

Hillstone Primary School Progression Map



Subject: COMPUTING

At Hillstone Primary School, we aim to prepare our learners for their future by giving them the opportunities to gain knowledge and develop skills that will equip them for an ever-changing digital world. Knowledge and understanding of computing is of increasing importance for children's future both at home and for employment. Our Computing curriculum focuses on a progression of skills in digital literacy, computer science, information technology and online safety to ensure that children become competent in safely using, as well as understanding, technology. These strands are revisited repeatedly through a range of themes during children's time in school to ensure the learning is embedded and skills are successfully developed. Our intention is that Computing also supports children's creativity and cross curricular learning to engage children and enrich their experiences in school.

		EYFS	Ke	y Stage 1		Кеу	/ Stage 2	
Autumn	Nursery	Year R	Year 1	Year	Year 3	Year 4	Year 5	Year
				2				6
Knowledge	2		Programming	Programming A –	Programming A –	Programming A –	Programming A –	Programming A –
			<mark>A – moving a</mark>	<mark>robot algorithms</mark>	<mark>sequencing sounds</mark>	repetition in shapes	selection in physical	<mark>variables in games</mark>
			<mark>robot</mark>				computing	
				l can describe a	I recognise that	I understand that		I can define a 'variable'
			I can explain	series of instructions	commands in Scratch	accuracy in	I can recall how	as something that is
			what a given	as a sequence	are represented as	programming is	conditions are used in	changeable
			command will		blocks	important	selection	
			do.	l can explain what				I can explain why a
			I understand	happens when we	l understand that	l can explain what	I can identify	variable is used in a
			that a	change the order of	commands have an	'repeat' means	conditions in a	program
			sequence is a	instructions	outcome and that		program	
			series of		each sprite is	Creating media –		I can explain that a
			commands.	l can explain that	controlled by the	audio production	l can identify the	variable has a name and
				programming	commands I choose		condition and	a value
				projects can have		I understand that	outcomes in an	
				code and artwork	I can explain that the	sound can be	'ifthenelse'	I can identify a program
			Creating media		objects in my project	recorded	statement	variable as a
			 digital writing 	When designing an	will respond exactly			placeholder in memory
				algorithm, I can	to the code	I can explain that the	I can explain that	for a single value
				explain what my		person who records	program flow can	
						the sound can say		

	I can recognise keys on a keyboard	algorithm should achieve	l can explain what a sequence is	who is allowed to use it	branch according to a condition	I can recognise that the value of a variable can be changed
	Reyboard	Creating media -	I can identify and	I can identify the	Creating media – intro	be changed
	I can explain	digital photography	name the objects I	input and output	to vector graphics	Creating media – 3D
	what the keys I		will need for a	devices used to		modelling
	have learnt	l can explain what I	nroiect	record and play	I can identify that	B
	about already	did to capture a	project	sound	drawing tools can be	I can recognise that you
	do	digital photograph	Creating media –		used to produce	can work in three
			desktop publishing	I can discuss what	different outcomes	dimensions on a
	I can say what	I can recognise what		sounds can be added		computer
	tool I used to	devices can be used	I can recognise how	to a podcast	I can discuss how	•
	change the text	to take photographs	text and images		vector drawings are	I understand that digital
	-		convey information	l can explain how	different from paper-	3D objects can be
	I can explain	I can talk about how		sounds can be	based drawings	modified
	the difference	to take a photograph	I can identify the	combined to make a		
	between typing		advantages and	podcast more	I can recognise that	O recognise that objects
	and writing	I can explain the	disadvantages of	engaging	vector drawings are	can be combined in a 3D
		process of taking a	using text and images		made using shapes	model
	l can say why l	good photograph		I can explain the		
	prefer typing or		I can recognise that	difference between	I can explain that each	
	writing.	l can explain why a	text and images can	saving a project and	element added to a	
		photo looks better in	communicate	exporting an audio	vector drawing is an	
		portrait or landscape	messages clearly	file	object	
		format				
			I can define the term		I can identify the	
		I can discuss how to	'page orientation'		shapes used to make a	
		take a good			vector drawing	
		photograph	l can say why			
			desktop publishing		I can explain how	
		I can identify what is	might be helpful and		alignment grids and	
		wrong with a	identify its uses in		resize handles can be	
		photograph	the real world		used to improve	
					consistency	
		i recognise that			I can identify that anoth	
		inages can be			added object creates a	
		changeu			audeu object creates a	

