

	2-3	3-4	Reception	Year 1	Year 2
Computer	Children recognise	Children recognise that	Children recognise that a	I can give instructions to,	I can give precise
Science	that a range of	a range of technology	range of technology is	and respond to instructions	instructions to, and
(programming)	technology is used in places such as homes and schools. They select and use technology for particular purposes. Repeat actions that have effect.	is used in places such as homes and schools. They select and use technology for particular purposes. Explore how things work.	used in places such as homes and schools. They select and use technology for particular purposes. Comment on images of familiar situations in the past.	from, other children involving movement around the room. I am beginning to understand that sequence (order) is important when devising algorithms and programming devices	respond to instructions from, other children involving movement around the room. I can describe what actions are needed for a particular task and begin to use the word algorithm. I can understand that a number of different algorithms will often all solve the same problem. I am able to predict what will happen in an algorithm or program I can understand why algorithms are useful for solving a wide range of
					problems and that we use algorithms every day
Computer				Robots and on screen	Robots and on screen
Science				programming	programming
(programming)				I can describe what I expect	I can describe clearly
(biogrammig)				to happen while	what I expect to happen
				programming a robot.	



			I am beginning to understand that sequence (order) is important when devising algorithms and programming devices I can execute a program, observe the results. I am beginning to write programs successfully to create movement onscreen. I am beginning to use different kinds of inputs in programming (key press, mouse click tap on a sprite, automated start condition)	while programming a robot. I can predict what will happen in an algorithm or program that I have not written myself. I can execute a program, observe the results carefully spot errors and debug them. I can understand that programs respond to inputs to carry out actions. I can understand that a number of different algorithms will often all solve the same problem. I can write programs successfully to create movement on-screen. I can use different kinds of inputs in programming (key press, mouse click tap on a sprite, automated start condition)
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Computer	Children recognise	Children recognise that	Children recognise that a	I am aware of obvious uses	I can understand some of
Science	that a range of	a range of technology	range of technology is	of IT in and beyond school.	the things that people do
(computers	technology is used	is used in places such	used in places such as	I have a growing awareness	with computers at work
•	in places such as	as homes and schools.	homes and schools. They	of things in and beyond the	and at home.
and networks)	homes and schools.	They select and use	select and use technology	home that have some kind	I can understand that
	They select and use	technology for	for particular purposes.	of computer in them	most computers, tablets
	technology for	particular purposes.		(microwave, car etc) With	and phones are
	particular purposes.		Comment on images of	support	connected to the
		Explore how things	familiar situations in the	I can save and retrieve my	internet.
	Repeat actions that	work.	past.	work.	I can recognise that any
	have effect.				one of a range of digital
					devices can be considered
					a computer.
					I can log on to a computer
					network.
					I understand how to save
					and retrieve my work
					from a shared drive
Information				I can use a painting app to	I can use brush and pen
Technology	Repeat actions that	Explore how things	Comment on images of	create a picture to	tools, create lines and
(multimedia)	have effect.	work.	familiar situations in the	communicate ideas	textures and use the
(martimedia)			past.	I can use a camera or	flood fill spray and stamp
				camcorder to take a picture	tools.
				or record my work	I can use ICT to source,
				I can begin to edit digital	generate and amend
				photographs	ideas for my art work
				I understand the	I can demonstrate good
				differences between a	control when using still
					and video cameras



		graphics apps and	understanding the need
		traditional art activities	to frame an image or
		I understand that some	
			scene and keep the
		apps will enable images to	camera still
		be animated.	I can create a sequence of
		I can talk about my use of a	images which together
		painting app and my choice	form a short animation to
		of tools	illustrate a story
		I can use sound recorders /	I understand that
		players to listen to pre-	animation is a sequence
		recorded sound	of still images I am
		I can experiment with a	beginning to discuss the
		range of devices that create	quality of my image and
		and record sound	make decisions (e.g
		I can use software to	delete a blurred image)
		explore sound and musical	I can use sound recorders
		phrases for a purpose	/ tablets to record and
		I can understand that	playback sounds (eg
		devices have record and	voices, instruments,
		playback functions	sounds around them)
		I can recognise that an	I can explore a range of
		electronic keyboard can be	electronic music and
		used to select and control	sound devices including
		sounds	keyboards, software,
		I can access different	tablets and different
		information using a range	peripherals
		of equipment (apps,	I can compose music
		website, TV, DVD etc)	using icons to represent
		website, iv, bvb etcj	
			musical phrases



