

# Westleigh Methodist Primary School Computing Progression of Skills and Knowledge

With God, all things are possible – Matthew 19:26 Love Teamwork Thankfulness Generosity Peace Forgiveness Equality Justice



#### **National Curriculum**

#### Purpose of study

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

### <u>Aims</u>

The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology

#### Subject Content

## Key Stage 1

Pupils should be taught to:

- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- 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.

#### Key Stage 2

#### Pupils should be taught to:

- 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 some simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

		Computer Science		Information Technology	Digital Literacy		
Year 1	Understand what	Create and debug	Use logical reasoning	Use technology purposefully to create,	Recognise	Use technology	
Statement:	algorithms are; how	simple programs.	to predict the	organise, store, manipulate and	common uses	safely and	
	they are		behaviour of simple	retrieve digital content.	of information	respectfully,	
	implemented as		programs		technology	keeping	
	programs on digital				beyond school.	personal	
	devices; and that					information	
	programs execute by					private; identify	
	following precise and					where to go for	

	unambiguous					help and
	instructions					support when
						they have
						concerns about
						content or
						contact on the
						internet or
						other online
						technologies.
Outcome:	Children understand	Children can work	When looking at a	Children are able to sort, collate, edit	Children	Children
	that an algorithm is a	out what is wrong	program, children can	and store simple digital content e.g.	understand	understand the
	set of instructions	with a simple	read code one line at a	children can name, save and retrieve	what is meant	importance of
	used to solve a	algorithm when the	time and make good	their work and follow simple	by technology	keeping
	problem or achieve	steps are out of	attempts to envision	instructions to access online	and can identify	information.
	an objective. They	order, e.g. The Wrong	the bigger picture of	resources, use Purple Mash 2Quiz	a variety of	such as their
	know that a	Sandwich in Purple	the overall effect of	example (sorting shapes), 2Code	examples both	usernames and
	computer program	Mash and can write	the program. Children	design mode (manipulating	in and out of	passwords.
	turns an algorithm	their own simple	can, for example,	backgrounds) or using pictogram	school. They	private and
	into code that the	algorithm, e.g.	interpret where the	software such as 2Count.	, can make a	' actively
	computer can	Colouring in a Bird	turtle in 2Go		distinction	demonstrate
	understand.	activity. Children	challenges will end up		between	this in lessons.
		, know that an	at the end of the		objects that use	Children take
		unexpected outcome	program		modern	ownership of
		is due to the code			technology and	their work and
		they have created			those that do	save this in
		and can make logical			not e.g. a	their own
		attempts to fix the			microwave vs. a	private space
		code, e.g. Bubbles			chair	such as their My
		activity in 2Code.				Work folder on
						Purple Mash.
l can	- I can explain th	nat an algorithm is a set o	of instructions.(1.4, 1.5)	- I can sort sound, pictures and	- I can say	what technology
statements:	<ul> <li>I know that a c</li> </ul>	omputer program turns	an algorithm into code	text. (1.2)	is. (1.9)	-
	that the compu	uter can understand.(1.4,	, 1.7)			

