source, website, https, domain, browser, address bar, scenario	Window, layout, text, font, heading, hyperlink, publish, orbit, pan, zoom, eraser, dimension, measurement, guide	Flowchart, algorithm, control, output, symbol, start, stop, delay, process, decision, loop, backdrop, script, block, repeat, commentary, sequence, consequence, debug, program, tool palette, program environment, sprite	Subroutine, control, input, output, symbol, flowchart, simulated device, flowchart, algorithm, control, output, symbol, start, stop, delay, process, decision, loop, backdrop, script, block, repeat, commentary, sequence, consequence, debug, program, tool palette, program environment	Window, layout, text, font, heading, hyperlink, orbit, pan, zoom, eraser, dimension, measurement, guide, manipulate	Revision of all previously taught key vocabulary from Y1, Y2, Y3, Y4 and Y5 units of work
	Prior Knowledge	Recognise that the world wide web is the part of the internet that contains websites (Y4 Aut 1) Use search tools to find and use an appropriate website and content (Y4 Aut 1)	Identify what is appropriate and inappropriate behaviour on the internet, recognising the term cyberbullying (Y3 Spr 1) Explain ways to communicate with others online (Y3 Spr 1)	To break open-ended problems into smaller parts by applying logical thinking (Y4 Sum 1) Use variables to create an effect (e.g. repetition, if, when, loop) (Y4 Sum 1)	Use variables to create an effect (e.g. repetition, if, when, loop) (Y4 Spr 1) Write a program, putting commands into a sequence to achieve a specific outcome (Y4 Spr 1) Keep testing a program and recognise when it	Use variables to create an effect (e.g. repetition, if, when, loop) (Y4 Spr 1, Y5 Spr 2) Write a program, putting commands into a sequence to achieve a specific outcome (Y4 Spr 1, Y5 Spr 2)	Revision of prior knowledge and sticky knowledge from Y1, Y2, Y3, Y4 and Y5 units of work

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		Use strategies to improve results when searching online (Y4 Aut 1)	Describe the world wide web as the part of the internet that contains websites (Y3 Spr 1) Use search tools to find and use an appropriate website and content (Y3 Spr 1)		needs to be debugged (Y4 Spr 1)	Keep testing a program and recognise when it needs to be debugged (Y4 Spr 1, Y5 Spr 2)	
Year 5	**Sticky Knowledge**	Know how to check the reliability of a website, including the photos on the website Explain copyright Acknowledge the sources of information	Talk about the way search results are selected and ranked Select, use and combine the appropriate technology tools to create effect Review and improve their own work and support others to improve their work Insert a picture/text/ graph//hyperlink from the internet or personal file	Use external triggers and infinite loops to demonstrate control Use conditional sequences and edit variables Decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program Keep testing a program and recognise when it needs to be debugged	Use external triggers and infinite loops to demonstrate control Follow a sequence of instructions (e.g. in a flowchart and modify a flowchart using symbols) Use conditional sequences and edit variables Decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program	Select, use and combine the appropriate technology tools to create effect Review and improve their own work and support others to improve their work Save, retrieve and evaluate their work, making amendments Insert a picture/text/ graph//hyperlink from the internet or personal file	Revision of prior knowledge and sticky knowledge from Y1, Y2, Y3, Y4 and Y5 units of work
	Specific skills to be taught/applied	I understand how search engines rank search results and	I understand how to construct static web pages	I can design solutions by decomposing the problem and create	I can design solutions by decomposing the problem and create	I understand that programming bridges the gap between algorithmic	Revision of all specific skills taught during previous units of work in Y5

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Year 5	**(taken from subject skills progression map)** **(Skills from previous units of work/year groups will also be revisited over the course of the year)**	test some of these systems I can evaluate the appropriateness of digital services, internet services and application software to achieve given goals I can recognise ethical issues surrounding the application of information technology beyond school	I understand data transmission between digital computers over networks including the internet I can evaluate the appropriateness of digital services, internet services and application software to achieve given goals I can recognise ethical issues surrounding the application of information technology beyond school I can design criteria to critically evaluate the quality of solutions I can use the criteria to identify improvements and make some appropriate refinements to the solution	a sub-solution for each part of the problem (decomposition) I can recognise that there are several solutions to the same problem I understand that various algorithms exist for different functions I can begin to identify patterns in algorithms that help to solve specific problems	a sub-solution for each part of the problem (decomposition) I can recognise that there are several solutions to the same problem I understand that various algorithms exist for different functions I can begin to identify patterns in algorithms that help to solve specific problems	solutions and computers I can demonstrate practical experience of high level textual languages I can use some operators and expressions I can start to apply these in the context of program control (e.g. input/process/ output)	

