			Constantine Primary	School	
Colour key: Computer S Information		otail			
	Autumn 1	Autumn 2	Spring 1	Spring 2	Sumn
Reception	computational thinking and basic computing	 ildren about technology as part of the Early Ye g skills. ugh activities such as those on <u>https://www.b</u>	_	Understanding the world" and this includes 'u	unplugged' activities tha
Year 1	Additional information techno	Our digital literacy cu logy opportunities across the year – Ch		ss the year, see our Computing map – Digital	
		using paint or another imaging app.	C C	C C	00,
	What makes me marvellous?	What's in the toy box?	What makes our school ground special?	Where do I live?	What is the we
	Knowledge The children will know: • Computing systems and networks • Technology around us • Different types of technology • What a computer is and its main parts • How to use a mouse in different ways • How to use a keyboard to type on a computer • How to use the keyboard to edit text Potential project idea – Typing about themselves to share something that makes them marvellous Potential resources – https://teachcomputing.org/curriculum/k ey-stage-1/computing.systems-and- networks-technology-around-us https://www.bbc.co.uk/bitesize/topics/zy mykqt/articles/z9myvcw	Knowledge The children will know: • Creating media – Digital painting • What different freehand computing tools do • What the shape tool and the line tools do • How to alter colour choices • How to make careful choices when painting a digital picture Potential project idea – The children draw a picture of a favourite toy Possible resources - <u>https://teachcomputing.org/curriculum/k</u> <u>ey-stage-1/creating-media-digital-painting</u> <u>https://paintz.app/</u>	Knowledge The children will know: Moving a robot The meaning of key vocabulary such as algorithm, decomposition and abstraction What a given command will do How to plan and input a simple program How to find more than one solution to a problem Potential project idea – Children will program their Beebots to move around a map of the school grounds Possible resources - https://teachcomputing.org/curriculum/k ey-stage-1/programming-a-moving-a- robot https://www.barefootcomputing.org/docs /default-source/default-document- library/barefoot-bytes-5- 7.pdf?sfvrsn=1e0792ea_0 https://beebot.terrapinlogo.com/ Beebots - Physical	Knowledge The children will know: Data and information – Grouping data How to label objects That objects can be counted How to describe objects in different ways How to count objects with the same properties How to compare groups of objects How to answer questions about groups of objects Potential project idea – Counting and grouping images of local landmarks, flowers, trees etc. Possible resources - https://teachcomputing.org/curriculum/k ey-stage-1/data-and-information- grouping-data	Kno The childr Creating media How to use a co How to use a co How to add and computer That the look of changed on a co To make careful changing text Potential project idea report Possible resources – <u>https://teachcomputi</u> <u>ey-stage-1/creating-m</u> Office 365 accounts
	SkillsThe children will be able to:Identify the key features of an object that makes it a piece of technologyName different parts of a computer, whether they are combined with other elements or notSelect the correct device to complete a task on a computerSelect the correct keys to type	Skills The children will be able to: Move a mouse to a specific point Select appropriate tools for the task required Choose colours to match a computer image to the actual object	Skills The children will be able to: Decompose a route into smaller steps Visualise a series of commands Apply decomposition and abstraction to include the most relevant commands Predict the outcome of a set of instructions Choose the order of commands in a sequence	Skills The children will be able to: Identify similarities between groups of objects Count groups of similar objects accurately Select labels that appropriately label a group of objects	The children Log onto their Open a word p Recognise keys Identify and fin keyboard Use letter, nun Use backspace Type capital le

-	
nmer 1	Summer 2
hat begin to build up the	e foundations that are required to develop
<u>etails</u>	
urs and fonts styles a	and adding a picture. Children to
weather like today?	Why does Falmouth have a castle?
nowledge dren will know:	Knowledge The children will know:
lia – Digital writing	Programming animations
computer to write and remove text on a	 How to choose a command for a given purpose
	• That a series of commands can be
c of text can be	joined together
a computer eful choices when	 The effect of changing a value That each sprite has its own
t	instructions
- ·	How to design the parts of a
ea – Typing a weather	projectHow to use an algorithm to create
	a program
- Iting.org/curriculum/k -media-digital-writing	Potential project idea – Creating a project using Pendennis Castle as the background and inspiration
	Possible resources -
	https://teachcomputing.org/curriculum/k
	ey-stage-1/programming-b-introduction- to-animation
	https://www.scratchjr.org/
Skills	Skills
en will be able to:	The children will be able to:
ir Office365 accounts	Using 'logic' to determine the
processor document ys on a keyboard	 steps required on a command Find which commands move a
find keys on a	sprite
	• Use commands to move a sprite
·	
umber, and space keys	Compare different programming tools
umber, and space keys ce to remove text letters	 Compare different programming tools Use more than one block by

			 Check for errors and debug any issues 		 Identify the toolbar and use bold, italic, and underline Select a word by double-clicking Select all of the text by clicking and dragging Change the font 	 Use a Start block in a program Find blocks that have numbers Change the value Show that a project can include more than one sprite Delete a sprite Add blocks to each of my sprites Choose appropriate artwork for my project Decide how each sprite will move Use sprites that match my design Add programming blocks based on my algorithm Test the programs I have created
Year 2		Our digital literacy cu	rriculum is delivered on a regular basis acros	s the year, see our Computing map – Digital	Literacy for further details	
-	Additional information technolog	y opportunities across the year – Chil	dren to select an appropriate device to	o create at least 1 digital artefact of w	ritten work using fonts and changing s	izes, colours and fonts styles and
			east 1 digital image using drawing soft		ng app.	