	<ul> <li>I can work of in</li> <li>instructions</li> <li>I can say the because my</li> <li>I can try and</li> <li>I can make program. For</li> <li>(1.5, 1.7)</li> </ul>	out what is wrong whe . (1.4, 1.5) at if something does n code is incorrect. (1.7 d fix my code if it isn't good guesses of what or example, where the	en the steps are out of order not work how it should it is 7) working properly. (1.7) is going to happen in a e turtle might go.	-	I can add sound, pictures and text to a program such as 2Create a Story. (1.6) I can change content on a file such as text, sound and images. (1.3, 1.6, 1.7, 1.8) I can name my work. (1.2, 1.3, 1.6, 1.7, 1.8) I can save my work. (1.2, 1.3, 1.6, 1.7, 1.8) I can find my work. (1.2, 1.3, 1.6, 1.7, 1.8	-	I can say technolo (1.9) I can say technolo (1.9) I know th old techr smart ph technolo I can kee informat most uni I can save safe plac Work' fol most uni	what examples of gy are in school. what examples of gy are at home. hat a chair uses hology and a one uses new gy. (1.9) p my login ion safe. (1.1 and ts) e my work in a e such as 'My Ider. (1.1 and ts)
		Computer Scie	nce		Information Technology		teracy	
Year 2 Statement:	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.	Create and debug simple programs	Use logical reasoning to predict the behaviour of simple programs.	Use te organi retriev	chnology purposefully to create, se, store, manipulate and e digital content.	Recog comm of info techno beyon	nise on uses ormation blogy d school.	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.
Outcome:	Children can	Children can	Children can identify the	Children demonstrate an ability to	Children can	Children know
	explain that an	create a simple	parts of a program that	organise data using, for example, a	effectively	the implications
	algorithm is a set	program that	respond to specific events	database such as 2Investigate and can	retrieve	of inappropriate
	of	achieves a specific	and initiate specific actions.	retrieve specific data for conducting	relevant,	online searches.
	instructions to	purpose. They can	For example, they can write	simple searches. Children are able to	purposeful	Children begin
	complete a	also identify and	a cause and effect sentence	edit more complex digital data such as	digital content	to understand
	task. When	correct some	of what will happen in a	music compositions within 2Sequence.	using a search	how things are
	designing simple	errors, e.g. Debug	program.	Children are confident when creating,	engine. They	shared
	programs,	Challenges: Chimp.		naming, saving and retrieving content.	can apply their	electronically
	children show an	Children's program		Children use a range of media in their	learning of	such as posting
	awareness of the	designs display a		digital content including photos, text	effective	work to the
	need to be	growing		and sound	searching	Purple Mash
	precise with their	awareness of the			beyond the	display board.
	algorithms	need for logical,			classroom. They	They develop
	so that they can	programmable			can share this	an
	be	steps.			knowledge, e.g.	understanding
	successfully				2Publish	of using email
	converted into				example	safely by using
	code.				template.	2Respond
					Children make	activities on
					links between	Purple Mash
					technology they	and know ways
					see around	of reporting
					them, coding	inappropriate
					and multimedia	behaviours and
					work they do in	content
					school e.g.	
					animations,	
					interactive code	
					and programs.	

<ul> <li>Can explain an algorithm is a set of instructions to complete a task. (2.1)</li> <li>I know I need to carefully plan my algorithm so it will work when I make it into code. (2.1)</li> <li>I can design a simple program using 2Code that achieves a purpose. (2.1)</li> <li>I can find and correct some errors In my program. (2.1)</li> <li>I can say what will happen in a program. (2.1)</li> <li>I can spot something in a program that has an action or effect (does something). (2.1)</li> </ul>	<ul> <li>I can organise data – for example, using a database such as 2Investigate.(2.3, 2.4)</li> <li>I can find data using specific searches– for example, using 2Investigate.(2.4, 2.5)</li> <li>I can use several programs to organise information – for example, using binary trees such as 2Question or spreadsheets such as 2Calculate. (2.4, 2.8)</li> <li>I can edit digital data such as data in music composition software like 2Sequence. (2.7 and most units)</li> <li>I can name, save and find my work. (2.3, 2.4, 2.6, 2.7, 2.8 &amp; most units)</li> <li>I can include photos, text and sound in my creations. (2.8, 2.6)</li> </ul>	<ul> <li>I can find information I need using a search engine. (2.5)</li> <li>I know the consequences of not searching online safely. (2.2, 2.5)</li> <li>I can share work and communicate electronically – for example using 2Email or the display boards. (2.2 and others)</li> <li>I can report unkind behaviour and things that upset me online, to a trusted adult. (2.2)</li> <li>I can see where technology is used at school such as in the office or canteen. (2.2)</li> <li>I understand that my creations such as programs in 2Code, need similar skills to the adult world. e.g. The program used for collecting money for school trips. (2.1)</li> </ul>
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Year 3	Design, write	Use	Use logical	Understand computer	Use search	Select, use and	Use technology safely, respectfully
Statement:	and debug	sequence,	reasoning to	networks, including	technologies	combine a variety	and responsibly; recognise
	programs that	selection	explain how	the internet; how they	effectively,	of software	acceptable/ unacceptable
	accomplish	and	some simple	can provide multiple	appreciate how	(including internet	behaviour; identify a range of
	specific goals,	repetition in	algorithms	services, such as the	results are	services) on a range	ways to report concern about
	including	programs;	work and to	World Wide Web, and	selected and	of digital devices to	content and contact.
	controlling or	work with	detect and	the opportunities they	ranked, and be	design and create a	
	simulating	variables	correct	offer for	discerning in	range of programs,	
	physical	and various	errors in	communication and	evaluating	systems and	
	systems; solve	forms of	algorithms	collaboration.	digital content.	content that	
	problems by	input and	and			accomplish given	
	decomposing	output	programs.			goals, including	
	them into					collecting,	
	smaller parts.					analysing,	
						evaluating and	
						presenting data and	
						information.	
Outcome:	Children can	Children	Children's	Children can list a	Children can	Children can collect,	Children demonstrate the
	turn a simple	demonstrate	designs for	range of ways that the	carry out	analyse, evaluate	importance of having a secure
	real-life	the ability to	their	internet can be used	simple searches	and present data	password and not sharing this with
	situation into	design and	programs	to provide different	to retrieve	and information	anyone else. Furthermore,
	an algorithm	code a	show that	methods of	digital content.	using a selection of	children can explain the negative
	for a program	program that	they are	communication. They	They	software, e.g. using	implications of failure to keep
	by	follows a	thinking of	can use some of these	understand	a branching	passwords safe and secure. They
	deconstructing	simple	the	methods of	that to do this,	database	understand the importance of
	it into	sequence.	structure of	communication, e.g.	they are	(2Question), using	staying safe and the importance of
	manageable	They	a program	being able to open,	connecting to	software such as	their conduct when using familiar
	parts. Their	experiment	in logical,	respond to and attach	the internet	2Graph. Children	communication tools such as
	design shows	with timers	achievable	files to emails using	and using a	can consider what	2Email in Purple Mash. They know
	that they are	to achieve	steps and	2Email. They can	search engine	software is most	more than one way to report
	thinking of the	repetition	absorbing	describe appropriate	such as Purple	appropriate for a	unacceptable content and contact.
	desired task	effects in	some new	email conventions	Mash search or	given task. They can	
	and how this	their	knowledge			create purposeful	