Information Technology (data handling)	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. Explore how things work.	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. Comment on images of familiar situations in the past.	I can enter text into a search engine to find specific given web sites I can understand that IT (the internet) gives rapid access to a wide variety of information and resources I can talk about my use of IT and compare with other ways of finding information I understand and talk about how my information can be used to answer specific questions I am aware of responsible internet use and the school's acceptable use policy I can develop simple classification skills by carrying out simple sorting activities (probably away from the computer)	I am beginning to understand that music and sound can affect mood and atmosphere I can use appropriate buttons, menus and hyperlinks to navigate web sites for stored information I can locate specific sites by typing a website address (URL) into the address bar in a web browser. I can understand that different forms of information (text, images, sound, multimodal) exist and that some are more useful than others for specific purposes I am beginning to develop key questions to help find information I am aware of responsible internet use and the school's acceptable use policy
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		I can sort and classify a group of items by asking simple yes / no questions I can talk about the different ways technology can be used to collect information, (e.g. camera, microscope or sound recorder). I can interpret graphs, discuss information contained and answer simple questions	I can use simple graphing programs to produce pictograms and other simple graphs I can use graphing software to change the way a graph type (eg pictogram to bar chart) I understand that IT can be used to sort items and information I understand that IT can be used to create, display and change graphs quite easily I am beginning to understand that if data has not been entered accurately it cannot be used to provide correct answers to questions
Digital Literacy (e-safety)		I can use technology safely I can identify where to go for help and support when I have concerns about content or contact on the internet or other online technologies	I can keep personal information private I can use technology respectfully I can use technology responsibly



		an recognise	I can identify a range of
		ceptable/unacceptable	ways to report concerns
	bel	haviour	about contact
	I kr	now what to do when	I am discerning in
	cor	ncerned about content or	evaluating digital content
	bei	eing contacted.	I understand the
	I ca	an recognise what is	importance of
	acc	ceptable and	communicating safely and
	una	nacceptable behaviour	respectfully online, and
	wh	nen using technologies	the need for keeping
	and	d online services.	personal information
	Lui	inderstand the	private.
	imı	portance of	I can demonstrate use of
	cor	mmunicating safely and	computers safely and
	res	spectfully online, and the	responsibly, knowing a
		ed for keeping personal	range of ways to report
		formation private.	unacceptable content and
		·	contact when online.
			I can demonstrate
			responsible use of
			technologies and online
			services, and knows a
			range of ways to report
			concerns.
			I can recognises ethical
			issues surrounding the
			application of information
			technology beyond
			school.
			301001.



	Year 3	Year 4	Year 5	Year 6
Computer	I can work with a	I can design, write and	I can explain and program	I can explain and program
Science	partner to design, write	debug programs that	each of the steps in my	each of the steps in my
(programming)	and de-bug programs	accomplish specific goals,	algorithm.	algorithm.
(brogrammig)	that accomplish specific	including controlling or	I can review and amend	I can review and amend
	goals, including	simulating physical	the original algorithm while	the original algorithm while
	controlling or simulating	systems;	programming.	programming.
	physical systems	I can solve problems by	I can deconstruct a	I can talk about how a
	I am beginning to solve	decomposing them into	problem into smaller steps,	computer model can
	problems, by	smaller parts	recognising similarities to	provide information about
	decomposing them into	I can use sequence in	solutions used before.	a physical system.
	smaller parts	programs (LKS2)	I can recognise when a	I can decompose a
	I can use sequence in	I can use repetition in	variable is needed to	problem into smaller parts
	programs	programs;	achieve a required result.	to design an algorithm for a
	I am beginning to work	I can work with variables	I can program a sprite to	specific outcome and use
	with variables	I can work with various	add to the score on a	this to write a program for
	I can work with various	forms of input and output	certain action.	a device or onscreen
	forms of input and	I can use logical reasoning	I can use different inputs	activity.
	output with support	to explain how some	(including sensors) to	I can deconstruct a
	I am beginning to use	simple algorithms work	control a device or	problem into smaller steps,
	logical reasoning to	and to detect and correct	onscreen action and	recognising similarities to
	explain how some	errors in algorithms and	predict what will happen.	solutions used before.
	simple algorithms work	programs	I can evaluate the	I can investigate more
			effectiveness and efficiency	blocks – make a block to