	How would I survive on a desert island?	What made the fire of London so great?	Why are Florence Nightingale and Rosa Parks remembered today?	What makes Constantine special?	Why are rainforests unique?	What was is like to be a tin miner?
	Islandr	<u>greatr</u>	Parks remembered today?	Knowledge	Knowledge	Knowledge
	Knowledge	Knowledge	Knowledge	The children will know:	The children will know:	The children will know:
	The children will know:	The children will know:	The children will know:	Creating media – Digital	Creating media - Digital music	• Data and information – Pictograms
	 Computing systems and networks 	Robot algorithms	Programming quizzes	photography	How music can make us feel	• That we can count and compare
	– IT around us	 How to describe a series of 	That a sequence of commands has	How to use a digital device to take	• That there are patterns in music	objects using tally charts
	• The uses and features of	instructions as a sequence	a start	a photograph	How to experiment with sound	That objects can be represented as
	information technology	 What happens when we change 	 That a sequence of commands has 	 How to make choices when taking 	using a computer	pictures
	• The uses of information technology	the order of instructions	an outcome	a photograph	How to use a computer to create a	How to create a pictogram
	in the school	How to use logical reasoning to	 How to create a program using a 	 How to describe what makes a 	musical pattern	 How to select objects by attribute
	• The uses of information technology	predict the outcome of a program	given design	good photograph	How to create music for a purpose	and make comparisons
	beyond school	That programming projects can	 How to change a given design 	How digital photographs can be	How to review and refine our	That we can present information
	How information technology helps	have code and artwork	How to create a program using my	improved	computer work	using a computer
	us	How to design an algorithm and	own design	 How to use tools to change an 		
	How to use information technology	'evaluate' it	 How to decide how my project can 	image	Potential project idea – Children write and	
	safely	How to create and debug a	be improved	That digital photos can be changed	produce a piece of music to reflect a rainforest animal of their choice. Could	materials removed from a mine as a tally and pictogram.
	 That choices are made when using information technology 	program that we have written	Potential project idea – Children create a	Potential project idea – Photographs of	use "Carnival of the animals" by Camille	
	mormation technology	Potential project idea – Children create	quiz based on the lives of Florence	key places around Constantine and	Saints-Saens to show how different	Potential resources -
	Potential project idea – Use IT to research	their own Fire of London floor mat. They	Nightingale or Rosa Parks.	digitally altering some of them.	animals are reflected in music.	https://teachcomputing.org/curriculum/k
	desert islands and print examples off,	have to find different ways to escape from				ey-stage-1/data-and-information-
		, ,	Detential recourses	Potential resources -	Potential resources -	pictograms
	share using QR codes.	the fire as it moves, forcing them to adapt	Potential resources -			
	share using QR codes.	the fire as it moves, forcing them to adapt their algorithms.	https://teachcomputing.org/curriculum/k	https://teachcomputing.org/curriculum/k	https://teachcomputing.org/curriculum/k	https://www.j2e.com/jit5#pictogram
	Potential resources -		https://teachcomputing.org/curriculum/k ey-stage-1/programming-b-an-	https://teachcomputing.org/curriculum/k ey-stage-1/creating-media-digital-	ey-stage-1/creating-media-making-music	https://www.j2e.com/jit5#pictogram Office 365 accounts
	Potential resources - https://teachcomputing.org/curriculum/k	their algorithms. Potential resources -	https://teachcomputing.org/curriculum/k ey-stage-1/programming-b-an- introduction-to-quizzes	ey-stage-1/creating-media-digital- photography	ev-stage-1/creating-media-making-music https://musiclab.chromeexperiments.com	
	Potential resources - https://teachcomputing.org/curriculum/k ey-stage-1/computing-systems-and-	their algorithms. Potential resources - <u>https://teachcomputing.org/curriculum/k</u>	https://teachcomputing.org/curriculum/k ey-stage-1/programming-b-an- introduction-to-quizzes https://www.scratchjr.org/	ey-stage-1/creating-media-digital- photography https://www.stem.org.uk/resources/colle	ey-stage-1/creating-media-making-music	
	Potential resources - https://teachcomputing.org/curriculum/k ey-stage-1/computing-systems-and- networks-it-around-us	their algorithms. Potential resources - <u>https://teachcomputing.org/curriculum/k</u> <u>ey-stage-1/programming-a-robot-</u>	https://teachcomputing.org/curriculum/k ey-stage-1/programming-b-an- introduction-to-quizzes https://www.scratchjr.org/ Children create a 'Forms' quiz on Office	ey-stage-1/creating-media-digital- photography https://www.stem.org.uk/resources/colle ction/466582/creating-media-digital-	ev-stage-1/creating-media-making-music https://musiclab.chromeexperiments.com	