translates into	programs.	of coding	when communicating	internet-wide	content to attach to	
code. Children	Children are	structures.	in this way.	search engines.	emails, e.g.	
can identify an	beginning to	For			2Respond.	
error within	understand	example, 'if'				
their program	the	statements,				
that prevents	difference in	repetition				
it following the	the effect of	and				
desired	using a timer	variables.				
algorithm and	command	They make				
then fix it.	rather than a	good				
	repeat	attempts to				
	command	'step				
	when	through'				
	creating	more				
	repetition	complex				
	effects.	code in				
	Children	order to				
	understand	identify				
	how	errors in				
	variables can	algorithms				
	be used to	and can				
	store	correct this.				
	information	e.g. traffic				
	while a	light				
	program is	algorithm in				
	executing	2Code. In				
		programs				
		such as				
		Logo, they				
		can 'read'				
		programs				
		with several				
		steps and				

			predict the outcome					
I can statements:	<ul> <li>I can ma (3.1)</li> <li>I can de it to do</li> <li>I can ide</li> <li>I can ide timer or</li> <li>I can ide</li> <li>I can use appropri</li> </ul>	ke a real-life situ sign an algorithn and how I can tu ntify an error in periment with tin ntify the differe repeat commar hat a variable sto (executing). (3.1 ntify 'If' stateme d programs with I can identify di communication e email such as 2 iately and attack	accurately accurately ation into an a carefully, thin rn it into code. my program ar mers in my prog nce in using be d in my code. ( ores information) ents, repetition a several steps fferent ways th . (3.5) Email to respond files. (3.5)	ligorithm for a program. king about what I want (3.1) nd fix it. (3.1) grams. (3.1) tween the effect of a (3.1) on while a program is and variables. (3.1) and predict what it will hat the internet can be nd to others	- - - -	I can carr digital co online sy Purple M search er I can coll into softw I can ana features help such 2Calculat (3.3, 3.6, I can pres informat software (branchir 2Graph (1 3.6, 3.8,3) I can con appropria when giv teacher. I can crea (appropri and attac (3.3, 3.5,	y out searches to find intent on a range of stems, such as within lash or on an internet ngine. (Across units) ect data and input it ware. (3.3, 3.6, 3.8) lyse data using within software to n as, formula in te (spreadsheets). 3.8) sent data and ion using different such as 2Question ng database) or graphing tool). (3.3, 8.9) sider what the most ate software to use en a task by my (Across units) ate purposeful iate) content ch this to emails. 3.6, 3.7, 3.8, 3.9)	I can create a secure password. (3.2) I can explain the importance of having a secure password and not sharing it with others. (3.2, 3.5) I can explain the negative consequences of not keeping passwords safe and secure. (3.2, 3.5) I understand the importance of keeping safe online and behaving respectfully. (3.2) I can use communication tools such as 2Email respectfully and use good etiquette. (3.2, 3.5) I can report unacceptable content and contact online in more than one way to a trusted adult. (3.2)