			I can identify which photos are real and which have been changed			new layer in the drawing I can recognise when I need to group and ungroup objects	
Skills		Programming A – moving a robot I can predict the outcome of a command on a device. I can run a command on a device I can combine four direction commands to make sequences I can plan a simple program I can debug my program	Programming A – robot algorithms I can use an algorithm to program a sequence on a floor robot I can use the same instructions to create different algorithms I can use logical reasoning to predict the outcome of a program I can design an algorithm	Programming A – sequencing sounds I can explain that objects in Scratch have attributes I can identify the objects in a Scratch project (sprites, backdrops) I can create a program following a design I can create a sequence of connected commands	Programming A – repetition in shapes I can create a code snippet for a given purpose I can explain the effect of changing a value of a command I can program a computer by typing commands I can test my algorithm in a text- based language	Programming A – selection in physical computing I can modify a condition in a program I can use selection in an infinite loop to check a condition I can create a program that uses selection to produce different outcomes I can test my program and identify ways in which it could be improved	Programming A – variables in games I can choose how to improve a game by using variables I can decide where in a program to change a variable I can make use of an event in a program to set a variable I can design a project that builds on a given example I can choose the artwork for my project

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		Creating media	l can use my	I can start a program	l can write an		and explain my design
		 digital writing 	algorithm to create	in different ways	algorithm to	Creating media – intro	choices
		I can enter text	a program		produce a given	to vector graphics	
		into a computer		I can build a	outcome		I can create algorithms
		I can use letter,	I can test and debug	sequence of		I can experiment with	for my project
		number, space	each part of the	commands	I can use a count-	the shape and line	
		and backspace	program		controlled loop to	tools	I can use my design to
		keys.		I can implement my	produce a given		create a project
		I can identify	Creating media –	algorithm as code	outcome	I can move, resize and	
		the toolbar and	digital photography			rotate objects I have	I can test the code I
		use bold, italic		I can make design	I can modify a	duplicated	have written
		and underline.	I can use a digital	choices for my	count-controlled		
		I can type	device to take a	artwork	loop to produce a	I can modify objects to	I can evaluate my
		capital letters.	photograph		given outcome	create a new image	project
		I can change	I can take photos in	Creating media –			
		the font.	both landscape and	desktop publishing	I can identify the	I can use the zoom tool	
		I can select all	portrait format		effect of changing	to help me add detail	Creating media – 3D
		text by clicking		I can change font	the number of	to my drawings	modelling
		and dragging.	I can improve a	style, size and	times a task is	, ,	
		I can select a	photography by	colours for a given	repeated	I can change the order	I can add 3D shapes to a
		word by double	retaking it	nurnose		of layers in a vector	proiect
		clicking.	0	parpese	I can predict the	drawing	I J
		I can use 'undo'	I can experiment with	l can edit text	outcome of a	J. J	I can move 3D shapes
		to remove	different light sources		program containing	I can use layering to	relative to one another
		changes.	0	I can add content to	a count-controlled	create an image	
		-	I can explore the	a deskton nublishing	loop		I can view 3D shapes
			effects that light has	nublication		I can copy part of a	from different
			on a photo	publication	I can design a	drawing by duplicating	perspectives
				l can make changes	program that	several objects	
				to content after l've	includes court-		I can modify a digital 3D
				added it	controlled loops	I can compare vector	obiect by
						drawings to freehand	lifting/lowering.
					I can make use of	paint drawings	recolouring and resizing
					my design to write		0
					a program	l can create a vector	I can duplicate and group
						drawing for a specific	3D objects
						purpose	

