## Overview of Computing at Chorley St Marys Catholic Primary and Nursery

## Pillars of Progression:

A useful way of thinking about progression in computing is to consider the 3 main content areas that pupils develop knowledge of: computer science information technology digital literacy

These 'pillars' of progression are visible in the aims of the national curriculum for computing. Pupils make progress in computing by knowing and remembering more about and, importantly, across each of these categories, and being able to apply this knowledge. However, these pillars do not sit separately from each other. Knowledge from each pillar complements the others and some subject content only exists at the interplay between these 3 pillars.

## Declarative and procedural knowledge:

For declarative (knowing what) and procedural (knowing how) knowledge please see Purple Mash document.

## Online Safety:

Online Safety is also covered in each year group in PSHE, please see the overview for more information.

Computing	Computing Substantive Key Knowledge and Concepts: (Pillars of progression)						
Computer Science The technical design. The design of new software, the solution to computing problems and the development of different ways to use technology.		Information Technology  The technical knowledge. The design, use and understanding of hardware and software; computers and electronic systems for storing and using information.		Digital Literacy The technical skills. The ability to use information and communication technologies to find, create, evaluate, and communicate information.			
	C	omputing Discip	olinary Key Knowledge	<u> </u>			
Code	(	Connect	Communicate	2	Collect		
Using and writing codes to produce instructions and algorithms; to solve problems; to test and use logic and sequences against inputs and outputs.	and confider	to safely, efficiently ntly digitally connect th others.	Being able to safely, effic confidently use apps and in technology to communic	nformation	Being able to safely, efficiently and confidently find, evaluate, store, sort and use appropriate data.		

	Substantive	EYFS outcomes	Composites and	Key Vocabulary
	Concepts (pillars	<u>ELGs</u>	components	
	of progression)			
A1	Computer Science	Communication and	Programming:	Instructions
		language	Instructions	Describe
		Personal, social and	Can I follow	Algorithm
		emotional	instructions?	Predict
		development	Can I give simple	Sequence
		Characteristics of	instructions?	
		Effective Learning	Can I explain what an	
		Physical development	algorithm is?	
Sp2	Information	Communication and	Computer Systems	On
	Technology	language	Information	Off
		Physical development	Technology	Record
		Characteristics of	Communicate	Pause
		Effective Learning		Play
		Understanding the	Can I use an operate	Controller
		World	simple technological	Twist
		Literacy	devices in everyday	Push
			life?	
Sum2	Information	Communication and	Computing systems	Mouse
	Technology	language	and networks:	Keyboard
		Physical development	Information	USB
		Characteristics of	Technology	Hard drive
		Effective Learning	Communicate	Monitor
		Understanding the		Technology
		World	Can I identify	Camera lens
		Literacy	hardware?	
			Do I know where	
			technology is used at	
			home and in school?	

Can I take	
photographs on a	
camera?	

			Reception		
	Substantive	EYFS outcomes	Composites and	Key vocabulary	<u>Skills</u>
	Concepts (pillars	<u>ELGs</u>	components		progression
	of progression)		·		
Summer	Information	Literacy	Networks and	Computer	
	Technology	Mathematics	systems: Using a	Monitor	
		Characteristics of	computer	Keyboard	
		Effective Learning	Do I know what a	Mouse	
		Physical development	keyboard is and can I	Uppercase and lowercase	
			locate relevant keys?	Password	
			Can I log in and out?	Private	
			Can I control a	Cursor	
			mouse?		
Spring	Computer Science	Personal, social and	Programming: Bee-	Algorithm	
		emotional	Bots	Debug	
		development	Can I follow a simple	Sequence	
		Characteristics of	sequence of	Right	
		Effective learning	instructions?	Left	
		Mathematics	Can I program a Bee-		
			Bot?		
			Can I debug		
			instructions?		
Autumn	Information	Communication and	Data handing:	Sort	
	Technology	language	Introduction to data	Share	
		Mathematics	Can I sort and	<i>G</i> roup	
			categorise objects?	Category	

Characteristics of Effective learning	Can I learn about branching databases thought physical sorting?	Total Graph Data	
	Can I interpret basic		
	pictogram?		

				Year 1			
	Substantive	<u>Prior</u>	Components	NC Focus	<u>Composites</u>	Key	<u>Skills</u>
	<u>Concepts</u>	<u>knowledge</u>				<u>Vocabulary</u>	progression
	(pillars of						
	progression)						
AT1	Digital	Safer Internet	1. Safe logins	Use technology	Online Safety	Avatar: A	Children
	Literacy	Day in	2. My work area	safely and	1.1	digital picture	understand the
		Reception	3. Purple Mash	respectfully,	What is a	to represent	importance of
	Information		topics	keeping	password and	someone.	keeping
	Technology	PSHE Autumn 2	4. Purple Mash	personal	why should we	Icon: An image	information,
		Keeping Safe	tools	information	keep them	on a web page	such as their
		Online		private;	safe?	that you can	usernames and
				identify where	What is a	click on to	passwords,
				to go for help	digital avatar?	navigate to	private and
				and support	Where is my	somewhere.	actively
				when they have	work saved on	<b>Login:</b> Using a	demonstrate
				concerns about	Purple Mash?	username and	this in lessons.
				content or		password to	Children take
				contact on the		access a	ownership of
				internet or		system.	their work and
							save this in

				other online		Notification: A	their own
				technologies.		message telling	private space
						you about	such as their
						something.	My Work
						Password: A	folder on
						series of	Purple Mash.
						letters,	
						numbers and	
						special	
						characters that	
						is entered	
						after the	
						username to	
						access an online	
						site. In Purple	
						Mash, this can	
						also be a series	
						of	
	_					pictures.	
AT2	Computer	Reception	1. Sorting away	Understand	Grouping and	<b>Algorithm</b> : a	Children
	Science	BeeBots topic	from the	what	sorting 1.2	precise, step-	understand
	Digital Literacy		computer	algorithms are;	In what ways	by-step set of	that an
			2. Sorting on	how they are	can we sort	instructions	algorithm is a
			the computer	implemented as	objects?	used to solve a	set of
				programs on		problem or	instructions
				digital devices;		achieve an	used to solve a
				and that		objective.	problem or
				programs execute by		Criteria: A way in which	achieve an objective. They
				following		something is	know that a
				precise and		_	
				precise and		judged.	computer

				unambiguous instructions.		Describe: To give a detailed account of something.  Equal: When two amounts are the same.  Groups:  Objects  arranged and put together because they have features in common.	program turns an algorithm into code that the computer can understand
Sum2	Digital Literacy	Nursery Summer 2 Computing systems and networks	1. What is Technology? 2. Technology outside of school	Recognise common uses of information technology beyond school.	Technology outside of school 1.9 What is technology? How does technology make our lives easier?	Computer: An electronic device for storing and processing data.  Technology: Science and engineering knowledge put into practical use to solve problems or invent useful tools.	Children understand what is meant by technology and can identify a variety of examples both in and out of school. They can make a distinction between objects that use modern technology and those that do