	Potential resources - https://teachcomputing.org/curriculum/k ey-stage-1/computing-systems-and- networks-it-around-us PCs, laptops, tablets, scanners, barcode	their algorithms. Potential resources - <u>https://teachcomputing.org/curriculum/k</u> <u>ey-stage-1/programming-a-robot-</u> <u>algorithms</u>	https://teachcomputing.org/curriculum/k ey-stage-1/programming-b-an- introduction-to-quizzes https://www.scratchjr.org/ Children create a 'Forms' quiz on Office 365 to understand how they don't see the	ey-stage-1/creating-media-digital- photography https://www.stem.org.uk/resources/colle ction/466582/creating-media-digital- photography	ev-stage-1/creating-media-making-music https://musiclab.chromeexperiments.com	
	Potential resources - <u>https://teachcomputing.org/curriculum/k</u> <u>ey-stage-1/computing-systems-and-</u> <u>networks-it-around-us</u> PCs, laptops, tablets, scanners, barcode scanners, printers, smart speakers.	their algorithms. Potential resources - <u>https://teachcomputing.org/curriculum/k</u> <u>ey-stage-1/programming-a-robot-</u> <u>algorithms</u> <u>https://beebot.terrapinlogo.com/</u>	https://teachcomputing.org/curriculum/k ey-stage-1/programming-b-an- introduction-to-quizzes https://www.scratchjr.org/ Children create a 'Forms' quiz on Office	ey-stage-1/creating-media-digital- photography https://www.stem.org.uk/resources/colle ction/466582/creating-media-digital- photography Using Office 365 to write up a description	ev-stage-1/creating-media-making-music https://musiclab.chromeexperiments.com	
	Potential resources - https://teachcomputing.org/curriculum/k ey-stage-1/computing-systems-and- networks-it-around-us PCs, laptops, tablets, scanners, barcode	their algorithms. Potential resources - <u>https://teachcomputing.org/curriculum/k</u> <u>ey-stage-1/programming-a-robot-</u> <u>algorithms</u>	https://teachcomputing.org/curriculum/k ey-stage-1/programming-b-an- introduction-to-quizzes https://www.scratchjr.org/ Children create a 'Forms' quiz on Office 365 to understand how they don't see the	ey-stage-1/creating-media-digital- photography https://www.stem.org.uk/resources/colle ction/466582/creating-media-digital- photography	ev-stage-1/creating-media-making-music https://musiclab.chromeexperiments.com	

	SkillsThe children will be able to:Identify examples of computersDescribe some uses of computersIdentify that a computer is a part of ITIdentify that a computer is a part of ITIdentify that some ITSort school IT by what it's used forIdentify that some IT can be used in more than one wayFind examples of ITSort IT by where it is foundTalk about uses of ITRecognise common types of technologyDemonstrate how IT devices work togetherSay why we use ITRecognise common types of technologyList different uses of information technologyTalk about different rules for using ITSay how rules can help keep me safeIdentify the choices that I make when using ITUse IT for different types of activitiesExplain the need to use IT in	 Skills The children will be able to: Use abstraction to focus on key details of a command Spot 'patterns' to 'repeat' the same instructions to create different algorithms Use an algorithm to program a sequence on a floor robot Show the difference in outcomes between two sequences that consist of the same commands Follow a sequence and predict the outcome of a sequence Compare my prediction to the program outcome Identify different routes around my mat and 'decompose' the steps to create appropriate algorithms Test and debug each part of the program 	SkillsThe children will be able to:I dentify the start of a sequenceI dentify that a program needs to be startedPredict the outcome of a sequence of commandsMatch two sequences with the same outcomeChange the outcome of a sequence of commandsWork out the actions of a sprite in an algorithmDecide which blocks to use to meet the designSequence blocks to achieve an outcomeChoose backgrounds for the designChoose characters for the designCreate a program based on a designCreate an algorithmBuild a sequence of blocks to a designCompare a project to a designCompare a project to a designDebug a program	 Skills The children will be able to: Recognise what devices can be used to take photographs Explain the process of taking a good photograph Take photos in both landscape and portrait format Improve a photograph by retaking it Explore the effect that light has on a photo Experiment with different light sources Recognise that images can be changed Use a tool to achieve a desired effect Recognise which photos have been changed 	Skils The children will be able to: I dentify simple differences in pieces of music Create a rhythm pattern Use a computer to experiment with pitch Use a mouse or touchscreen to interact with a program Refine my musical pattern on a computer Save a piece of learning on a computer	 Skills The children will be able to: Enter data onto a computer Use a computer to view data in a different format Organise data in a tally chart Use a tally chart to create a pictogram Create a pictogram to arrange objects by an attribute Collect the data we need Create a pictogram and draw conclusions from it Use a computer program to present information in different ways