		Comp	uter Science		Informatio	on Technology	Digital Literacy
Year 4	Design, write	Use sequence,	Use logical	Understand computer	Use search	Select, use and	Use technology safely, respectfully
Statement:	and debug	selection and	reasoning to	networks, including	technologies	combine a variety of	and responsibly; recognise
	programs that	repetition in	explain how	the internet; how	effectively,	software (including	acceptable/ unacceptable
	accomplish	programs;	some simple	they can provide	appreciate how	internet services)	behaviour; identify a range of
	specific goals,	work with	algorithms	multiple services,	results are	on a range of digital	ways to report concern about
	including	variables and	work and to	such as the World	selected and	devices to design	content and contact
	controlling or	various forms	detect and	Wide Web, and the	ranked, and be	and create a range	
	simulating	of input and	correct	opportunities they	discerning in	of programs,	
	physical	output.	errors in	offer for	evaluating	systems and	
	systems;		algorithms	communication and	digital content.	content that	
	solve		and	collaboration.		accomplish given	
	problems by		programs.			goals, including	
	decomposing					collecting,	
	them into					analysing,	
	smaller part					evaluating and	
						presenting data and	
						information	
Outcome:	When turning	Children's use	Children's	Children recognise	Children	Children are able to	Children can explore key concepts
	a real-life	of timers to	designs for	the main component	understand the	make	relating to online safety using
	situation into	achieve	their	parts of hardware	function,	improvements to	concept mapping such as
	an algorithm,	repetition	programs	which allow	features and	digital solutions	2Connect. They can help others to
	the children's	effects are	show that	computers to join and	layout of a	based on feedback.	understand the importance of
	design shows	becoming	they are	form a network. Their	search engine.	Children make	online safety. Children know a
	that they are	more logical	thinking of	ability to understand	They can	informed software	range of ways of reporting
	thinking of the	and are	the	the online safety	appraise	choices when	inappropriate content and
	required task	integrated	structure of	implications	selected	presenting	contact.
	and how to	into their	a program	associated with the	webpages for	information and	
	accomplish	program	in logical,	ways the internet can	credibility and	data. They create	
	this in code	designs. They	achievable	be used to provide	information at	linked content using	
	using coding	understand 'if	steps and	different methods of	a basic level.	a range of software	
	structures for	statements	absorbing	communication is		such as 2Connect	
	selection and	tor selection	some new	improving.		and 2Publish+.	

repetition.	and attempt	knowledge		Children share	
Children make	to combine	of coding		digital content	
more intuitive	these with	structures.		within their	
attempts to	other coding	For		community, i.e.	
debug their	structures	example, 'if'		using Virtual Display	
own	including	statements,		Boards.	
programs.	variables to	repetition			
	achieve the	and			
	effects that	variables.			
	they design in	They can			
	their	trace code			
	programs. As	and use			
	well as	stepthrough			
	understanding	methods to			
	how variables	identify			
	can be used	errors in			
	to store	code and			
	information	make logical			
	while a	attempts to			
	program is	correct this.			
	executing,	e.g. traffic			
	they are able	light			
	to use and	algorithm in			
	manipulate	2Code. In			
	the value of	programs			
	variables.	such as			
	Children can	Logo, they			
	make use of	can 'read'			
	user inputs	programs			
	and outputs	with several			
	such as 'print	steps and			
	to screen'.	predict the			
	e.g. 2Code				