							not e.g. a microwave vs. a chair.
SpT2	Computer	Reception Bee-	1. Challenges 1	Understand	Maze explores	Algorithm: a	When looking
	Science	Bots topics	and 2	what	1.5	precise, step-	at a program,
		Year 1 Grouping	2. Challenges 3	algorithms are;	What is 2Go?	by-step set of	children can
		and sorting 1.2	and 4	how they are	How do I undo	instructions	read code one
		Lego Builders	3. Challenges 5	implemented as	a mistake on	used to solve a	line at a time
		1.4	and 6	programs on	2 <i>G</i> o?	problem or	and make good
			4. Setting more	digital devices;		achieve an	attempts to
			challenges	and that		objective.	envision the
				programs		Command: An	bigger picture
				execute by		action such as	of the overall
				following		left command.	effect of the
				precise and		Undo: If we	program.
				unambiguous		make a mistake,	Children can,
				instructions.		we can press	for example,
				Create and		the undo	interpret
				debug simple		button.	where the
				programs.		<b>Unit</b> : A unit	turtle in 2Go
				Use logical		such as make	challenges will
				reasoning to		the turtle move	end up at the
				predict the		2 units	end of the
				behaviour of		(squares).	program.
				simple			
				programs.			
SumT1	Computer	Reception Bee-	1. Instructions	Understand	Coding 1.7	<b>Algorithm:</b> a	Children are
	Science	Bots topics	2. Objects and	what	What is	precise, step-	able to sort,
	Information	Year 1 Grouping	actions	algorithms are;	coding?	by-step set of	collate, edit
	Technology	and sorting 1.2	3. Events	how they are	Why is it useful	instructions	and store
				implemented as		used to solve a	simple digital

Lego Builders	4. When code	programs on	to design	problem or	content e.g.
1.4	executes	digital devices;	before coding?	achieve an	children can
Maze Explorers	5. Setting the	and that	How can you	objective.	name, save and
1.5	scene	programs	make	Code:	retrieve their
	6. Using a plan	execute by	characters	Instructions	work and follow
		following	move in a 2Code	that a	simple
		precise and	program?	programmer	instructions to
		unambiguous		enters into a	access online
		instructions.		computer that	resources, use
		Create and		cause the	Purple Mash
		debug simple		computer to	2Quiz example
		programs.		perform a	(sorting
		Use logical		certain way.	shapes), 2Code
		reasoning to		Code blocks: A	design mode
		predict the		way to write	(manipulating
		behaviour of		code using	backgrounds)
		simple		blocks which	or using
		programs.		each have an	pictogram
		Use technology		object or an	software such
		purposefully to		action.	as 2Count.
		create,		Command: A	
		organise, store,		single	
		manipulate and		instruction in	
		retrieve digital		2Code.	
		content.		Debug\	
				Debugging:	
				Fixing code	
				that has errors	
				so that the	
				code will run	

						the way it was designed.  Execute: This is the proper word for when you run the code. We say, 'the program (or code) executes.'	
SumT1	Information Technology  Digital Litercy	Reception Using a Computer topic	1. Drawing and creating 2. Animation 3. Sounds and more 4. Making a story 5. Copy and paste	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Animated stories 1.6 What is 2Create a story? What is an animated story? How can I make my story better?	Animation: An object that moves on screen.  Font: The style of text used in a piece of writing on a computer or tablet.  Overwrite: When opening a previous file, users can make changes and save, which overwrites the file.	Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds)

			or using pictogram software such as 2Count.

	Year 2										
	Substantive Concepts (pillars of progression)	<u>Prior</u> <u>knowledge</u>	Components	NC Focus	<u>Composites</u>	<u>Key</u> <u>Vocabulary</u>	<u>Skills</u> <u>progression</u>				
AT1	Computer Science	Year 1 Coding 1.1 Lego Builders 1.4 Maze Explorers 1.5	<ol> <li>Algorithms</li> <li>Collision</li> <li>Detection</li> <li>Using a timer</li> <li>Different</li> <li>object types</li> <li>Buttons</li> <li>'Smelly Code'</li> </ol>	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by	Coding 2.1 What is an algorithm? Why is it useful in coding? Why is it important to know there are	Algorithm: a precise, step-by-step set of instructions used to solve a problem or achieve an objective.  Bug: A problem in a computer	Children can explain that an algorithm is a set of instructions to complete a task. When designing simple programs,				

	following	different	program that	children show
	precise and	object types?	stops it	an awareness
	unambiguous	If you are good	working the	of the need to
	instructions.	at coding, you	way it was	be precise with
	Create and	don't need to	designed.	their
	debug simple	debug. Is this	Collision	algorithms so
	programs.	true?	detection: In	that they can
	Use logical		2Code, this	be successfully
	reasoning to		measures	converted into
	predict the		whether 2	code.
	behaviour of		objects have	
	simple		touched each	Children can
	programs.		other.	create a simple
			Debug\	program that
			Debugging:	achieves a
			Fixing code	specific
			that has errors	purpose. They
			so that the	can also
			code will run	identify and
			the way it was	correct some
			designed to.	errors, e.g.
			Execute: This	Debug
			is the proper	Challenges:
			word for when	Chimp.
			you run the	Children's
			code. We say,	program
			'the program	designs display
			(or code)	a growing
			executes.'	awareness of
			<b>Interval</b> : In a	the need for
			timer, this is	logical,

						the length of time between the timer code running and the next time it runs e.g. every 1 second.  Scale: This is a property of an object that changes its size.	programmable steps.  When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program.  Children can, for example, interpret where the turtle in 2Go challenges will end up at the end of the
AT2	Information	Voor 1	1 Ugina and	Liga tachnalagy	Quadtioning	Avetes: A	program. Children
AT2	Information Technology	Year 1 Grouping and	<ol> <li>Using and creating</li> </ol>	Use technology purposefully to	Questioning 2.4	Avatar: A digital picture	demonstrate an
	J,	sorting 1.2	pictograms	create,	How does a	to represent	ability to
		Pictograms 1.3	2. Asking yes/ no	organise,	Pictogram show	someone.	organise data
			questions	story,	information?	Binary Tree: A	using, for
			3. Binary trees	manipulate and	How is	simple way of	example, a
					information	sorting	database such

4 Haina 20 na stion			: <b>f </b> :	
4. Using 2Question	retrieve digital	organised in a	information	as
(a computer based	content.	binary tree?	into two	2Investigate
binary tree		How can a	categories.	and can
program)		database help	Database: A	retrieve
5. Using		organise	computerised	specific data
2Investigate a		information?	system that	for conducting
non-binary			makes it easy	simple
database			to search,	searches.
			select and	Children are
			store	able to edit
			information.	more complex
			Pictogram: A	digital data
			diagram that	such as music
			uses pictures	compositions
			to represent	within
			data.	2Sequence.
			dara.	Children are
				confident when
				•
				creating,
				naming, saving
				and retrieving
				content.
				Children use a
				range of media
				in their digital
				content
				including
				photos,