	of an algorithm, contin	ually create more commands for
	testing the programmi	•
	that algorithm.	program
	I can recognise there a	1.
	different algorithms for	
	same problem.	achieve a required result.
	•	·
	I can write programs th	
	include variables (e.g. a	
	scoring system in a gan	
	I can designs algorith	·
	and programs that u	, , , , , , , , , , , , , , , , , , , ,
	repetition	control a device or
		onscreen action and
		predict what will happen.
		I can use logical thinking,
		imagination and creativity
		to extend a program.
		I can evaluate the
		effectiveness and efficiency
		of an algorithm, continually
		testing the programming of
		that algorithm.
		I can link errors in a
		program to a problem in
		the algorithm on which it is
		based.
		I can recognise there are
		different algorithms for the
		same problem.
		June problem.



Computer	I understand that the	I understand that the	I know that the internet	I can write programs that include variables (e.g. a scoring system in a game) I can suggest tasks best completed by humans and those for computers. I can recognise that different solutions exist for the same problem. I can designs algorithms and programs that use repetition I can explain that the	
Science (computers and networks)	Internet is a collection on computers (servers) joined together across the world I know there is a difference between the internet and the world wide web I am aware of the basic structure of the school network, how it is connected (physical wiring, wireless) and the services that are a part of it (printing,	Internet is a collection on computers (servers) joined together across the world I understand the differences between the internet and the world wide web I understand the basic structure of the school network, how it is connected (physical wiring, wireless) and the services that are a part of it (printing,	provides different services and be able to describe some (email, www) I know that information is passed around the internet. I can tell a partner the functions of and terminology around web browsers and search engines I can tell a partner about the difference between physical, wireless and mobile networks.	internet provides different services and be able to describe some (email, www file transfer protocol, video conferencing) I can explain how information is passed around the internet. I can explain how search results are selected and ranked by search engines I can tell a partner the functions of and terminology around web browsers and search engines	



	scanning, internet via server) I can save my work to a variety of locations on the school network, online and locally to a device. I understand the reasons for saving in different places.	scanning, internet via server) I can save (and successfully retrieve!) their work to a variety of locations on the school network, online and locally to a device. I understand the reasons for saving in different places. I understand the function of different externally visible parts of a computer (and peripherals) and classify as input or output devices.		I can identify key components within a PC and explain their function I understand the function of an operating system and be able to name some. I can explain the difference between physical, wireless and mobile networks. I understand the basics of how data is stored (binary code,)	
Information Technology (multimedia)	I can use different font effects, layout, format, graphics and illustrations I can use editing tools I can log on to an email account or forum I can recognise key features of different layouts (e.g. poster, newspaper, menu)	I can use different font effects, layout, format, graphics and illustrations to communicate for a given audience. I can use appropriate editing tools to ensure their work is clear and error free I can log on to an email account or forum, open	I can format and edit work to improve clarity and mood. I can independently create, send and respond to email, blogs and forums. I can produce formal or informal e-messages appropriate to a task or to solve problems	I can format and edit work to improve clarity and mood. I can independently create, send and respond to email, blogs and forums. I can produce formal or informal e-messages appropriate to a task or to solve problems	



I can select areas of a painting, copy and paste to make repeating patterns.

I am developing greater control over the digital stills video camera and use the enhanced tools I can discuss and evaluate the quality of my captured images and make decisions I can create a short animated sequence I can capture "footage" from different devices into simple movie editing software. I can add simple titles and credits, music and narration. I can use IT to select and

record voice and sounds
I can select sound files in
sound editing software /
app.