End of Key Stage One powerful knowledge	 different ways What a computer is and its main part How to use a mouse in different ways How to use a keyboard to type on a c How to use the keyboard to edit text Move a mouse to a specific point That the look of text can be changed Identify and find keys on a keyboard Use letter, number, and space keys Use backspace to remove text Type capital letters Identify the toolbar and use bold, ital Change the font The uses and features of information Identify examples of computers Describe some uses of computers Demonstrate how IT devices work tog Talk about different rules for using IT How to use tools to change an image Recognise that images can be change Use a tool to achieve a desired effect Recognise which photos have been cl How to use a computer to create a m That we can present information usin Enter data onto a computer Use a computer to view data in a different so a computer program to present in 	s computer on a computer lic, and underline technology gether photograph d hanged usical pattern ng a computer erent format		 How to plan and input a simple prog How to find more than one solution Apply decomposition and abstraction Predict the outcome of a set of instruction Choose the order of commands in a set of use an algorithm to create a Using 'logic' to determine the steps results of the use and the steps results of the use and the steps results of the use as the block in a program Add programming blocks based on results of the use logical reasoning to pred How to use logical reasoning to pred How to create and debug a program Use abstraction to focus on key deta 	to a problem In to include the most relevant commands sequence program required on a command hem together hy algorithm order of instructions ict the outcome of a program that we have written ils of a command instructions to create different algorithms gram if commands	

Additional information technology opportunities across the year – Children to create at least 2 digital artefacts of written work using fonts with changing sizes, colours and fonts styles. Children to use photo editing and images within work. Children to experience Powerpoint to present their learning.					
What was life like in the Stone Age? Knowledge The children will know: • Creating media - Stop-frame animation • That animation is a sequence of drawings or photographs • How to plan an animation • Animated movement is a sequence of images • How to review and improve an animation • The impact of adding other media to an animation Potential project idea – Stop motion animation of a Stone Age person Potential resources - https://teachcomputing.org/curriculum/k ey-stage-2/creating-media-animation Puppet Pals (Paid version to personalise) or other stop motion animation app.	What is it like to live in Greece? Knowledge The children will know: • Sequencing sounds • A new programming environment • That commands have an outcome • That a program has a start • That a program has a start • That a sequence of commands should have an order • How to change the appearance of a project • How to create a project from a task description • How to describe a project using 'abstraction' • Potential project idea – Create a piece of music to relax by the pool in Greece to Potential resources – https://teachcomputing.org/curriculum/k ey-stage-2/programming-a-sequence-in- music • Https://scratch.mit.edu/	How did the ancient Greeks change the world? Knowledge The children will know: • Computing systems and networks – Connecting computers • How digital devices function • How to identify input and output devices • Digital devices can change the way we work • A computer network can be used to share information • Digital devices can be connected • The physical components of a network Potential project idea – Comparing how the Ancient Greeks communicated and stored information with how we do in the modern age. https://teachcomputing.org/curriculum/k ey-stage-2/computing-systems-and- networks-connecting-computers	Why is fair trade important? Knowledge The children will know: Data and information – Branching databases How to create questions with yes/no answers The attributes needed to collect data about an object How to create a branching database Why it is helpful for a database to be well structured The structure of a branching database How to create an identification tool Potential project idea – Sorting different Fair trade foods by their characteristics or sorting foods based on their food groups (Link to science curriculum) Potential resources - https://teachcomputing.org/curriculum/k	How have holidays in Cornwall changed over time? Knowledge The children will know: • Creating media – Desktop publishing • How text and images convey information • That text and layout can be edited • How to choose appropriate page settings • How to add content to a desktop publishing publication • How different layouts can suit different purposes • The benefits of desktop publishing Potential project idea – Create a magazine cover to advertise holidays in Cornwall. Potential resources - https://teachcomputing.org/curriculum/k ey-stage-2/creating-media-desktop- publishing Use Office 365 accounts for Publisher.	Why are our coasts changing Knowledge The children will know: • How to build a physical circuit Crumble • What events and actions in programs are • How to create a program to create a sequence of actions • How to sequence actions correctors • How to identify and fix bugs in program • How to design and create a program • How to design and create a program • How to design and create a simplighthouse design on a piece of card at the children program one light to switton and off. Potential resources – Crumbles http://code-it.co.uk/cards/
		Potential resources – School network such as wireless access points and printers.	ey-stage-2/data-and-information- branching-databases https://www.j2e.com/jit5#branch	Other software such as Powerpoint, Canva or Adobe Spark are also available.	