SpT1	Information	Year 1	1. Understanding	Use technology	Effective	Browser: A	Children
	Technology	Online safety	the internet and	purposefully to	searching 2.5	tool to help us	demonstrate an
	Digital Literacy	1.1	searching	create,	How can I	access the	ability to
			2. Searching the	organise,	search the	World Wide	organise data
			internet	story,	internet?	Web.	using, for
			3. Sharing	manipulate and		Device: A piece	example, a
			knowledge of the	retrieve digital		of electrical	database such
			internet and	content.		equipment	as
			effective	Recognise		made for a	2Investigate
			searching	common uses		purpose.	and can
				of information		Digital	retrieve
				technology		Footprint: the	specific data
				beyond school.		information	for conducting
						about a	simple
						particular	searches.
						person that	Children are
						exists on the	able to edit
						internet as a	more complex
						result of their	digital data
						online activity.	such as music
						<b>Domain:</b> Part	compositions
						of the	within
						Internet	25equence.
						owned by an	Children are
						individual,	confident when
						company or	creating,
						organisation.	naming, saving
						Search Engine:	and retrieving
						A program to	content.
						help you find	Children use a
							range of media

						web pages on the Internet.  URL: Another word for web address  Web Address:  Identifying address for a file, or webpage on the Internet.	in their digital content including photos, text and sound.
<u>Sp2</u>	Digital Literacy	Year 1 Online safety 1.1	1. Searching and sharing 2. Email using 2Respond 3. Digital Footprint	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.	Online Safety 2.2 Why is a search bar useful? What is an email? What is meant by Digital Footprint?	Attachment: A computer file sent with an email. Digital footprint: The information about a person that exists on the Internet as a result of their online activity. Filter: A feature of search engines, where a user can filter results according to	Children know the implications of inappropriate online searches. Children begin to understand how things are shared electronically such as posting work to the Purple Mash display board. They develop an understanding

						criteria. For	of using email
						example, news,	safely by
						date published.	using 2Respond
						Personal	activities on
						information:	Purple Mash
						This is	and know
						information	ways of
						that is	reporting
						personal to	inappropriate
						someone. For	behaviours
						example, their	and content to
						favourite food,	a trusted
						their name and	adult
						age.	
						Private	
						information:	
						This is	
						personal	
						information	
						that should be	
						kept secure.	
						For example,	
						their date of	
						birth, their full	
						address, credit	
Sum 1	Triformation	Voor 1	1 Daviouina prior	Llas tachnology	Ennadahaata	card numbers.	Children
Sum1	Information Tachnology	Year 1	1. Reviewing prior	Use technology	Spreadsheets 2.3	Block graph:	
	Technology	Grouping and sorting 1.2	knowledge of spreadsheets	purposefully to create,	2.3 Why would you	This is a type of graph that	demonstrate an ability to
		301 11119 1.2	2. Copying and	organise,	copy and paste	displays data	organise data
			pasting	_	copy and paste	with blocks.	using, for
			pasting	story,		WITH DIOCKS.	using, ron

	Totalling tools	manipulate and	when using a	These can be	example, a
	3. Using a	•	_	made using	database such
		retrieve digital	spreadsheet?		
	spreadsheet to	content.	How could a	cells, colours	as as
	add amounts		spreadsheet	and labels in	2Investigate
	4. Creating a table		help you when	2Calculate.	and can
	and block graph		you are	Cell: An	retrieve
			planning some	individual	specific data
			shopping?	section of a	for conducting
				spreadsheet	simple
				grid. It	searches.
				contains data	Children are
				or calculations.	able to edit
				Data: A	more complex
				collection of	digital data
				information,	such as music
				used to help	compositions
				answer	within
				questions.	2Sequence.
				·	Children are
					confident when
					creating,
					naming, saving
					and retrieving
					content.
					Children use a
					range of media
					in their digital
					content
					including
					photos, text
					and sound.

Sum2	Information	Year 1	1. Presenting a	Use technology	Presenting	E-book: An	Children use a
	Technology	1.6 Animated	story Three	purposefully to	Ideas	electronic	range of media
		Story Books	Ways	create,	2.8	version of a	in their digital
			2. Presents	organise,	What do we	printed book.	content
			ideas as a	store,	need to think	Fact file: A	including
			quiz	manipulate and	about when	document	photos and
			3. Making a	retrieve digital	planning a	containing all	text.
			non-fication	content.	presentation?	the important	
			fact file		What should I	information	
			4. Making a		plan out my	about one	
			presentation		presentation?	subject.	

				Year 3			
	Substantive Concepts (pillars of progression)	<u>Prior</u> <u>knowledge</u>	Components	NC Focus	<u>Composites</u>	<u>Key</u> <u>Vocabulary</u>	<u>Skills</u> <u>progression</u>
AT1	Digital literacy	Year 2 Online safety 2.2 Effective searching 2.5	1. Safety in numbers 2. Fact or fiction? 3. Appropriate e content and ratings	Use technology safely, respectfully and responsibly; recognise acceptable/una cceptable behaviour; identify a range of ways to report	Online safety 3.2 What is a password and why should we keep them safe? Is everything I read on the Internet true? How do I know if I am old	Blog: A regularly updated website or web page, typically one run by an individual or small group, that is written in an informal or	Children demonstrate the importance of having a secure password and not sharing this with anyone else. Furthermore, children can explain the

		concerns about	enough to play	conversational	negative
		content and	a computer	style.	implications of
		contact.	game?	Permission:	failure to keep
			<b></b>	When someone	passwords safe
				shares or	and secure.
				accesses	They
				content online,	understand the
				it's important	importance of
				that	staying safe
				permission is	and the
				given if it	importance of
				belongs to	their conduct
				someone else or	when using
				has information	familiar
				about them.	communication
				Reliable	tools such as
				Source: A	2Email in Purple
				source of	Mash. They
				information	know more than
				that provides	one way to
				thorough, well-	report
				reasoned	unacceptable
				details based	content and
				on valid	contact.
				evidence.	confider.
				Spoof: An	
				imitation of	
				something that	
				appears to look	
				• •	
				genuine.	