			I can develop my program by debugging it	l can reflect on the skills I have used and why I have used them	l can rotate objects in three dimensions
			Creating media –	why mave used them	l can plan and create my own digital 3D model
			I can use a		l can modify my 3D model to improve it
			audio		
			soundwave view to know where to trim		
			my recording		
			i can plan appropriate content for a podcast		
			I can save my project so the		
			different parts remain editable		
			l can record content following my plan		
			l can review the quality of my		
			recordings and improve them where necessary		
			l can arrange multiple sounds to		
			create the effect I want		

			I can open my project to continue working on it I can identify strengths and suggest improvements to an audio recording	

Spring	EYFS	Key S	Stage 1		Key Stage	2	
	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge		Computing systems and networks - Technology around us I can explain technology as something that helps us and give examples of how technology helps us I can locate examples of technology in the classroom I can name the main parts of a computer I can say what a keyboard is for I can identify rules to keep us safe and healthy when we are using technology in and beyond the home Data and information - Grouping data I can describe objects using labels I can identify the label for a group of objects I can count and group objects and count a group of objects	Computing systems and networks – IT around us I can identify that a computer is a part of IT I can describe some uses of computers I can identify examples of computers I can identify examples of IT and understand that some IT can be used in more than one way I can talk about uses of information technology I can demonstrate how IT devices work together I can recognise common types of technology I can say why we use IT I can talk about different rules for using IT and can discuss how these rules can help keep me safe Data and info – pictograms I give simple examples of why information should not be abard	Computing systems and networks - Connecting computers I can explain that digital devices accept inputs and produce outputs I can describe a simple process I can explain how I use digital devices for different activities I can recognise similarities and differences between using digital devices and non-digital devices I can discuss why we need a network switch I can explain how messages are passed through multiple connections I can demonstrate how information can be passed between devices I can explain the role of a switch server and	Computing systems and networks – the internet I can demonstrate how information is shared across the internet I can describe the internet as a network of networks I can discuss why a network needs protecting I can explain that the internet is used to provide many services I can recognise that the World Wide Web contains websites and web pages I can describe how to access websites on the WWW	Computing systems and networks - Systems and searching I can explain that computers can be connected together to form systems I can describe that a computer system features inputs, processes and outputs I can explain that computer systems communicate with other devices I can identify tasks that are managed by computer systems and identify the human elements of a computer system	Computing systems and networks – communication and collaboration I can explain that internet devices have addresses I can describe how computers use addresses to access websites I can explain that all data transferred over the internet is in packets I can explain that data is transferred over networks in packets
		object and a property of an object		wireless access point in a network	websites are stored	J	

			when uploaded to the	I can recognise the	I can identify
	I can choose how to	I can recognise that a	www	role of web crawlers	and explain the
	group objects	computer network is		in creating an index	main parts of a
		made up of a number of	I can explain that		data packet
		devices	internet services can	I can relate a search	
		I can identify the benefits	be used to create	term to the search	I can explain
		of computer networks	content online	engine's index	that the
					internet allows
		Data and info -	l can explain what	I can explain that a	different media
		Branching databases	media can be found on	search engine follows	to be shared
			websites	rules to rank results	
		Leen evalein thet			I can recognise
		auestions need to be	I can recognise that I	I can give examples	how to access
		ordered carefully to split	can add content to the	of criteria used by	shared files
		objects into similarly sizes	www	search engines to	stored online
		groups		rank results	
			I can explain that		l can explain
		I can suggest real-world	there are rules to	I can describe some	how the
		uses for branching	protect content and	of the ways that	internet
		databases	can suggest who owns	search results can be	enables
			the content on	influenced	effective
			websites		collaboration
				I can explain now	Lass tale and
			I understand that not	search engines make	I can identify
			everytning on the	money	of working
				Lean recognice come	togothor online
			liue	of the limitations of	together online
			I can explain why I	search engines	l can compare
			need to think carefully	scaren engines	different
			hefore I share or	Data and info - Elat-	methods of
			reshare content	file databases	communicating
					on the internet
			l can explain why	I can explain how	
			some information I	information can be	I can decide
			find online may not be	recorded in a form	when I should
			honest, accurate or		and should not
			legal		share