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Year 5	Learning Sequence	1. To know how to identify spam email and what to do with them 2. To know how to write citations for the websites I use for research 3. To know how to create a strong password 4. To recognise when, why and how photographs we see online may have been edited 5. To know how to apply online safety rules to real life scenarios 6. To know how to apply online safety rules to real life scenarios	1. To know how to evaluate webpages 2. To know how to create a webpage layout 3. To know how to add text to a webpage 4. To know how to add images to a webpage 5. To know how to add hyperlinks into a webpage 6. To know how to publish and share my webpage	1. To know how to design and program a character game 2. To know how to design an original character or backdrop for a game 3. To know how to add features or effects to enhance a game 4. To know how to create an original animated game with a specific goal 5. To know how to program costume changes for a sprite 6. To know how to add point-scoring and levels to a game code	1. To know how to draw and interpret a flowchart with the correct symbols 2. To know how to create and edit a flowchart to control a simulated device 3. To know how to control multiple outputs at the same time 4. To know how to use a decision symbol based on the status of an output 5. To know how to create a flowchart program containing a subroutine 6. To know how to design, write and debug my own flowchart program for a given task	1. To know how to draw 3D shapes 2. To know how to add detail to 3D drawings 3. To know how to add detail to 3D drawings 4. To know how to add and manipulate 3D models 5. To know how to create a complex 3D model 6. To know how to create a 3D model of my own design	1. To know how to research and design a new project using appropriate software to create and present the plans *To be completed as a project over the course of the half term*

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Year Group		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 6	Unit of Work	Online Safety	Spreadsheets	Film Making	Scratch: Animated Stories	Kodu Programming	Using and Applying
	Key Vocabulary (Tier 2/Tier 3)	World wide web, search, search engine, advanced search, results, Google, browser, terms of use, bias, authority, citation, plagiarism, source, website, https, domain, browser, address bar, scenario	Google Docs, insert, table, spreadsheet, cell, row, column formula, formulae, calculate, format, edit, ascending, descending	Audio, record, edit, play, stop ,skip, waveform, input, output, podcast, digital content, downloadable, backing track, voiceover, mute, gain, production, post-production, documentary, project, evaluation, screening, upload	Flowchart, algorithm, control, output, symbol, start, stop, delay, process, decision, loop, backdrop, script, block, repeat, commentary, sequence, consequence, debug, program, tool palette, program environment, sprite	Flowchart, algorithm, control, output, symbol, start, stop, delay, process, decision, loop, backdrop, script, block, repeat, commentary, sequence, consequence, debug, program, tool palette, program environment, sprite	Revision of all previously taught key vocabulary from Y1, Y2, Y3, Y4, Y5 and Y6 units of work
	Prior Knowledge	Know how to check the reliability of a website, including the photos on the website (Y5 Aut 1) Explain copyright (Y5 Aut 1) Acknowledge the sources of information (Y5 Aut 1)	Use applications and devices in order to communicate ideas, work and messages (Y4 Aut 2) Insert a picture/text/graph/ Hyperlink from the internet or a personal file (Y4 Aut 2)	Use software to record, create and edit sounds and capture still images (Y4 Spr 2) Use software to capture video for a purpose (Y4 Spr 2) Crop and arrange clips to create a short film (Y4 Spr 2) Plan an animation and move items within each animation for playback (Y4 Spr 2)	Use external triggers and infinite loops to demonstrate control (Y5 Spr 1) Use conditional sequences and edit variables (Y5 Spr 1) Decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program (Y5 Spr 1) Keep testing a program and	Use external triggers and infinite loops to demonstrate control (Y5 Spr 1, Y6 Spr 2) Use conditional sequences and edit variables (Y5 Spr 1, Y6 Spr 2) Decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program (Y5 Spr 1, Y6 Spr 2)	Revision of prior knowledge and sticky knowledge from Y1, Y2, Y3, Y4, Y5 and Y6 units of work