						11: £ \411	
						<b>Verify:</b> When	
						seeking content	
						online, it is	
						important that	
						a user verifies	
						the	
						information.	
						They can do	
						this by	
						checking other	
						sources and	
						looking for	
						signs that	
						may indicate	
						inaccuracy in	
						the	
						information.	
AT2	Computer	Year 2	1. Using	Design, write	Coding 3.1	Algorithm: a	Children can
	Science	Code 2.1	flowcharts	and debug	Why is it useful	precise, step-	turn a simple
		Questioning 2.4	2. Using timers	programs that	to use a	by-step set of	real-life
			3. Using repeat	accomplish	flowchart to	instructions	situation into
			4. Code, test	specific goals,	design a	used to solve a	an algorithm
			and debug	including	computer	problem or	for a program
			5 &6. Design	controlling or	program?	achieve	by
			and make an	simulating	What does	an objective.	deconstructing
			interactive	physical	repeat mean in	Bug: A problem	it into
			scene	systems; solve	computer	in a computer	manageable
				problems by	programming?	program that	parts. Their
				decomposing	What is the	stops it	design shows
				them into	difference	working the	that they are
				smaller parts.	between timer		thinking of the

		Use sequence,	after and timer	way it was	desired task
		selection, and	every?	designed.	and how this
		repetition in		Debug\	translates into
		programs; work		Debugging:	code. Children
		with variables		Fixing code	can identify an
		and various		that has errors	error within
		forms of input		so that the	their program
		and output.		code will run	that prevents
		Use logical		the way it was	it following the
		reasoning to		designed to.	desired
		explain how		Flowchart: A	algorithm and
		some simple		diagram that	then fix it.
		algorithms		uses	
		work and to		specifically	Children
		detect and		shaped,	demonstrate
		correct errors		labelled boxes	the ability to
		in algorithms		and arrows to	design and code
		and programs.		represent an	a program that
				algorithm as a	follows a simple
				diagram.	sequence. They
				<b>Interval</b> : In a	experiment
				timer, this is	with timers to
				the length of	achieve
				time between	repetition
				the timer code	effects in their
				running and the	programs.
				next time it	Children are
				runs e.g. every	beginning to
				1 second.	understand the
				Timer: In	difference in
	 			coding, use a	the effect of

						timer command to run a block of commands after a timed delay or at regular intervals.	using a timer command rather than a repeat command when creating repetition effects.
							Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding
SpT1	Information	Year 2	1. Home, top	Select, use and	Touch typing	Keys: buttons	structures. Children can
	technology	Effective	and bottom row	combine a	3.4	that are	collect, analyse,
		searching 2.5	keys	variety of	Why should I	pressed on a	evaluate and
			2. Consolidation	software	have a good	computer	present data
			of lesson 1	(including	posture at the	keyboard or	and information
			3. Left keys	internet	computer?	typewriter.	using a
			4. Right keys	services) on a	Why should I	Posture: The	selection of
				range of digital	type certain	position in	software,

				40	ء ملخانین میں میا	مام نمایی	
				devices to	keys with a	which someone	
				design and	certain finger?	holds their	
				create a range		body when	
				of programs,		standing or	
				systems and		sitting.	
				content that		<b>Spacebar</b> : The	
				accomplish		bar at the	
				given goals,		bottom of the	
				including		keyboard.	
				collecting,			
				analysing,			
				evaluating and			
				presenting data			
				and			
				information.			
SpT2	Information	Year 2	1. Creating pie	Select, use and	Spreadsheets	Bar graph: A	Children can
	technology	Spreadsheets	charts and bar	combine a	3.3	chart that uses	collect, analyse,
	<b>.</b>	2.3	graphs	variety of	Explain how you	bars to show	evaluate and
		Questioning 2.4	2. Using more	software	would collect	quantities or	present data
			than and spin	(including	data to find out	numbers, so	and information
			time buttons	internet	children's	they can be	using a
			3. Advanced	services) on a	favourite	easily	selection of
			mode and cell	range of digital	school	compared.	software,
			addresses	devices to	subjects. What	Cell address:	,
				design and	sort of graph	Every cell has	
				create a range	would you	an address.	
				of programs,	create?	This can be	
				systems and	How can you	found by	
				content that	make a 3 times	reading the	
				accomplish	table machine	column	
				given goals,	using the spin		
		1		given godis,	asing me spin		

				including collecting, analysing, evaluating and presenting data and information.	tool? Could you use the equals tool to check your answer. Explain how you would locate a cell in the advanced mode?	letter then row number.  Data: A collection of information, especially facts or numbers, obtained by observation, questions or measurement to be analysed and used to help decision making.	
SumT1	Computer Science Information Technology Digital Literacy	Year 2 Online safety 2.2 Effective searching 2.5	1. Communication 2. Composing Emails 3 & 4. Using Email safely 5. Attachments 6. Email simulations	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	Email 3.5 What is email? What should I do if I receive an email that make me upset or scared? What information can I send in an email?	Attachment: A file, which could be a piece of work or a picture, that is sent with the email. BCC - Blind Carbon Copy: A way of privately sending a copy of your email to other people so they can see	Children can list a range of ways that the Internet can be used to provide different methods of communication. They can use some of these methods of communication Children can carry out

and	the information	simple searches
collaboration.	in it, without	to retrieve
Select, use and	the recipient	digital content.
combine a	knowing.	They
variety of	CC - Carbon	understand
software	Copy: A way of	that to do this,
(including	sending a copy	they are
internet	of your email to	connecting to
services) on a	other people so	the internet
range of digital	they	and using a
devices to	can see the	search engine
design and	information in	such as Purple
create a range	it.	Mash search or
of programs,	Save to draft:	internet-wide
systems and	Feature which	search engines.
content that	allows you to	
accomplish	compose an	Children can
given goals,	email and save	collect, analyse,
including	it to draft	evaluate and
collecting,	folder to	present data
analysing,	review later	and information
evaluating and	before sending.	using a
presenting data		selection of
and		software,
information.		
Use technology		
safely,		
respectfully		
and		
responsibly;		
recognise		

		1		T		T	
				acceptable/una			
				cceptable			
				behaviour;			
				identify a			
				range of ways			
				to report			
				concerns about			
				content and			
				contact.			
SumT2	Information	Year 1	1. Making a	Select, use and	Presenting with	Animation: The	Children can
	Technology	Animated story	presentation	combine a	Microsoft	process of	collect,
		books 1.6	from a blank	variety of	PowerPoint 3.9	adding	analyse,
			page	software	What is a	movement to	evaluate
		Year 2	2. Adding media	(including	presentation	still objects.	and present
		Presenting	3. Adding	internet	program used	<b>Editing:</b> To	data and
		ideas 2.8	animation	services) on a	for?	improve	information
			4. Presenting	range of digital	How do you add	something so	using a
			with timings	devices to	a transition to	that it is ready	selection of
			5 & 6. Create a	design and	a presentation?	for publication.	software,
			presentation	create a range	What features	Font	
				of programs,	can you use to	formatting:	
				systems and	make a	Changing the	
				content that	presentation	appearance of	
				accomplish	more engaging?	text on the	
				given goals,		screen.	
				including		Slideshow: A	
				collecting,		collection of	
				analysing,		pages arranged	
				evaluating and		in sequence	
				presenting data		that contains	
						text and	

	and	images to
	information.	present to an
		audience.
		Transition:
		How a slide
		moves from one
		to the next.