			I can explain what a	information
		Data and information	field and a record is	online
		– cryptology	in a database	
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		I can explain
		I understand that	I can explain that	that
		messages can be sent	data can be grouped	communication
		and received secretly	using chosen values	on the internet
		,	0	may not be
		I understand signalling	I can outline how	private
		is a form of	'AND' and 'OR' can	
		communication	be used to refine	Data and
			data selection	information –
		I understand that		<mark>Intro to</mark>
		messages can be sent	I can explain the	spreadsheets
		electronically over	benefits of using a	
		destances	computer to create	I can explain
			charts	what an item
		I understand that data		of data is
		can be transmitted as		
		binary		I can explain
				what data
				types can be
				used in
				calculations
				I can identify
				that changing
				inputs changes
				outputs
				I can explain
				why data
				should be
				organised

Skills	Computing systems and	<mark>Data and info –</mark>	Data and info -	Data and information	Computing systems	Computing systems
	around us	<mark>pictograms</mark>	<mark>Branching databases</mark>	– cryptology	and networks -	communication and
					Systems and	collaboration
	I can switch on and log into	l can enter data onto a	I can investigate	I can encrypt/decrypt	searching	
	a compater	computer	questions with yes/no	simple messages		-
	I can use a mouse to click		answers		I can make use of a	Data and
	and drag	I can use a computer	<i>.</i>	l can communicate	web search to find	<mark>information –</mark>
	I can use a mouse to open a	to view data in a	I can make up a yes/no	simple messages	specific information	<mark>Intro to</mark>
	program	different format	question about a	through signals		spreadsheets
	I can save my work to a file	Leen was a tally shout	collection of objects	l ann an an de an d	I can compare results	
		I can use a tally chart	.	I can encode and	from different search	I can collect data
	I can type my name on a	to create a pictogram	I can arrange objects	decode Morse code	engines	and enter it into a
	computer	Lean answer (more	into a tree structure	Leon oncodo (docodo	Lean refine muuch	spreadsheet
	I can delete letters	than /loss than' and	• · · · ·		nagos	
	T I C	(most/loast' questions	I can create a branching	cimple chift ciphor	pages	I can choose and
	I can open my work from a file	about an attributo	database by grouping	simple shift cipiler	Data and info Elat.	appropriate
			objects using my own	l can use frequency	file databases	format to a cell
	I can use the arrow keys to	l can create a	yes/no questions and	analysis to decinher		
	move the cursor	nictogram to arrange	selecting objects to	encrypted text	l can create a	I can construct a
	Data and information -	objects by an attribute	arrange in a branching		database using cards	formula in a
	Grouping data	objecto by an attribute	database		and order sort and	spreadsheet
		I can tally objects using	T		group my data cards	
	I can record how many	a common attribute	I can test my branching		Stoup my data cardo	I can apply a
	objects are in a group		database to see if it		I can choose which	multiple cells by
		I can collect the data I	works		field to sort data by	duplicating it
	I can decide how to	need	Τ		to answer a given	b
	group objects to		i can compare two		question	I can calculate
		I can share what I have	oranching aatabase			data using
		found out using a	structure		I can navigate a flat-	different
		computer			file database to	operations
					compare different	Lean gracte e
		I can use a computer			views of information	formula which
		program to present				includes a range of
		information in			l can group	cells
		different ways			information using a	I can apply a
					database	formula to
						calculate the data I

		I can choose multiple criteria to answer a given question I can choose which field and value are required to answer a given question	need to answer questions I can use a spreadsheet to answer questions I can produce a chart
		I can refine a chart by selecting a particular filter I can select an appropriate chart to visually compare data	I can use a chart to show the answer to questions
		I can ask questions that will need more than one field to answer	

Summer	EYFS	Key Stage 1		Key Stage 2				
	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	