			outcome accurately.						
I can statements:	<ul> <li>I can tur design t</li> <li>I can use continue being er</li> <li>I can use create r machine</li> <li>I can use using ar program</li> <li>I can use change</li> <li>I can use program</li> <li>I can use program</li> <li>I can use program</li> <li>I can use program</li> <li>I can ide such as</li> <li>I can rea outcom</li> <li>I recogn comput</li> <li>I unders can be f join the</li> </ul>	in a real-life situa hat shows how I e repetition in my es until a condition ntered. (4.1) e timers within me epetition effects. e. (4.1) e selection (decise n'if statement' for n takes one of tw e variables within the value of varia e the user inputs n, such as 'Print the entify errors in my steeping through ad programs that es with increasing ise the main com- ers to join and for tand that networ ound in many dif- internet. (4.2, 4.7)	tion to solve internet can accomplish v code. For example, i on is met such a sy program desi For example, i for example, i on) in my program desi for example, i on) in my program are bles. (4.1) my program are bles. (4.1) and output fear of screen'. (4.1) v code by using lines of code a contain several g accuracy. (4.1) ponent parts o rm a network. (k and commun ferent devices v 7, 4.8)	to an algorithm, using a this in code. (4.1, 4.5) mple, using a loop that is the correct answer gns more accurately to can create a counting ramming. For example, ing asked and the nd know how to tures within my different methods, nd fixing them. (4.1) I steps and predict the , 4.5) f hardware which allow (4.8) ication components which allow them to	- Lu se fe - Lo wr pr of wi - Lo so or cr (4 - Lo ot ch - Lo ct ch - Lo ct ch - Lo ct Di	understa earch en eatures v can look ebpage redictior f inform ithin it. can crea olutions n feedba reate a p 1.1, 4.2) can revie thers hav reate cor 1.1, 4.3, 4 can shar sing a va uch as: 2 isplay Bo	and the purpose of a gine and the main within it. (4.7) at information on a and make as about the accuracy ation contained (4.7) te and improve my to a problem based ack. For example, orogram using 2Code. ew solutions that ve created, using a of criteria. (4.1, 4.2) collaboratively to atent and solutions. 4.4,48) e digital content ariety of applications Blog, 2Email and bards. (Across units)	-	I have a good understanding of the online safety rules we learn at school. (4.2 & across curriculum) I can demonstrate how to use different online technologies safely. (4.2 & across curriculum) I can demonstrate how to use a few different online services safely. (4.2 & across curriculum) I know I have a right to privacy both on and offline. (4.2 & across curriculum) I recognise that my wellbeing can be affected by how I use technology. (4.2 & across curriculum) I can report with ease any concerns with content and contact online and know immediate strategies to keep safe. (4.2 & across curriculum)
Voor E	Dosign write	Lico	Lico logical	Understand		b ormatic	Soloct uso and	Lico tor	
Statement:	Design, write	Use	use logical	computer networks	tochnolog		select, use dilu	ose teo	childing salery, respectfully
Statement:	and debug	sequence,	reasoning to	computer networks,	technolog	les	compline a variety of	and res	sponsibly; recognise
	programs that	selection and	explain how	including the	effectively	/,	software (including	accept	able/ unacceptable

	accomplish	repetition in	some simple	internet; how they	appreciate how	internet services)	behaviour; identify a range of
	specific goals,	programs;	algorithms	can provide multiple	results are	on a range of digital	ways to report concern about
	including	work with	work and to	services, such as the	selected and	devices to design	content and contact.
	controlling or	variables and	detect and	World Wide Web,	ranked, and be	and create a range	
	simulating	various forms	correct	and the opportunities	discerning in	of programs,	
	physical	of input and	errors in	they offer for	evaluating	systems and	
	systems; solve	output.	algorithms	communication and	digital content.	content that	
	problems by		and	collaboration.		accomplish given	
	decomposing		programs.			goals, including	
	them into					collecting,	
	smaller parts.					analysing,	
	-					evaluating and	
						presenting data and	
						information.	
Outcome:	Children may	Children can	When	Children understand	Children search	Children are able to	Children have a secure
	attempt to	translate	children	the value of	with greater	make appropriate	knowledge of common
	turn more	algorithms	code, they	computer networks	complexity for	improvements to	online safety rules and can
	complex real-	that include	are	but are also aware of	digital content	digital solutions	apply this by demonstrating
	life situations	sequence,	beginning to	the main dangers.	when using a	based on feedback	the safe and respectful use
	into	selection and	think about	They recognise what	search engine.	received and can	of a few different
	algorithms for	repetition	their code	personal information	They are able to	confidently	technologies and online
	a program by	into code	structure in	is and can explain	explain in some	comment on the	services. Children implicitly
	deconstructing	with	terms of the	how this can be kept	detail how	success of the	relate appropriate online
	it into	increasing	ability to	safe. Children can	credible a	solution. e.g.	behaviour to their right to
	manageable	ease and	debug and	select the most	webpage is and	creating their own	personal privacy and
	parts. Children	their own	interpret the	appropriate form of	the information	program to meet a	mental wellbeing of
	are able to	designs show	code later,	online	it contains.	design brief using	themselves and others.
	test and debug	that they are	e.g. the use	communications		2Code. They	
	their programs	thinking of	of tabs to	contingent on		objectively review	
	as they go and	how to	organise	audience and digital		solutions from	
	can use logical	accomplish	code and the	content, e.g. 2Blog,		others. Children are	
	methods to	the set task in	naming of	2Email, Display		able to	
	identify the	code utilising	variables	Boards.		collaboratively	