				Year 4			
	Substantive Concepts (pillars of progression)	<u>Prior</u> <u>knowledge</u>	<u>Components</u>	NC Focus	<u>Composites</u>	<u>Key</u> <u>Vocabulary</u>	<u>Skills</u> <u>progression</u>
<u>AT1</u>	Digital Literacy	Year 3 Online safety 3.2 Email 3.5	1. Going phishing 2. Beware malware 3. Plagiarism 4. Healthy screen time	Use technology safely, respectfully and responsibly; recognise acceptable/una cceptable behaviour; identify a range of ways to report concerns about	Online Safety 4.2 What is meant by a digital footprint? What is SPAM? What is meant by plagiarism?	Attachment: A file, which could be a piece of work or a picture, that is sent with an email. Cookies: A small amount of data generated by a website and saved by a web browser.	Children can explore key concepts relating to online safety using concept mapping such as 2Connect. They can help others to understand the importance of online safety.

	content and		Its purpose is	Children know a
	contact.		to remember	range of ways
			information	of reporting
		a	bout the user.	inappropriate
			Copyright:	content and
			When the	contact
			rights to	
			something	
			belong to a	
		S	pecific person.	
			Digital	
		f	ootprint: The	
			information	
		d	bout a person	
		1	hat exists on	
		tl	ne Internet as	
			а	
		r	esult of their	
		c	nline activity.	
			Plagiarism:	
			aking someone	
		6	else's work or	
			ideas and	
			passing them	
			off as one's	
			own.	
			Spam:	
		<b> </b>	Nessages sent	
			over the	
			Internet,	
			typically to	

AT2	Computor	Voor 2	1 Degion code	Dadian unita	Coding 4.1	many users, for the purposes of advertising, phishing or spreading malware.	W/h on tunning a
<u>AT2</u>	Computer Science	Year 3 Coding 3.1	1. Design, code, test and debug 2. IF statements 3. Co-ordinates 4. Repeat Until and IF/ELSE statements 5. Number Variables	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by 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	Coding 4.1 How can variables and if/else statements be useful when coding programs with selection? What does selection mean in coding and how can you achieve this in 2Code? What is the difference between the different object types in 2Code Gibbon level?	Algorithm: a precise, step-by-step set of instructions used to solve a problem or achieve an objective.  'If' statement: A computer uses an IF statement to decide which bit of code to run.  IF a condition is true, then the commands inside the block will be run.  'If/Else' statement: A conditional command. This tests a	When turning a real-life situation into an algorithm, the children's design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition.  Children make more intuitive attempts to debug their own programs.  Children's use of timers to achieve

	some simple	statement. If	repetition
	algorithms	the condition is	effects are
	work and to	true, then the	becoming more
	detect and	commands	logical and are
	correct errors	inside the 'if	integrated into
	in algorithms	block' will be	their program
	and programs.	run. If the	designs. They
		condition is not	understand 'IF
		met, then the	statements' for
		commands	selection and
		inside the 'else	attempt to
		block' are run.	combine these
		Prompt: A	with other
		question or	coding
		request asked	structures
		in coding to	including
		obtain	variables to
		information	achieve the
		from the user	effects that
		in order to	they design in
		select which	their programs.
		code to run.	As well as
		Selection:	understanding
		Selection is a	how variables
		decision	can be used to
		command.	store
		When selection	information
		is used, a	while a program
		program will	is executing,
		choose which	they are able
		bit of code to	to use and

			1 1.	
			run depending	manipulate the
			on a condition.	value of
			Variable: A	variables.
			named area in	Children can
			computer	make use of
			memory. A	user inputs and
			variable has a	outputs such as
			name and a	'print to
			value.	screen'. e.g.
			The program	2Code.
			can change this	
			variable value.	Children's
			Variables are	designs for
			used in	their programs
			programming to	show that they
			keep track of	are thinking of
			things that can	the structure
			change while a	of a program in
			-	
			program is	logical, achievable
			running.	
				steps and
				absorbing some
				new knowledge
				of coding
				structures. For
				example, 'IF'
				statements,
				repetition and
				variables. They
				can trace code
				and use step-

							through methods to identify errors in code and make logical attempts to correct this. In programs such as Logo, they can 'read' programs with
							several steps and predict the
							outcome
							accurately.
SpT1	Information	Year 3	1. Formula	Select, use and	Spreadsheets	Budget: The	Children are
	Technology	Spreadsheets	Wizard and	combine a	4.3	amount of	able to make
		3.3	formatting	variety of	How would you	money available	improvements
			cells	software	add a formula	to spend on a	to digital
			2. Using the	(including	so that the cell	project.	solutions based
			timer and spin	internet	shows the	Format Cell:	on feedback.
			buttons	services) on a	percentage	The way that	Children make
			3. Line graphs	range of digital	score for a	data is	informed
			4. Using a	devices to	test?	displayed in a	software
			spreadsheet	design and	Which tools	cell. For	choices when
			for budgeting	create a range	would you use	example, using	presenting
			5. Exploring	of programs,	to create a	units such as £	information and
			place value with	systems and	timed times	or \$.	data. They
			a spreadsheet	content that	tables test in	Formula: A	create linked
				accomplish	2Calculate?	group of	content using a
				given goals,		letters,	range of

				including collecting, analysing, evaluating and presenting data and information.	Explain what a spreadsheet model of a reallife situation is and what it can be used for?	numbers, or other symbols which represents a scientific or mathematical rule. The plural of formula is formulae. Formula Wizard: The formula wizard helps a user create formulas which perform calculations on selected cells. For example, adding, multiplying, average, total.	software such as 2Connect and 2Publish+. Children share digital content within their community, i.e. using Virtual Display Boards.
SpT2	Information	Year 3	1. Using a	Use search	Effective	Easter eggs:	Children understand the
	Technology	Online safety 3.2	search engine 2. Use search	technologies effectively,	searching 4.7 What is a	An unexpected or	function,
	Computer	3.2	effectively to	appreciate how	search engine?	undocumented	features and
	Computer Science		answer	results are	seurch engine?	feature in a	layout of a
	JCIENCE		questions	selected and		piece of	search engine.
			questions	ranked, and be		computer	They can
				discerning in		software or on	appraise
				aiscei ning in		JULIWALE OF OH	uppi uise