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					recognise when it needs to be debugged (Y5 Spr 1)		
Year 6	**Sticky Knowledge**	Search for information using appropriate websites and advanced search functions within Google Use strategies to check the reliability of information (cross-check with another source, such as books) Explain how search results are selected and ranked	Construct data on the most appropriate application Know how to interpret data, including spotting inaccurate data and comparing data Use keyboard shortcuts and functions to input data on spreadsheets and create formulas for spreadsheets Add data to an existing database	Create content using unfamiliar technology Collect audio from a variety of resources including own recordings and internet clips Use a digital device to record sounds and present audio Trim, arrange and edit audio levels to improve quality Publish their animation and use a movie editing package to edit/refine and add titles	Collect audio from a variety of resources including own recordings and internet clips Use a digital device to record sounds and present audio Publish their animation and use a movie editing package to edit/refine and add titles	Follow a sequence of instructions Keep testing a program and recognise when it needs to be debugged	Revision of prior knowledge and sticky knowledge from Y1, Y2, Y3, Y4, Y5 and Y6 units of work
	Specific skills to be taught/applied (taken from subject skills progression map) (Skills from previous units of work/year	I understand how search engines rank search results I can clearly evaluate these systems	I know that digital computers use binary to represent all data I understand how bit patterns represent numbers and images	I can justify the choice and uses of digital devices, internet services and application software to achieve given goals	I can recognise that different algorithms exist for the same problem I can detect errors in algorithms	I can recognise that different algorithms exist for the same problem I can detect errors in algorithms	Revision of all specific skills taught during previous units of work in Y6

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	groups will also be revisited over the course of the year)	I understand data transmission between digital computers over networks including the internet I can evaluate the trustworthiness of digital content	I can query data on one table using typical query language	I can evaluate the trustworthiness of digital content I know how the use of technology can impact on society I can begin to design criteria for users to evaluate the quality of solutions and use the feedback to identify some improvements	I can rewrite and test my own tests and sequences I can identify similarities and differences in situations and can use these to solve problems	I can rewrite and test my own tests and sequences I can identify similarities and differences in situations and can use these to solve problems	
Year 6	**Learning Sequence**	1. To identify similarities and differences between in-person and cyberbullying 2. To know how to identify secure websites by identifying privacy seals of approval 3. To identify information that I should never share 4. To know how the media plays a powerful role in shaping ideas	1. To know how to enter data and formulae into a spreadsheet 2. To know how to order and present data based on calculations 3. To know how to add, edit and calculate data 4. To know how to use a spreadsheet to solve problems 5. To know how to plan and calculate a spending budget	1. To know how to use appropriate software and other tools effectively to write a film script 2. To know how to locate and check appropriate digital content, and provide accurate crediting of sources 3. To know how to use digital recording devices to film and import into	1. To know how to create appropriate animations for a story scene 2. To know how to structure and control the timing of events 3. To know how to control when objects need to be visible 4. To know how to sequence events to create a story narrative 5. To know how to add voice sounds to	1. To know how to investigate and evaluate the features of programming software 2. To know how to program Kodu using 'When' and 'Do' instructions 3. To know how to use tools and add features to create an original landscape in Kodu 4. To know how to analyse and deconstruct	1. To know how to design a new game, using appropriate software to present information and advertise a product launch *To be completed as a project over the course of the half term*

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Year 6		about boys and girls 5. To apply my online safety knowledge to my online activities 6. To apply my knowledge of online safety	6. To know how to design a spreadsheet for a specific purpose	video editing software 4. To know how to plan, conduct and import video content as part of a short film 5. To know how to use video editing software to create a short film 6. To know how to use video editing software to turn a film project into a finished movie and present it	enhance an animated story 6. To know how to add interactive user features to a scene or story	code to work out its purpose 5. To know how to program a character to be controlled to reach a goal 6. To know how to program a character to follow an automatic path	