SkillsThe children will be able to:Draw a sequence of picturesExplain how an animation/flip book worksCreate an effective stop-frame animationCreate an effective stop-frame animationExplain why little changes are needed for each frameWork consistently and carefullyPredict what an animation will look likeDescribe an animation that is achievable on screenEvaluate the quality of an animationReview a sequence of frames to check our workUse onion skinning to help us make small changes between framesAdd other media to an animationEvaluate our final film	 Recognise that commands in Scratch are represented as blocks Create a program following a design Create a sequence of connected commands Start a program in different ways Combine sound commands Order notes into a sequence Decide the actions for each sprite in a program Make design choices for my artwork Identify and name the objects we 	SkillsThe children will be able to:Follow a processClassify input and output devicesRecognise similarities between using digital devices and non-digital toolsDiscuss why we need a network switchExplain how messages are passed through multiple connectionsDemonstrate how information can be passed between devicesExplain the role of a switch, server, and wireless access point in a networkRecognise that a computer networkIdentify how devices in a networkIdentify networked devices around usIdentify the benefits of computer networks	SkillsThe children will be able to:• Create two groups of objects separated by one attribute• Investigate questions with yes/no answers• Make up a yes/no question about a collection of objects• Arrange objects into a tree structure• Create a group of objects within an existing group• Select an attribute to separate objects into groups• Test a branching database to see if it works• Compare two branching database structures• Create a plan• Suggest real-world uses for branching databases	SkillsThe children will be able to:Explain the difference between text and imagesIdentify the advantages and disadvantages of using text and imagesRecognise that text and images can communicate messages clearlyChange font style, size, and colours for a given purposeEdit textCreate a template for a particular purposeDefine the term 'page orientation'Recognise placeholders and say why they are importantChoose the best locations for contentConse the best locations for contentMake changes to content after it has been addedSearch for relevant images onlinePaste text and images to create a finished product	Skills The children will be able to Choose blocks to set up a pro Choose which blocks to use for actions Use the 'loop' block to repeat program repeatedly Build more sequences of commands to make a design of Match a piece of code to an outcome Identify a way to improve a program Modify a program using a design Test a program against a given design

				Identify different layoutsMatch a layout to a purpose	
	<u> </u>	<u> </u>		• Materia layout to a purpose	
	Our digital literacy cu	rriculum is delivered on a regular basis acros	s the year, see our Computing map – Digital	Literacy for further details	
Additional information technolog	w opportunities across the year Chil	drop to croate at least 2 digital artefac	to of written work skills from across K	S1 and lower KS2. Children to create a	graph and table to display
		o editing and images within work. Ch		S1 and lower KS2. Children to create a	graph and table to display
information and add to a present	ation of written document. Use prot				1
What wakes our Farth angre?	What have the Romans ever done for	Where in the world is Nigeria?	What happened to the kingdom of Benin?	Why are the Tudors remembered?	How does the river get to the
What makes our Earth angry?	us?	Knowledge	Bennr	Knowledge	Knowledge
Knowledge	<u>45.</u>	The children will know:	Knowledge	The children will know:	The children will know:
The children will know:	Knowledge	• Computing systems and networks	The children will know:	• Creating media – Photo editing	• Data and information – Data
	The children will know:	- The Internet	Repetition in shapes	That the composition of digital	logging
How to create a Crumble circuit	Creating media - Audio production	 Networks physically connect to 	 That accuracy in programming is 	images can be changed	That data gathered over time
with multiple outputs (Two lights/motor in sequence)	That sound can be recorded That sould a recording to so he	other networks	important	That colours can be changed in	be used to answer questions
 How to create a sequence that 	 That audio recordings can be edited 	Networked devices make up the	How to create a program in a text-	digital imagesHow cloning can be used in photo	 To use a digital device to coll data automatically
alternates commands e.g. changing	 The different parts of creating a 	internet	based language	editing	 That a data logger collects 'data
light colours	podcast project	How websites can be shared via the	What 'repeat' means	 That images can be combined 	points' from sensors over tim
 How to develop the use of loops in 	 How to apply audio editing skills 	World Wide Web (WWW)	How to modify a count-controlled	How to combine images for a	How a computer can help us
a different programming	independently	 How content can be added and accessed on the World Wide Web 	loop to produce a given outcomeHow to decompose a task into	purpose	analyse data
environmentThat in programming there are	How to combine audio to enhance	(WWW)	small steps	How to evaluate how changes can	How to identify the data nee
infinite loops and count controlled	a podcast projectHow to evaluate the effective use	 The content of the WWW is 	 How to create a program that uses 	improve an image	to answer questionsHow to use data from sensor
loops	of audio	created by people	count-controlled loops to produce	Potential project idea – Using images of	answer questions
 How to develop a design that 		• The consequences of unreliable	a given outcome	Henry VIII to edit photos, link to art focus	
includes loops	Potential project idea – Creating a podcast	content		on portraiture	Potential project idea – Use data log
 How to design a project that includes repetition 	based upon the Sound Collector poem.		Potential project idea – create an image	Detertial recovered	with science learning about changin
includes repetition	Potential resources -	Potential project idea – Research Nigeria	using a repeating pattern that could be	Potential resources - https://teachcomputing.org/curriculum/k	states of matter and evaporation in water cycle.