3. Reliable	evaluating	а	DVD, included	selected
information	digital content		as a joke or a	webpages for
sources			bonus.	credibility and
			Internet: A	information at
		g	lobal computer	a basic level.
			network	
			providing a	Children
			variety of	recognise the
		ir	nformation and	main component
			communication	parts of
			facilities.	hardware which
			Key words: A	allow computers
		w	ord or a group	to join and
			of words an	form a network.
			Internet user	Their ability to
			uses to	understand the
			perform a	online safety
			search in a	implications
			search engine.	associated with
			eliability: The	the ways the
			degree to	internet can be
			which the	used to provide
			result of	different
			something can	methods of
			e depended on	communication
			to be	is improving
			accurate.	. 5
			Search engine:	
			A program that	
			searches for	
			and identifies	

						items in a	
						database. Used	
						especially for	
						finding sites on	
						the World	
						Wide Web.	
SumT1	Computer	Year 3	1. Introduction	Design, write	Logo and	Logo: A text-	When turning a
<u>Julii 1 1</u>	Science	Coding 3.1	to 2Logo	and debug	Animations 4.5	based coding	real-life
	Information	Coding 5.1	2. Creating	programs that	& 4.6	language used	situation into
	Technology		letters using	accomplish	What is Logo?	to control an	an algorithm,
	recritiology	Year 1	2Logo	specific goals,	What is an	on-screen	the children's
		Animated	3. Using the	including	animation?	turtle to	design shows
		stories 1.6	repeat	controlling or	What is meant	create	that they are
		3101163 1.0	command in	simulating	by onion	mathematical	thinking of the
			2Logo	physical	skinning?	patterns.	required task
			4. Using	systems; solve	What is meant	Logo Commands	and how to
			Procedures	problems by	by stop motion	(e.g. FD, BK,	accomplish this
			Frocedures	decomposing	animation?	RT, LT) : A list	in code using
			1. Animating an	them into	animations	of commands	coding
						inputted into	structures for
			object 2. 2Animate	smaller parts		2Logo	selection and
			tools	Use sequence, selection, and		to move the	repetition.
				l ·		turtle around	Children make
			3. Stop motion animation	repetition in		the screen.	more intuitive
			animation	programs; work with variables		Animation: The	
				and various		_	attempts to
				forms of input		process of	debug their
				•		adding movement to	own programs.
				and output Use logical		still objects.	Children are
				_		FPS (Frame	able to make
				reasoning to		=	
				explain how		Per Second):	improvements

some simple	The number of	to digital
algorithms	frames played	solutions based
work and to	per second.	on feedback.
detect and	Frame: A single	Children make
correct errors	image in an	informed
in algorithms	animation.	software
and programs.	Onion skinning:	choices when
Select, use and	A process	presenting
combine a	where the	information and
variety of	shadow image	data
software	of the previous	
(including	frame is	
internet	present to help	
services) on a	you line up the	
range of digital	objects of the	
devices to	animation	
design and	correctly.	
create a range	Stop motion: A	
of programs,	technique	
systems and	whereby the	
content that	camera is	
accomplish	repeatedly	
given goals,	stopped and	
including	started, for	
collecting,	example to give	
analysing,	animated	
evaluating and	figures the	
presenting data	impression of	
and	movement.	
information.		

SumT2	Information	Year 1	1. What is	Select, use and	Introduction to	Artificial	Children are
	Technology	Technology	artificial	combine a	Artificial	Intelligence:	able to make
		outside of	intelligence?	variety of	Intelligence	Computer	improvements
		school 1.9	2. How	software	4.10	systems able to	to digital
			artificial	(including	What is	perform tasks	solutions based
			intelligence can	internet	artificial	normally	on feedback.
			help us	services) on a	intelligence?	requiring human	Children make
			3. The future	range of digital	How is	intelligence,	informed
			of artificial	devices to	artificial	such as seeing	software
			intelligence	design and	intelligence	things, speech	choices when
			4. Artificial	create a range	used in our	recognition,	presenting
			intelligence in	of programs,	lives?	decision-	information and
			action	systems and		making,	data
				content that		and translation	
				accomplish		between	
				given goals,		languages.	
				including		Algorithm: A	
				collecting,		precise, step-	
				analysing,		by-step set of	
				evaluating and		instructions	
				presenting data		used to solve a	
				and		problem or	
				information.		achieve an	
						objective.	
						Data: A	
						collection of	
						information,	
						especially facts	
						or numbers,	
						obtained by	

1	T .	T	
			observation,
			questions or
			measurement
			to be analysed
			and used to
			help decision
			making.

				Year 5			
	Substantive	<u>Prior</u>	<u>Components</u>	NC Focus	<u>Composites</u>	<u>Key</u>	<u>Skills</u>
	<u>Concepts</u>	<u>knowledge</u>				Vocabulary	progression
	(pillars of						
	progression)						
Sum2	Computer	Year 4	1. Coding	Design, write	Coding 5.1	Abstraction:	Children may
	Science	Coding 4.1	efficiently	and debug	What does	Abstraction is	attempt to turn
		Logo 4.5	2. Simulating a	programs that	simulating a	a way of de-	more complex
		Animation 4.6	physical system	accomplish	physical system	cluttering and	reallife
			3.	specific goals,	mean?	removing	situations into
			Decomposition	including	What do the	unnecessary	algorithms for
			and abstraction	controlling or	terms	details to get a	a program by
			4. Friction and	simulating	decomposition	program	deconstructing
			functions	physical	and abstraction	functioning.	it into
			5. Introducing	systems; solve	mean?	<b>Algorithm</b> : a	manageable
			strings	problems by	Describe how	precise, step-	parts. Children
				decomposing	you would use	by-step set of	are able to test
					variables to	instructions	and debug their

	6. Text variables and	them into smaller parts.	make a timer countdown and	used to solve a problem or	programs as they go and can
	concatenation	Use sequence,	a score pad for	achieve an	use logical
		selection, and	a game.	objective.	methods to
		repetition in		Concatenation	identify the
		programs; work		The action of	approximate
		with variables		linking a	cause of any
		and various		mixture of	bug but may
		forms of input		strings,	need some
		and output.		variable values	support
		Use logical		and numbers	identifying the
		reasoning to		together in a	specific line of
		explain how		series.	code.
		some simple		Debug\	
		algorithms		Debugging:	Children can
		work and to		Fixing code	translate
		detect and		that has errors	algorithms that
		correct errors		so that the	include
		in algorithms		code will run	sequence,
		and programs.		the way it was	selection and
				designed.	repetition into
				Decomposition:	code with
				A method of	increasing ease
				breaking down	and their own
				a task into	designs show
				manageable	that they are
				components.	thinking of how
				This makes	to accomplish
				coding easier	the set task in
				as the	code utilising
				components can	such

	T		
		then be coded	structures.
		separately and	They are
		then brought	combining
		back together	sequence,
		in the program.	selection and
		Physical	repetition with
		System: In this	other coding
		context, this is	structures to
		any object or	achieve their
		situation that	algorithm
		can be analysed	design.
		and modelled.	
		For example,	When children
		modelling the	code, they are
		function of a	beginning to
		traffic light,	think about
		modelling	their code
		friction of cars	structure in
		moving down	terms of the
		surfaces or	ability to debug
		modelling the	and interpret
		functions of a	the code later,
		home's security	e.g. the use of
		system.	tabs to
		Simulation: A	organise code
		model that	and the naming
		represents a	of variables
		real or	
		imaginary	
		situation.	
		Simulations can	