Knowledge	Creating media — digital painting I can describe what different freehand tools do I can explain why I chose the tools I used I can say which tools were helpful and why I know that different paint tools do different jobs I can say whether I prefer painting using a computer or using paper I can spot the differences between painting on a computer and on paper Programming B — programming animations I can use the term 'program' to describe a set of step-by-step instructions. I understand that an 'algorithm' is a sequence of instructions that are followed to complete a task. I understand that each sprite has its own instructions.	Creating media – digital music I can explain that music is created and played by humans I can explain that music can be played in different ways I can identify that music is a sequence of notes Programming B – programming quizzes I can explain that a sequence of commands has a start and an outcome	Creating media – stop-frame animation I can explain that animation is a sequence of drawings or photographs I can explain why little changes are needed for each frame I can describe an animation that is achievable on screen Programming B – events and actions in programs I can explain how a sprite moves in an existing project I can explain the relationship between an event and an action I can identify a way to improve a program I can consider the real world when making design	Creating media – photo editing I can explain why I might crop an image I can explain that different colour effects make you think and feel different things I can explain why I chose certain colour effects I can identify how a photo edit can be improved I can explain why photos might be edited Programming B – repetition in games I can explain that in programming there are infinite loops and count controlled loops I can recognise that some programming languages enable	Creating media – video production I can explain what makes a video effective I can compare features in different videos I can explain how to improve a video by reshooting and editing I can recognise that my choices when making a video will impact the quality of the final outcome Programming B – Selection in quizzes I can explain how selection is used in computer programs I understand that a conditional statement connects a condition to an outcome I can explain how selection directs the flow of a program I can explain that a condition can direct program flow in one of	Creating media – web page creation I can explore websites and discuss the different types of media used on them I know that websites are written in HTML I can recognise the common features of a web page I can describe what is meant by the term 'fair use' I can say why I should use copyright- free images I can describe why navigation paths are useful I can explain what a navigation path is I can explain the implication of linking to content owned by
	I understand that each sprite has its own instructions.		action I can identify a way to improve a program I can consider the real world when making design choices	loops and count controlled loops I can recognise that some programming languages enable more than one process to be run at once	I can explain how selection directs the flow of a program I can explain that a condition can direct program flow in one of two ways	I can explain what a navigation path is I can explain the implication of linking to content owned by others Programming B – sensing movement I can apply my knowledge of programming to a new environment

						I can identify examples of conditions in the real world I can explain that checking a variable doesn't change its value I can explain the importance of the order of conditions in else, if statements
Skills	Creating media – digital painting	Creating media – digital music	Creating media – stop-frame animation	Creating media – photo editing	Creating media – video production	Creating media – web page creation
	I can draw lines on a screen	I can experiment with sound using a computer	l can create an effective flip	I can improve an image by	I can create and save video	I can draw a web page
	I can make marks on a screen	I can use a computer to create a	book-style animation	rotating it	content	layout that suits my
	I can use the paint tools to draw a picture	musical pattern	I can create an effective stop-	I can use photo editing	I can store, retrieve and export	L cap find convright from
	I can make marks with the square and line tools	I can add a sequence of notes to				images
	I can use the shape and line tools effectively		will look like	different colour effects	make edits to my video	I can add content to my
	I can make careful choices when painting a digital	l can create a rhythm which represents an animal I've	I can evaluate the quality of my	l can add to the	I can make edits to my video	own web page
	picture; I can choose appropriate shapes and make appropriate colour choices	chosen	animation	composition of an image by cloning it	and improve the final outcome	I can evaluate what my web page looks like on
	I can change the colour and brush sizes	I can create my animal's rhythm		I can remove parts of an	I can evaluate my video and share my opinions	different devices and
	I can make dots of colour on the page	I can review and refine my work	and actions in programs	image using cloning	Programmin - P	
	Lean use dots of colour to croate a nicture in the style of	i can review and renne my work	T	I can experiment with tools	Selection in quizzes	web page looks like
	an artist on my own	Programming B -	i can program movement	an image	T : d	I can make multiple web
		programming quizzes	-	I can use a range of tools to	modify conditions in a	hyperlinks
	Programming B - programming	I can predict the	I can create a program to move a sprite in four	copy between images	program	I can create hyperlinks to
	animations	outcome of a sequence	directions	l can create a project that is a combination of other	I can create a program	link to other people's work
	I can find which commands to move a	I can change the	I can choose a character	images	with different outcomes	I can evaluate the user
	sprite.	outcome of a sequence	for my project and	I can combine text and my	using selection	experience of a website
	I can use a Start block in a program.	ot commands	ensure it is a suitable	project	I can identify the	
			ארא		condition and outcomes	