Potential project idea – Create a volcano	https://teachcomputing.org/curriculum/k	online and recognise an unreliable piece	used on a greetings card	ey-stage-2/creating-media-photo-editing	water cycle.
with flashing lights to represent an	ey-stage-2/creating-media-audio-editing	of content (e.g. Wikipedia v. Brittanica)		Photo editing software on laptop	Potential resources -
eruption			Potential resources - https://teachcomputing.org/curriculum/k	https://pixlr.com/e/#editor	https://teachcomputing.org/curricu
	https://audacityteam.org/download	Potential resources - https://teachcomputing.org/curriculum/k	ey-stage-2/programming-a-repetition-in-		ey-stage-2/data-and-information-da
Potential resources - Crumbles	Or Powerpoint – record audio	ey-stage-2/computing-systems-and-	shapes		logging Data loggers in science resources
http://code-it.co.uk/cards/		networks-the-internet			
Be aware that Year 6 also need the			https://turtleacademy.com/playground		
resources in Spring 2.					
Skills	Skills	Skills		Skills	Skills
The children will be able to:	The children will be able to:	The children will be able to:	Skills	The children will be able to:	The children will be able t
• List an everyday task as a set of	 Identify the input and output 	 Identify networked devices and 	The children will be able to:	• Crop an image	Choose a data set to answer
instructions including repetition	devices used to record and play	describe how they connect	Create a code snippet for a given	Improve an image by rotating it	given question
 Modify a snippet of code to create 	sound	Describe how to access websites on	purpose	Experiment with different colour	 Identify data that can be gath over time
a given outcomePredict the outcome of a snippet of	 Use a computer to record audio Inspect the soundwave view to 	the WWW	• Explain the effect of changing a	effectsAdd to the composition of an image	over timeSuggest questions that can b
code	know where to trim a recording	• Explain the types of media that can	value of a command	by cloning	answered using a given data
 Choose when to use a loop 	 Re-record a voice to improve a 	be shared on the WWW	 Program a computer by typing commands 	 Remove parts of an image using 	 Explain what data can be col
Modify loops to produce a given	recording	 Explain that there are rules to protect content 	 Test an algorithm in a text-based 	cloning	using sensors
outcome	Plan appropriate content for a	 Suggest who owns the content on 	language	• Experiment with tools to select and	Use data from a sensor to an
 Identify which parts of a loop can be changed 	podcast	websites	 Use a template to create a design 	copy part of an image	given question
be changedBuild a Crumble circuit with more	 Save a project so the different parts remain editable 	 Explain that not everything on the 	for a program	 Use a range of tools to copy between images 	 Identify the intervals used to data
• Build a crumble circuit with more than one output in sequence	 Arrange multiple sounds to create 	World Wide Web is true	• Write an algorithm to produce a	 Create a project that is a 	 Talk about the data that has
 Build a program that follows a 	the effect wanted	• Explain why we need to think	given outcome	combination of other images	captured
design	• Explain the difference between	carefully before we share or	Identify everyday tasks that include	Combine text and a finished image	• Sort data to find information
Refine the algorithm in a design	saving a project and exporting an	reshare content	repetition as part of a sequence, eg	to complete the project	Use a data logger to collect d
	audio file		brushing teeth, dance moves		 Draw conclusions from the data
	 Open a project to continue working 		 Identify patterns in a sequence 		that has been collected

ent layouts		
t to a purpose		

Year 5	Suggest improvements to an audio recording	Identify why some information found online may not be honest, accurate, or legal	 Use a count-controlled loop to produce a given outcome Choose which values to change in a loop Identify the effect of changing the number of times a task is repeated Predict the outcome of a program containing a count-controlled loop Develop a program by debugging it 		
	Our digital literacy curr	iculum is delivered on a regular basis across	<u>the year, see our Computing map – Digital Lit</u>	teracy for further details	
	opportunities across the year – Childre t. Children to experience Sway and/or <u>What was it like to be a Victorian?</u>	_			
 Knowledge The children will know: Creating media - Video production What makes a video effective How to identify digital devices that can record video How to capture video using a range of techniques How to create a storyboard That video can be improved through reshooting and editing The impact of the choices made when making and sharing a video That additional tools such as greenscreen can improve an output Potential project idea – Videoing a documentary or warning video about climate change, potential links to literacy. Potential resources - https://teachcomputing.org/curriculum/k ey-stage-2/creating-media-video-editing 	Knowledge The children will know: Computing systems and networks Systems and searching That computers can be connected together to form systems The role of computer systems in our lives How to experiment with search engines How search engines select results How search results are ranked Why the order of results is important, and to whom Potential