						be used to	
						explore options	
						and to test	
						predictions.	
AuT2	Computer	Year 4	1.	Understand	Online safety	Bibliography: A	Children
	Science	Online safety	Responsibilities	computer	5.2	list of all the	understand the
		4.2	and support	networks	Who do I tell if	books and	value of
		Effective	when online	including the	I see anything	articles used in	computer
		searching 4.7	2. Protecting	internet; how	online that	a piece of work.	networks but
		_	privacy	they can	makes me upset	Citation: A	are also aware
			3. Citing	provide	or scared?	quotation from	of the main
			sources	multiple	Why are	or reference to	dangers. They
			4. Reliability	services, such	passwords so	a book, paper,	recognise what
				as the world	important?	or author,	personal
				wide web; and	Why is it	especially in an	information is
				the	important to	academic work.	and can explain
				opportunities	reference	Copyright:	how this can be
				they offer for	sources in my	When the	kept safe.
				communication	work?	rights to	Children can
				and		something	select the most
				collaboration.		belong to a	appropriate
				Use technology		specific person.	form of online
				safely,		Identity theft:	communications
				respectfully		When someone	contingent on
				and		pretends to be	audience and
				responsibly;		another person	digital content,
				recognise		online. It can	e.g. 2Blog,
				acceptable/una		be done for	2Email, Display
				cceptable		financial gain or	Boards.
				behaviour;		to steal others'	
				identify a			

range of ways	private	Children have a
to report	information.	secure
concerns about	Plagiarism:	knowledge of
content and	Taking someone	common online
contact.	else's work or	safety rules
	ideas and	and can apply
	passing them	this by
	off as one's	demonstrating
	own.	the safe and
		respectful use
		of a few
		different
		technologies
		and online
		services.
		Children
		implicitly relate
		appropriate
		online
		behaviour to
		their right to
		personal
		privacy and
		mental
		wellbeing of
		themselves and
		others.

SpT1	Information	Year 4	1. Conversions	Select, use and	Spreadsheets	Format Cell:	Children are
	Technology	Spreadsheets	of	combine a	5.3	The way that	able to make
		4.3	measurements	variety of	How would you	text looks.	appropriate
			2. The count	software	add a formula	Formatting	improvements
			tool	(including	so that the cell	cells is helpful	to digital
			3. Formulae	internet	shows the	for	solutions based
			including the	services) on a	product of the	interpreting a	on feedback
			advanced mode	range of digital	two other	cell's contents	received and
			4. Using text	devices to	cells?	for example	can confidently
			variables to	design and	What would you	you might want	comment on the
			perform	create a range	use in	to format a cell	success of the
			calculations	of programs,	2Calculate to	to show a	solution. e.g.
			5. Event	systems and	have a cell that	fraction e.g. 4	creating their
			planning with a	content that	automatically	½ or include	own program to
			spreadsheet	accomplish	calculates the	units such as £	meet a design
				given goals,	number of days	or \$.	brief using
				including	since a certain	Formula: A	2Code. They
				collecting,	date?	group of	objectively
				analysing,	Explain what a	letters,	review
				evaluating and	spreadsheets	numbers, or	solutions from
				presenting data	model of real	other symbols	others.
				and	life situation is	which	Children are
				information.	and what is can	represents a	able to
					be used for?	scientific or	collaboratively
						mathematical	create content
						rule. The plural	and solutions
						of formula is	using digital
						formulae.	features within
						Variable: A	software such
						variable is used	as collaborative
						in computing to	mode. They are

						keep track of things that can change while a program is running.	able to use several ways of sharing digital content, i.e. 2Blog, Display Boards and 2Email.
<u>SumT1</u>	Information Technology	Year 4 Spreadsheets 4.3	1. Searchin g Database 2. Creating a class database 3. Creating a topic database	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Databases 5.4 What is a database? What is the collaborative feature important? In what ways can I sort information in a database?	Collaborative: Produced by, or involving, two or more parties working together.  Data: A collection of information, especially facts or numbers, obtained by observation, questions or measurement to be analysed and used to help decision making.  Database: A set of data that can be held in a computer in a	Children search with greater complexity for digital content when using a search engine. They are able to explain in some detail how credible a webpage is and the information it contains.

Aut1	Information Technology	Year 3 Word processing 3.8 Year 4 Effective searching 4.7	1. Making a page from a blank document 2. Inserting images 3. Editing images 4. Adding the text	Select, use and combine a variety of software (including internet services) on a range of digital devices to	Word Processing with Microsoft Word 5.8 What is a word processing tool used for? What features can you use to	format that can be searched and sorted for information.  Database Report: A way of producing a written paragraph that incorporates the data from the fields and records of the database.  Captions: Text under an image to provide more information about what is shown. Cropping: Removing the unwanted outer	Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently
			2. Inserting	software	Word 5.8	information	improvements
			_	,			_
						-	
			_	•		• • • •	·
					can you use to	_	can confidently
			5. Finishing	design and	make a	areas from an	comment on the
			touches	create a range	document more	image.	success of the
			6. Presenting	of programs,	readable?	Hyperlink: A	solution. e.g.
			information-	systems and	How do you	clickable link	creating their
			Using tables	content that	successfully	from a	own program to
				accomplish		document to	meet a design

7 Whiting a	aivan aaala	add an image to	another	briof using
7. Writing a	given goals,	add an image to		brief using
letter	including	a document?	location, often	2Code. They
8. Presenting	collecting,		a webpage.	objectively
information-	analysing,		Text	review
Newspaper	evaluating and		Formatting:	solutions from
	presenting data		When you	others.
	and		change the	Children are
	information.		format of text	able to
			on a page,	collaboratively
			including the	create content
			font and the	and solutions
			size and	using digital
			whether it is	features within
			bold,	software such
			underlined or in	as collaborative
			italics.	mode. They are
				able to use
				several ways of
				sharing digital
				content, i.e.
				2Blog, Display
				Boards and
				2Email.

	<u>Year 6</u>								
Substantive Concepts (pillars of progression)	<u>Prior</u> <u>knowledge</u>	<u>Components</u>	NC Focus	<u>Composites</u>	<u>Key</u> <u>Vocabulary</u>	<u>Skills</u> <u>progression</u>			

AT1 Digital Literacy	1. Message in a game 2. Online behaviou r 3. Screen time	Use technology safely, respectfully and responsibly; recognise acceptable/una cceptable behaviour; identify a range of ways to report concerns about content and contact.	Online Safety 6.2 Why do I need to be aware of the dangers of being online? What is meant by my digital footprint? Why is it important to think about how much time use a screen for?	Digital Footprint: The information about a person that exists on the Internet as a result of their online activity. Location sharing: A way of sharing with others your device's location, these	Children demonstrate the safe and respectful use of a range of different technologies and online services. They identify more discreet inappropriate behaviours
		to report concerns about content and	think about how much time use a screen	of sharing with others your device's	more discreet inappropriate