I can use more than one block by them together. I can create an algorithm for each sprites. I can add programming blocks ba my algorithm I can test the programs I have cre I can delete a sprite.	I can create a program I using a given design by deciding which blocks to use to meet the design and building the sequence of blocks I need I I can change a given design by selecting backgrounds, characters and creating a new program I I can create a program using my own design by building sequences of blocks to match my design, choosing images for my own design and creating an algorithm I I can evaluate my own program by comparing it to my design, debugging the program and improving the program by adding features I	 can design and create can evaluate and lebug my project l can devig can evaluate and lebug my project l can mod snippet of can pred outcome l can pred outcome l can choose of cource can pred outcome l can choose of cource controllection controllection controllection can pred outcome l can choose of cource controllection controlection contr	 and an analysis of particular and an op and and op and an op <	 Frogramming b – sensing movement I can test my program on an emulator I can determine the flow of a program using selection I can use a variable in an if, then, else statement to select the flow of a program I can use a condition to change a variable I can use a condition to change a variable I can use a noperant to achieve a different outcome I can use an operand (e.g. <>=) in an if, then statement I can decide what variables to include in a project I can design the algorithm and the program flow for my project
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			I can create a program based on my design
			I can test my program and use a range of
			and fix bugs

Impact (End Points)								
EYFS	EYFS Key Stage 1 Key Stage 2							
Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6		
	I can name a range	I can identify a	I can collect, organise	I can combine a variety of	I can combine a variety o	I can undertake creative		

of digital washing r car, lapto I can use purposefu create dig [drawing moving in I can use f purposefu retrieve d content. [I can begi range of i devices [k mouse or on an iPad	devices [i.e.variety of inputsmachines,[keyboard and mouse]and outputsand outputsstechnology[speakers, screen,pictures,printer] and explainpictures,for.mages]I can decide whichtechnologypiece of technologyor program might bechosen to presentdigitalchosen to presentin to use ainformation [text,int to use apictograms] I canuse technologypurposeful to editand manipulate[paint, take pictures]and then store [files,folders] digitalcontent. I can usetechnologypurposeful toorganise andretrieve digitalcontent. [ie.Internet] I can beginto type using all ofmy fingers.I can begin to use arange of input devices[mouse or touchinput on an iPad]input on an iPad]	and present information using a variety of media [audio, video, text]. I can design, edit and create purposeful digital content to accomplish given goals. I can store and organise digital content by using files and folders. I can use search technologies effectively. I can search, analyse and present data to convey information [charts, databases, spreadsheets]. I can evaluate existing and their own digital content. I can type using all of my fingers. I can use right and left click on a mouse or use different form of selection on an iPad [ie long press]	software to design, edit and create purposeful digital content to accomplish given goals. I can use technology to collect, analyse and evaluate information. I can store and organise digital content by using files and folders. I can use search technologies effectively. I can evaluate existing and my own digital content. I can use the keyboard confidently I can use right and left click on a mouse or use different form of selection on an iPad [ie long press]	software to design, edit and create purposeful digital content to accomplish given goals. I can select and choose the appropriate digital device [cameras, iPads, laptops] I can use technology to collect, analyse and evaluate information. I can store and organise digital content by using files and folders. [copy, move and delete files] I can recognise common file types and extensions. I can use the keyboard confidently to type at a suitable pace. I can use advanced searching techniques when using a search engine.	projects with challenging goals [ie. 3D modelling] I can combine a variety of software to design, edit and create purposeful digital content to accomplish given goals. I can select and choose the appropriate digital device [cameras, iPads, laptops] I can use technology to collect, analyse, filter and evaluate information. I can store and organise digital content by using files and folders. [copy, move and delete files] I can recognise common file types and extensions. I can use the keyboard confidently to type at a suitable pace. I can use advanced searching techniques when using a search engine. I can evaluate my own digital content and make improvements accordingly
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