	approximate cause of any bug but may need some support identifying the specific line of code.	such structures. They are combining sequence, selection and repetition with other coding structures to achieve their algorithm design.					create content and solutions using digital features within software such as collaborative mode. They are able to use several ways of sharing digital content, i.e. 2Blog, Display Boards and 2Email.		
l can statements:	- I can make more complex real-life problems into algorithms for a program (5.1)			-	- I can search precisely when using a search engine. For		-	I have a secure knowledge of online safety rules	
	<ul> <li>I can test and debug my programs as I work. (5.1, 5.5)</li> <li>I can convert (translate) algorithms that contain sequence, selection and repetition into code that works. (5.1)</li> <li>I can use sequence, selection, repetition, and some other coding structures in my code. (5.1)</li> <li>I can organise my code carefully for example, naming variables and using tabs. I know this will help me debug more efficiently. (5.1)</li> <li>I can use logical methods to identify the cause of any bug with support to identify the specific line of code. (5.1)</li> <li>I know the importance of computer networks and how they help solve problems and enhance communication. (5.2)</li> <li>I recognise the main dangers that can be perpetuated via computer networks. (5.2)</li> </ul>			-	<ul> <li>example, I know I can add additional words or removes words to help find better results. (5.2)</li> <li>I can explain in detail how accurate, safe and reliable the content is on a webpage. (5.2)</li> <li>I can make appropriate improvements to digital work I have created. (Across units)</li> <li>I can comment on how successful a digital solution is that I have created. For example, a program built in 2Code that sorts decimals</li> </ul>		-	taught at school. (5.2 & across units) I can demonstrate the safe and respectful use of different online technologies and online services. (5.2 & across units) I always relate appropriate online behaviour to my right to have personal privacy. (5.2 & across units) I know how to not let my	
	<ul> <li>I can explain what personal information is and know strategies for keeping this safe. (5.2)</li> </ul>			-	2Code th numbers I can wor others cr	at sorts decimals . (Across units) k collaboratively with eating solutions to		mental wellbeing or others be affected by use of online technologies and	

	- I can use the most appropriate form of online communication				problems	using appropriate	services. (5.2 & across
	accordir	ng to the digital co	ntent. For exam	iple, use 2Email,	software such as 2Code.		units)
	2Blog ar	nd Display Boards.	(5.2 & others)		(Across units)		
	_				- I can use collaborative modes		
					such as within 2Connect to		
					work with others and share it.		
					(5.7)		
		Compu	ter Science		Informatio	on Technology	Digital Literacy
Year 6	Design, write	Use sequence,	Use logical	Understand	Use search	Select, use and	Use technology safely, respectfully
Statement:	and debug	selection and	reasoning to	computer networks,	technologies	combine a variety	and responsibly; recognise
	programs that	repetition in	explain how	including the	effectively,	of software	acceptable/ unacceptable
	accomplish	programs;	some simple	internet; how they	appreciate how	(including internet	behaviour; identify a range of
	specific goals,	work with	algorithms	can provide multiple	results are	services) on a range	ways to report concern about
	including	variables and	work and to	services, such as the	selected and	of digital devices to	content and contact.
	controlling or	various forms	detect and	World Wide Web,	ranked, and be	design and create a	
	simulating	of input and	correct	and the	discerning in	range of programs,	
	physical	output.	errors in	opportunities they	evaluating	systems and	
	systems; solve		algorithms	offer for	digital content.	content that	
	problems by		and	communication and		accomplish given	
	decomposing		programs.	collaboration.		goals, including	
	them into					collecting,	
	smaller parts.					analysing,	
						evaluating and	
						presenting data and	
						information	
Outcome:	Children are	Children	Children are	Children understand	Children readily	Children make clear	Children demonstrate the safe and
	able to turn a	translate	able to	and can explain in	apply filters	connections to the	respectful use of a range of
	more complex	algorithms	interpret a	some depth the	when searching	audience when	different technologies and online
	programming	that include	program in	difference between	for digital	designing and	services. They identify more
	task into an	sequence,	parts and	the internet and the	content. They	creating digital	discreet inappropriate behaviours
	algorithm by	selection and	can make	World Wide Web.	are able to	content. The	through developing critical
	identifying the	repetition into	logical	Children know what	explain in detail	children design and	thinking, e.g. 2Respond activities.
	important	code and their	attempts to	a WAN and LAN are	how credible a	create their own	They recognise the value in