AT2	Computer	1 & 2. Desig	ning Design, write	Coding 6.1	Algorithm: a	Children are
	Science	and making	g a and debug	How can you	precise, step-	able to turn
		more comp	lex programs that	use Tabs in	by-step set of	a more complex
		program	accomplish	2Code Gorilla?	instructions	programming
		3. Using	specific goals,	What is a	used to solve a	task
		function	s including	function in	problem or	into an
		4. Flowcha	rts controlling or	coding? Give an	achieve an	algorithm by
		and contr	ol simulating	example that	objective.	identifying the
		simulation	ns physical	you have used	Concatenation:	important
		5. User inp	out systems; solve	in 2Code	The action of	aspects of the
		6. Using te	xt- problems by	Gorilla.	linking things	task
		based	decomposing	In 2Code	together in a	(abstraction)
		adventure	es them into	Gorilla, how can	series.	and then
			smaller parts.	a program	Variable: A	decomposing
			Use sequence,	receive user	named area in	them in a
			selection, and	input?	computer	logical way
			repetition in		memory. A	<b>u</b> sing their
			programs; work		variable has a	knowledge of
			with variables		name and a	possible
			and various		value.	coding
			forms of input		The program	structures and
			and output.		can change this	applying skills
			Use logical		variable value.	from
			reasoning to		Variables are	previous
			explain how		used in	programs.
			some simple		programming to	Children test
			algorithms		keep track of	and debug
			work and to		things that can	their program
			detect and		change while a	as they go
			correct errors		program is	and use logical
					running.	methods

in algorithms	× and y	to identify the
and programs.	properties:	cause of
	Properties of	bugs,
	an object that	demonstrating
	denote its	α
	position on the	systematic
	screen.	approach to
	In 2Code the	try to identify
	top left of the	a particular
	screen is (0,0)	line of code
	with maximum	causing a
	values of x and	problem.
	y determined	
	by the grid size	Children
	property of the	translate
	background.	algorithms that
		include
		sequence,
		selection and
		repetition into
		code and
		their own
		designs show
		that they are
		thinking of
		how to
		accomplish the
		set task in
		code utilising
		such
		structures,

	T	1	 
			including
			nesting
			structures
			within
			each other.
			Coding
			displays an
			improving
			understanding
			of
			variables in
			coding,
			outputs such as
			sound
			and movement,
			inputs
			from the user
			of the
			program such
			as button
			clicks and the
			value of
			functions.
			Children are
			able to
			interpret a
			program in
			parts and can
			make

SpT1	Computer			Jse logical	Binary 6.8	Binary: A	logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole. Children are
	Science Information	2. <i>C</i> ou	unting ex	casoning to xplain how	How does binary relate to	number system in which there	able to interpret a
	Technology	in b 3. Coi ng de to l 4. G	pinary so nverti a from who cimal d binary cor rame in and sel	ome simple Igorithms ork and to etect and rect errors algorithms d programs. ect, use and combine a variety of software (including internet rvices) on a	the programs that you use or create? How does binary relate to computer memory? How would you write the numbers 0 to 10 in binary?	are two separate integers that can be used to make all numbers. This is also called the base 2. Bit: A single 0 or 1 is called a bit. This word comes from 'Binary Digit'.	program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program as
			ran	ge of digital levices to		Nibble, Byte, Kilobyte,	whole.

			design and		Megabyte,	Children make
			create a range		Gigabyte and	clear
			of programs,		Terabyte:	connections to
			systems and		Words used to	the
			content that		describe	audience when
			accomplish		numbers of	designing and
			given goals,		bits and the	creating
			including		computer	digital content.
			collecting,		memory space	The
			analysing,		that they use.	children design
			evaluating and		(Nibble -	and
			presenting data		4 bits, Byte - 8	create their
			and		bits, Kilobyte	own blogs
			information.		(KB) - 1024	to become a
					bytes,	content
					Megabyte (MB)	creator on the
					- 1024 KB,	Internet,
					Gigabyte (GB) -	
					1024 MB,	
					Terabyte (TB)	
					- 1024 <i>G</i> B).	
CnT2	Information	1. What is	Select, use and	Spreadsheets	Cell: An	Children make
SpT2	Technology		combine a	with Microsoft	individual	children make clear
	recrinology	a spreadsh	variety of	Excel 6.9	section of a	connections to
		eet?	software	What is a	spreadsheet	the
		2. Basic	(including	spreadsheet	grid. It	audience when
		calculati	internet	used for?	contains data	designing and
		ons	services) on a	How do you	or calculations.	creating
		3. Modellin	range of digital	carry out a	Cell Reference:	digital content.
			devices to	curry our u	Each cell has a	The
		9	uevices 10		Luch cen hus a	1116

4. Organisi	design and	multiplication	cell reference	children design
ng data	create a range	calculation?	that shows its	and
5. Advance	of programs,	How does using	position. The	create their
d	systems and	the SUM	cell reference	own blogs
formulae	content that	function save	is displayed in	to become a
and big	accomplish	time?	the box on the	content
data	given goals,		top left (not on	creator on the
6. Charts	including		tablet version).	Internet,
and	collecting,		Flash-fill*: A	
graphics	analysing,		function of	
	evaluating and		Excel that fills	
	presenting data		cells using a	
	and		pattern	
	information.		started by the	
			user.	
			Formatting:	
			The way that	
			text looks (in a	
			cell).	
			Formula: A	
			group of	
			letters,	
			numbers, or	
			other symbols	
			which	
			represents a	
			scientific or	
			mathematical	
			rule. The plural	
			of formula is	
			formulae.	

SumT1	Computer	1. The	Understand	Networks 6.6	DNS (Domain	Children
	Science	World	computer	What is the	Name Server):	understand
		Wide	networks	difference	The system	and can explain
		Web an	d including the	between the	that	in
		the	internet; how	Internet and	automatically	some depth the
		interne	t they can	the World	translates	difference
		2. Our	provide	Wide Web?	internet	between the
		school	multiple	What is the	addresses to	internet and
		networ	k services, such	difference	the numeric	the World
		and	as the world	between LAN	machine	Wide Web.
		accessi	n wide web; and	and WAN?	addresses that	Children
		g the	the	Who is Tim	computers use.	know what a
		interne	t opportunities	Berners-Lee?	Internet: A	WAN and
		3. Researc	h they offer for		global computer	LAN are and
			communication		network	can
			and		providing a	describe how
			collaboration.		variety of	they
					information and	access the
					communication	Internet in
					facilities	school.
					consisting of	
					interconnected	
					networks using	
					standardized	
					communication	
					protocols.	
					IP address: A	
					unique string of	
					characters	
					that identifies	
					each computer	

	using the
	Internet
	Protocol to
	communicate
	over a network.
	LAN (Local
	Area
	Network): A
	computer
	network that
	links devices
	within a
	building or
	group of
	adjacent
	buildings,
	especially one
	with a radius of
	less than 1 km.
	WAN (Wide
	Area
	Network): A
	collection of
	local-area
	networks
	(LANs) or
	other networks
	that
	communicate
	with one
	another over a

	Janea physical
	large physical
	area or even
	globally.
	World Wide
	Web: An
	information
	system on the
	Internet which
	allows
	documents to
	be connected
	to other
	documents by
	hypertext
	links, enabling
	the
	user to search
	for information
	by moving from
	one document
	to another.