Reception	Autumn Term	Spring Term	Summer Term
Foundation Stage Computing Toolkit 2021	What is a Computer? - Explore technology. - Use different digital devices. - Recognise that you can access content on a digital device. - Use a mouse, touchscreen or appropriate access device to target and select options on screen. - Recognise a selection of digital devices. - Recognise the basic parts of a computer, e.g. mouse, screen, keyboard. - Select a digital device to fulfil a specific task, e.g. to take a photo.	We Control Technology - Explore technology. - Use different digital devices. - Repeat an action with technology to trigger a specific outcome. - Recognise the success or failure of an action. - Follow simple instructions to control a digital device. - Recognise that we control computers.	Tinkering with Bee-Bots or other programmable devices - Explore technology. - Repeat an action with technology to trigger a specific outcome. - Recognise the success or failure of an action. - Follow simple instructions to control a digital device. - Recognise that we control computers. - Input a short sequence of instructions to control a device.
Preparation for Year 1	 Using the IWB Using a keyboard to type CVC words Role play calculators/ tills/keyboards/laptops/iPads Introduce basic apps and paint programs Listening Centre - Use of CD player and other audio players 	 Use of draw and paints apps and LCD tablets for drawing Use of cameras and camera function on ipads Introduce a wider variety of apps to support phonics/Maths learning Control remote control vehicles/toys Use of torches 	 Use of Beebots Use of talking tins/Voice recording equipment Read e-books Introduce a wider variety of apps to support the 7 areas of learning in EYFS Use of QR codes for uploading work Use of a thermometer
Apps	Draw Math 4-5 Abc lite Busy Things WR 1 minute Maths Toca town Tocoloco	Busy Things Toca Boca Hairy letters Hairy phonics Top Marks CBeebies Storytime Draw and Tell HD	Bee-bot Chatterpix kids Puppet pals Superhero comic book maker Toca store Toca Tea Party Awesome Xylophone
Digital Literacy			

Year 1	Autum	n Term	Spring	g Term	Summe	er Term
Term	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Unit	Technology around us.	Digital Painting	Moving a robot	Grouping data	Digital writing	Programming animations
Computing Strand	CS AL	ET CM	AL PG	DI AL	ET CM	PG DD
Knowledge	To identify technology To identify a computer	To describe what different freehand tools do	To explain what a given command will do	To label objects To identify that objects can be counted	To use a computer to write	To choose a command for a given purpose
	and its main parts To use a mouse in different ways	To use the shape tool and the line tools To make careful choices	To act out a given word To combine forwards and backwards commands to	To describe objects in different ways	To add and remove text on a computer To identify that the look of	To show that a series of commands can be joined together
	To use a keyboard to type on a computer	when painting a digital picture	make a sequence To combine four direction	To count objects with the same properties	text can be changed on a computer	To identify the effect of changing a value
	To use the keyboard to edit text	To explain why I chose the tools I used	commands to make sequences	To compare groups of objects	To make careful choices when changing text	To explain that each sprite has its own instructions
	To create rules for using technology responsibly	To use a computer on my own to paint a picture	To plan a simple program To find more than one	To answer questions about groups of objects	To explain why I used the tools that I chose	To design the parts of a project
		To compare painting a picture on a computer and on paper	solution to a problem		To compare typing on a computer to writing on paper	To use my algorithm to create a program
National Curriculum Strand	Use technology purposefully to create, organise, store, manipulate and retrieve digital content Recognise common uses of information technology beyond school	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	Use technology purposefully to create, organise, store, manipulate and retrieve digital content Use technology safely and respectfully, keeping personal information	Use technology purposefully to create, organise, store, manipulate and retrieve digital content Use technology safely and respectfully, keeping personal information	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support		Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs	private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs

	when they have concerns about content or contact on the internet or other online technologies.	Recognise common uses of information technology beyond school			Use technology purposefully to create, organise, store, manipulate and retrieve digital content
Digital Literacy	✓		\checkmark	\checkmark	

Year 2	Autumn Term		Spring	g Term	Summe	er Term
Term	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 4
Unit	Information technology around us	Digital Photography	Robot algorithms	Pictograms	Making music	Programming quizzes
Computing Strand	NW CS	ET CM	AL PG	DI ET	CM DD	PG DD
Knowledge	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 use a digital device to take a photograph To make choices when taking a photograph To describe what makes a good photograph To decide how photographs can be improved To use tools to change an image To recognise that photos can be changed	To describe a series of instructions as a sequence To explain what happens when we change the order of instructions To use logical reasoning to predict the outcome of a program (series of commands) To explain that programming projects can have code and artwork To design an algorithm To create and debug a program that I have written	To recognise that we can count and compare objects using tally charts To recognise that objects can be represented as pictures To create a pictogram To select objects by attribute and make comparisons To recognise that people can be described by attributes To explain that we can present information using a computer	To say how music can make us feel To identify that there are patterns in music To show how music is made from a series of notes To show how music is made from a series of notes To create music for a purpose To review and refine our computer work	To explain that a sequence of commands has a start To explain that a sequence of commands has an outcome To create a program using a given design To change a given design To create a program using my own design To decide how my project can be improved
National Curriculum Strand	Use technology purposefully to create, organise, store, manipulate and retrieve digital content Recognise common uses of information technology beyond school	Use technology purposefully to create, organise, store, manipulate and retrieve digital content Recognise common uses of information technology beyond school	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	Use technology purposefully to create, organise, store, manipulate and retrieve digital content Recognise common uses of information technology beyond school	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions

Digital Literacy	✓	√	digital content	√	
	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.	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.	Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs Use technology purposefully to create, organise, store, manipulate and retrieve	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.	Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs

Year 3	Autumn Term		Spring	g Term	Summe	er Term
Term	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Unit	Connecting computers	Stop-frame animation	Sequencing sounds	Branching databases	Desktop publishing	Events and actions in programs
Computing Strand	NW CS	ET CM	PG DD	DI ET	ET CM	PG DD
Knowledge	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 that animation is a sequence of drawings or photographs To relate animated movement with a sequence of images To plan an animation To identify the need to work consistently and carefully To review and improve an animation To evaluate the impact of adding other media to an animation	To explore a new programming environment To identify that commands have an outcome To explain that a program has a start To recognise that a sequence of commands can have an order To change the appearance of my project To create a project from a task description	To create questions with yes/no answers To identify the object attributes needed to collect relevant data To create a branching database To explain why it is helpful for a database to be well structured To identify objects using a branching database To compare the information shown in a pictogram with a branching database	To recognise how text and images convey information To recognise that text and layout can be edited To choose appropriate page settings To add content to a desktop publishing publication To consider how different layouts can suit different purposes To consider the benefits of desktop publishing	To explain how a sprite moves in an existing project To create a program to move a sprite in four directions To adapt a program to a new context To develop my program by adding features To identify and fix bugs in a program To design and create a maze-based challenge
National Curriculum Strand	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Understand computer networks including the internet; how they can provide multiple services, such as the world wide	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,	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	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,	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Select, use and combine a variety of software (including internet services) on a range of	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.

	web; and the opportunities they offer for communication and collaboration 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	evaluating and presenting data and information Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs 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	evaluating and presenting data and information	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	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs 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
Digital Literacy		\checkmark				

Year 4	Autum	n Term	Spring	g Term	Summe	r Term
Term	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Unit	The internet	Audio editing	Repetition in shapes	Data logging	Photo Editing	Repetition in games
Computing Strand	NW SS	ET CM	AL PG	CS DI	ET CM	PG DD
Knowledge	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 identify that sound can be digitally recorded To use a digital device to record sound To explain that a digital recording is stored as a file To explain that audio can be changed through editing To show that different types of audio can be combined and played together To evaluate editing choices made	To identify that accuracy in programming is important To create a program in a text-based language To explain what 'repeat' means To modify a count-controlled loop to produce a given outcome To decompose a task into small steps To create a program that uses count-controlled loops to produce a given outcome	To explain that data gathered over time can be used to answer questions To use a digital device to collect data automatically To explain that a data logger collects 'data points' from sensors over time To use data collected over a long duration to find information To identify the data needed to answer questions To use collected data to answer questions	To explain that digital images can be changed To change the composition of an image To describe how images can be changed for different uses To make good choices when selecting different tools To recognise that not all images are real To evaluate how changes can improve an image	To develop the use of count-controlled loops in a different programming environment To explain that in programming there are infinite loops and count controlled loops To develop a design that includes two or more loops which run at the same time To modify an infinite loop in a given program To design a project that includes repetition To create a project that includes repetition
National Curriculum Strand	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	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Select, use and combine a variety of software	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Select, use and combine a variety of	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Select, use and combine a variety of software	Ddesign, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller

Digital	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 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 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	(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 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	decomposing them into smaller parts Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	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	(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 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
Literacy	✓	✓			✓	

Year 5	Autum	n Term	Spring	g Term	Summe	er Term
Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit	Sharing information	Video Editing	Selection in physical computing	Flat-file databases	Vector drawing	Selection in quizzes
Computing Strand	NW ET	CM DD	PG CS	DI ET	ET CM	AL PG
Knowledge	To explain that computers can be connected together to form systems To recognise the role of computer systems in our lives To recognise how information is transferred over the internet To explain how sharing information online lets people in different places work together To contribute to a shared project online To evaluate different ways of working together online	To explain what makes a video effective To identify digital devices that can record video To capture video using a range of techniques To create a storyboard To identify that video can be improved through reshooting and editing To consider the impact of the choices made when making and sharing a video	To control a simple circuit connected to a computer To write a program that includes count-controlled loops To explain that a loop can stop when a condition is met To explain that a loop can be used to repeatedly check whether a condition has been met To design a physical project that includes selection To create a program that controls a physical computing project	To use a form to record information To compare paper and computer-based databases To outline how grouping and then sorting data allows us to answer questions To explain that tools can be used to select specific data To explain that computer programs can be used to compare data visually To apply my knowledge of a database to ask and answer real-world questions	To identify that drawing tools can be used to produce different outcomes To create a vector drawing by combining shapes To use tools to achieve a desired effect To recognise that vector drawings consist of layers To group objects to make them easier to work with To evaluate my vector drawing	To explain how selection is used in computer programs To relate that a conditional statement connects a condition to an outcome To explain how selection directs the flow of a program To design a program which uses selection To create a program which uses selection To evaluate my program
National Curriculum Strand	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Select, use and combine a variety of software	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Select, use and combine a variety of software	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	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts

Understand computer networks including the internet; how they can provide multiple services, Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and	networks including the internet; how they can evaluating and presenting data and information explain how some simple algorithms work and to detect and correct error data and information evaluating and presenting data and information detect and correct error data and information evaluating and presenting data and information detect and correct error data and information data and information detect error data and information data and information data and information data and info
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Year 6						
	Autumi			g Term		er Term
Term	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Unit	Internet	Webpage creation	Variables in	Introduction to	3D modelling	Sensing
	communication		gaming	spreadsheets		
Computing	NW	CM	PG	ET	ET	PG
Strand	ET	DD	DD	DI	CM	CS
Knowledge	To identify how to use a search engine 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 recognise how we communicate using technology To evaluate different methods of online communication	To review an existing website and consider its structure To plan the features of a web page To consider the ownership and use of images (copyright) To recognise the need to preview pages To outline the need for a navigation path To recognise the implications of linking to content owned by other people	To define a 'variable' as something that is changeable To explain why a variable is used in a program To choose how to improve a game by using variables To design a project that builds on a given example To use my design to create a project To evaluate my project	To identify questions which can be answered using data To explain that objects can be described using data To explain that formulas can be used to produce calculated data To apply formulas to data, including duplicating To create a spreadsheet to plan an event To choose suitable ways to present data	To use a computer to create and manipulate three-dimensional (3D) digital objects To compare working digitally with 2D and 3D graphics To construct a digital 3D model of a physical object To identify that physical objects can be broken down into a collection of 3D shapes To design a digital model by combining 3D objects To develop and improve a digital 3D model	To create a program to run on a controllable device To explain that selection can control the flow of a program To update a variable with a user input To use an conditional statement to compare a variable to a value To design a project that uses inputs and outputs on a controllable device To develop a program to use inputs and outputs on a controllable device
National Curriculum Strand	Design, write and debug programs that accomplish specific goals, including controlling	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning	Design, write and debug programs that accomplish specific goals, including controlling	Select, use and combine a variety of software (including internet services) on a range of digital devices to design	Select, use and combine a variety of software (including internet services) on a range of digital devices to design	Design, write and debug programs that accomplish specific goals, including controlling

Computing	or simulating physical	in evaluating digital	or simulating physical	and create a range of	and create a range of	or simulating physical
Strand	systems; solve problems by	content	systems; solve problems	programs, systems and	programs, systems and	systems; solve problems
Otrana	decomposing them into		by decomposing them	content that accomplish	content that accomplish	by decomposing them
	smaller	Select, use and combine a	into smaller	given goals, including	given goals, including	into smaller
	parts.	variety of software	parts.	collecting, analysing,	collecting, analysing,	parts.
		(including internet		evaluating and presenting	evaluating and presenting	
	Understand computer	services) on a range of	Use sequence, selection,	data and information.	data and information	Use sequence, selection,
	networks including the	digital devices to design	and repetition in			and repetition in
	internet; how they can	and create a range of	programs; work with		Use technology safely,	programs; work with
	provide multiple services,	programs, systems and	variables and various		respectfully and	variables and various
	such as the world wide web;	content that accomplish	forms of input and output		responsibly; recognise	forms of input and output
	and the opportunities they	given goals, including			acceptable/unacceptable	
	offer for communication and	collecting, analysing,	Use logical reasoning to		behaviour; identify a	Use logical reasoning to
	collaboration	evaluating and presenting	explain how some simple		range of ways to report	explain how some simple
		data and information	algorithms work and to		concerns about content	algorithms work and to
	Use search technologies		detect and correct errors		and contact.	detect and correct errors
	effectively, appreciate how	Use technology safely,	in algorithms and			in algorithms and
	results are selected and	respectfully and	programs			programs
	ranked, and be discerning	responsibly; recognise				
	in evaluating digital content	acceptable/unacceptable	Select, use and combine			Select, use and combine
		behaviour; identify a range	a variety of software			a variety of software
	Select, use and combine a	of ways to report concerns	(including internet			(including internet
	variety of software	about content and contact.	services) on a range of			services) on a range of
	(including internet services)		digital devices to design			digital devices to design
	on a range of digital devices		and create a range of			and create a range of
	to design and create a		programs, systems and			programs, systems and
	range of programs, systems		content that accomplish			content that accomplish
	and content that accomplish		given goals, including			given goals, including
	given goals, including		collecting, analysing,			collecting, analysing,
	collecting, analysing,		evaluating and presenting			evaluating and presenting
	evaluating and presenting		data and information			data and information
	data and information					
	Use technology safely,					
	respectfully and					
	responsibly; recognise					
	acceptable/unacceptable					
	behaviour; identify a range					
	of ways to report concerns					
	about content and contact.					
Digital						
Literacy	✓	✓			\checkmark	
Literacy		·			•	