	aspects of the	own designs	put the	and can describe	webpage is and	blogs to become a	preserving their privacy when
	task	show that they	separate	how they access the	the information	content creator on	online for their own and other
	(abstraction)	are thinking of	parts of a	internet in school.	it contains.	the internet, e.g.	people's safety.
	and then	how to	complex		They compare a	2Blog. They are able	
	decomposing	accomplish the	algorithm		range of digital	to use criteria to	
	them in a	set task in	together to		content sources	evaluate the quality	
	logical way	code utilising	explain the		and are able to	of digital solutions	
	using their	such	program as a		rate them in	and are able to	
	knowledge of	structures,	whole		terms of	identify	
	possible	including			content quality	improvements,	
	coding	nesting			and accuracy.	making some	
	structures and	structures			Children use	refinement	
	applying skills	within each			critical thinking		
	from previous	other. Coding			skills in		
	programs.	displays an			everyday use of		
	Children test	improving			online		
	and debug	understanding			communication.		
	their program	of variables in					
	as they go and	coding,					
	use logical	outputs such					
	methods to	as sound and					
	identify the	movement,					
	cause of bugs,	inputs from					
	demonstrating	the user of the					
	a systematic	program such					
	approach to	as button					
	try to identify	clicks and the					
	a particular	value of					
	line of code	functions.					
	causing a						
	problem.						
l can	- I can turn a complex programming task into an algorithm. (6.1)				- I can use	filters when searching	for - I can demonstrate safe
statements:					digital co	ntent. (6.2 <i>,</i> 6.9)	and respectful use of a

<ul> <li>I can identify the important aspects of a programming ta (abstraction). (6.1)</li> <li>I can decompose important aspects of a programming ta logical way, identifying appropriate coding structures th would work. (6.1)</li> <li>I can test and debug my program as I work on it and use methods to identify a cause of a bug. (6.1)</li> <li>I can identify a specific line of code that is causing a prof my program and attempt a fix. (6.1)</li> <li>I can translate algorithms that include sequence, selection repetition into code and nest these structures within ear other. (6.1)</li> <li>I can use inputs and outputs within my coded programs sound, movement and buttons and represent the state object (6.1, 6.7)</li> <li>I can interpret (understand) a program in parts and can logical attempts to put the separate parts together in an algorithm to explain the difference between the internet and th</li> </ul>	sk-I can explain in detail how accurate and reliable a webpage and its content is. (6.2)range of different technologies and online services. (6.2, 6.4)at-I can compare a range of digital content sources and rate them in accuracy. (6.1, 6.3, 6.4, 6.5, 6.7,6.9)-I can identify more discrete inappropriate behaviours online. For example, someone who may be trying to groom me or someone else. (6.2)on and ch-I can consider the intended audience carefully when I design and make digital content. (6.1, 6.3, 6.4, 6.5, 6.7,6.9)-I can use critical thinking to help me stay safe online. (6.2)such as-I can use criteria to evaluate the quality of my own and others digital solutions, suggesting refinements. (6.1, 6.3, 6.4, 6.5, 6.7,6.9)-I know the value of protecting my privacy and others online. (6.2, 6.4)
<ul> <li>algorithm to explain the program as a whole. (6.1)</li> <li>I can explain the difference between the internet and th World Wide Web. (6.2, 6.4,6.6)</li> <li>I can explain what a WAN and LAN is and describe the program of how access to the internet in school is possible. (6.2.6)</li> </ul>	refinements. (6.1, 6.3, 6.4, 6.5, (6.2, 6.4) e 6.7,6.9)