project idea – Creating online searches for Victorian information. Potential resources - https://teachcomputing.org/curriculum/k ey-stage-2/computing-systems-and-networks-sharing-information	 Knowledge The children will know: Data and information – Flat-file databases How to use a form to record information The differences between paper and computer-based databases How you can answer questions by grouping and then sorting data That tools can be used to select specific data That computer programs can be used to compare data visually How to use a real-world database to answer questions Potential project idea – Using the databases to identify flights to different countries around the world, per the suggested lesson. Potential resources - https://teachcomputing.org/curriculum/k ey-stage-2/data-and-information-flat-file- databases https://www.j2e.com/data/examples/cou ntries	Knowledge The children will know: • Selection in quizzes • How selection is used in computer programs • That a conditional statement connects a condition to an outcome • How selection directs the flow of a program • How to design a program which uses selection • How to create a program which uses selection Potential project idea – Create a quiz about London that can be shared with the children who attended. Potential resources - https://teachcomputing.org/curriculum/k ey-stage-2/programming-b-selection-in- quizzes https://scratch.mit.edu/	Knowledge The children will know: • Creating media – Introduction to vector graphics • That drawing tools can be used to produce different outcomes • How to create a vector drawing by combining shapes • How to use tools to achieve a desired effect • That vector drawings consist of layers • How to group objects to make them easier to work with Potential project idea – Create a poster to advertise "The Man on the Moon" theatre show – Links to DT and science learning. Potential resources - https://teachcomputing.org/curriculum/k ey-stage-2/creating-media-vector-drawing https://docs.google.com/drawings/d/12Sc I93DIQFOnqashITz_WZrkbOSkUTp31f0X9C dIZ-E/edit	 Knowledge The children will know: Selection in physical computing How to control a simple circuit connected to a computer How to write a program that includes count-controlled loops That a loop can stop when a condition is met That a loop can be used to repeatedly check whether a condition has been met How to design a physical project that includes selection How to create a program that controls a physical computing project Potential project idea – The Crumble is integrated with the DT project to allow for a simple circuit that is programmable (Builds towards more complex instructions in Year 6) Potential resources - https://teachcomputing.org/curriculum/k ey-stage-2/programming-a-selection-in- physical-computing http://code-it.co.uk/cards/

What did the Egyptians teach us? Are rainforests important? What legacy did the Celts leave in Communication What powers Earth? Were all Vikings vicious? Can you find your way hom Knowledge The children will know: Cereating media – Web page creation Knowledge The children will know: Cereating media – Web page creation Knowledge The children will know: Sensing movement Variables in games Data and information – SpreadSheets How data is transferred across the internet The need to preview pages That objects can be content owned by other people That objects can be content owned by other people Mow to create a 3D model for agiven purpose To use a conditional statement to content owned by other people The need for a navigation path technology The need for a specific rainforest or to promote protecting rainforests. Potential project idea – Create a 3-d model of a Cereating maintegr. Potential project idea – Create a 3-d model of a Cereating and thets//teachcomputing.org/curriculum/k Potential project idea – Making a web page for a specific rainforests. Potential project idea – Create a 3-d model of a Cereating and thets//teachcomputing.org/curriculum/k Potential project idea – Create a 3-d model of a celt houses or village. Potential project idea – Making a web page for a specific rainforests. Potential project idea – Create a 3-d model of a Cereate or village. Potential project idea – Create a 3-d model of a Celt houses or village. Potential project idea – B						
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		authuser=0		http://code-it.co.uk/cards/		
	Skills	Skills	Skills	Skills	Skills	Skills
	Skills The children will be able to: Describe how computers use addresses to access websites Explain that internet devices have addresses Explain that all data transferred over the internet is in packets Identify and explain the main parts of a data packet Explain that the internet allows different media to be shared Recognise how to access shared files stored online Send information over the internet in different ways Identify different ways of working together online Compare different methods of communicating on the internet Decide when we should and should not share information online Explain that communication on the internet may not be private	Skills The children will be able to: Discuss the different types of media used on websites Know that websites are written in HTML Recognise the common features of a web page Suggest media to include on a page Describe what is meant by the term 'fair use' Find copyright-free images Add content to a web page Preview what a web page looks like Describe why navigation paths are useful Make multiple web pages and link them using hyperlinks Create hyperlinks to link to other people's work Explain the implication of linking to content owned by others	Skills The children will be able to: Add 3D shapes to a project Move 3D shapes relative to one another View 3D shapes from different perspectives Lift/lower 3D objects Recolour a 3D object Resize an object in three dimensions Duplicate 3D objects Group 3D objects Rotate objects in three dimensions Accurately size 3D objects Combine a number of 3D objects Show that placeholders can create holes in 3D objects Analyse a 3D model Combine objects in a design Construct a 3D model based on a design Modify a 3D model to improve it	SkillsThe children will be able to:Apply knowledge of programming to a new environmentTest a program on an emulatorTransfer a program to a controllable deviceDetermine the flow of a program using selectionUse a variable in an if, then, else statement to select the flow of a programExperiment with different physical inputsExplain that checking a variable doesn't change its valueUse a condition to change a variableExplain the importance of the order of conditions in else, if statementsModify a program to achieve a different outcomeUse an operand (e.g. <>=) in an if, then statementDecide what variables to include in a project	Skills The children will be able to: • Explain that the way a variable changes can be defined • Identify examples of information that is variable • Identify that variables can hold numbers or letters • Recognise that the value of a variable can be changed • Decide where in a program to change a variable • Make use of an event in a program to set a variable • Create algorithms for a project • Choose a name that identifies the role of a variable • Test the code that has been written • Identify ways that a game could be improved	 The children will be able to: Collect data Enter data into a spreadsheet Apply an appropriate format to a cell Choose an appropriate format for a cell Explain what an item of data is Construct a formula in a spreadsheet Explain which data types can be used in calculations Identify that changing inputs changes outputs Apply a formula to multiple cells by duplicating it Calculate data using different operations Create a formula which includes a range of cells Apply a formula to calculate the data needed to answer questions Use a spreadsheet to answer questions Produce a chart
KS2 End of Key Stage Two powerful knowledge	 How to identify input and output de Digital devices can change the way w Identify the benefits of computer nee The attributes needed to collect data How to add content to a desktop pu Change font style, size, and colours for Search for relevant images online Networked devices make up the interes How content can be added and acce The consequences of unreliable content Identify why some information foun Use a computer to record audio Save a project so the different parts How to combine images for a purpose Crop an image Improve an image by rotating it Experiment with different colour effection How to identify the data needed to a sort data to find information How search results are ranked Explain that a search engine follows Describe some of the ways that sear How you can answer questions by generating to the search engine follows Outline how 'AND' and 'OR' can be used to a search engine chart to visual 	ve work tworks a about an object blishing publication for a given purpose ernet ssed on the World Wide Web (WWW) tent d online may not be honest, accurate, or lega remain editable se ects e data answer questions rules to rank results ch results can be influenced rouping and then sorting data used to refine data selection	21	 Test a program against a design Use a range of approaches to find and fix bugs That commands have an outcome That a program has a start That a sequence of commands should How to describe a project using 'abst Implement an algorithm as code How to identify and fix bugs in a prog Choose blocks to set up a program Build more sequences of commands Match a piece of code to an outcome What 'repeat' means How to decompose a task into small How to create a program that uses construction Program a computer by typing comm Test an algorithm in a text-based lang Write an algorithm to produce a give That in programming there are infinitiened to the design a project that includes How to create a program that contro Use selection (an 'ifthen' stateme Create a program with different outco A 'variable' as something that is chart Make use of an event in a program to 	traction' gram to make a design work e steps ount-controlled loops to produce a given out nands guage en outcome te loops and count controlled loops s repetition ols a physical computing project ent) to direct the flow of a program comes using selection ngeable	 Suggest when to use a table or chart Use a chart to show the answer to questions

How to communicate using technology	
Recognise how to access shared files stored online	
Decide when we should and should not share information online	
The implications of linking to content owned by other people	
Add content to a web page	
Construct a 3D model based on a design	
That formulas can be used to produce calculated data	
Enter data into a spreadsheet	
Construct a formula in a spreadsheet	
Apply a formula to multiple cells by duplicating it	
Calculate data using different operations	
Produce a chart	