I can use music software or app to experiment with sound patterns.

emails, create and send appropriate replies, use attachments. I can recognise key features of different layouts and consider how to meet the needs of the audience (e.g. poster, newspaper, menu) I can select areas of a painting, copy and paste to make repeating patterns. Resize elements. Investigate reflection tools etc I can develop greater control over the digital stills video camera and use the enhanced tools I can discuss and evaluate the quality of my own and others' captured images and make decisions I can create a short animated sequence from captured I can capture "footage"

from different devices

I can develop my use of hyperlinks to produce more effective interactive, nonlinear presentations. I can select and import sounds from my own recording, create their own effects and music and import from other sources. I can create images using a range of techniques I can make decisions to capture, store, retrieve and edit digital images for a particular purpose. I can independently plan and create a short animated sequence to communicate a specific idea, using a storyboard and timeline. I can combine stills, video and sound using a video editing package I can make use of transitions and special effects when editing films and understand the effect

I can talk about different forms of electronic communication, their appropriateness to tasks, advantages and disadvantages. I understand how pages are linked together and recognise the need for clarity. I can develop my use of hyperlinks to produce more effective interactive, nonlinear presentations. I can make effective use of transitions and animations and consider the effect on the audience and appropriateness. I can select and import sounds from my own recording, create their own effects and music and import from other sources. I can create images using a range of techniques I can make decisions to capture, store, retrieve and edit digital images



I can use music software
/ app to create a simple
composition
I can use ICT to create
and perform sounds or
music
I can understand that
copyright exists on most
recorded music

into simple movie editing software.

I can add simple titles and credits, music and narration.

I can use IT to select and record voice and sounds I can select, import and edit existing sound files in sound editing software / app.

I can use music software or app to experiment with capturing, repeating and reordering sound patterns.

I can use music software / app to create a simple multipart percussion composition
I can use ICT to create and perform sounds or music that would otherwise not be possible live — e.g. playing a multipart piece or a very fast piece

they will have on the audience.

I can develop skills in manipulating sounds
I can independently select and use a variety of appropriate devices to record musical and nonmusical sounds.
I can create my own

I can create my own sounds and compositions to add to my work I can use IT to perform sounds or music that would otherwise not be possible live

I can use IT to produce music for a specific purpose, considering the impact on the audience I can explain why copyright should be respected when selecting music samples I can explain the difference between object based graphic packages and paint packages

I can independently plan and create a short animated sequence to communicate a specific idea, using a storyboard and timeline.

I can combine stills, video and sound using a video editing package
I can make use of transitions and special effects when editing films and understand the effect they will have on the audience.

I can make images and movies in a variety of formats, understanding some of the differences, and share on the internet (with due regard for safety).

I can independently select, edit and combine sound



		I can understand that		files from internet sources
		copyright exists on most		to create a podcast file.
		recorded music		I can develop skills in
				manipulating sounds
				I can independently select
				and use a variety of
				appropriate devices to
				record musical and non-
				musical sounds.
				I can upload and download
				projects
				I can create my own
				sounds and compositions
				to add to my work
				I can use IT to perform
				sounds or music that would
				otherwise not be possible
				live
				I can use IT to produce
				music for a specific
				purpose, considering the
				impact on the audience
				I can explain why copyright
				should be respected when
				selecting music samples
Information	I can develop key	I can develop key	I can use strategies for	I can use strategies for
Technology	questions and key words	questions and key words	finding information	finding information
	to search for specific	to search for specific	I consider the effectiveness	
	information	information	of search results I can skim	



(data handling)

I can use information purposefully to complete specific tasks I can use search engines for different media Lunderstand a website has a unique address I can explain that some information found through searching is more relevant than others I can collect appropriate information, enter it into a database or spreadsheet I can generate and compare different charts and graphs I can explain that different graphs are used for different purposes I can organise, present, analyse and interpret the data in tables, tally charts, charts / graphs, I am beginning to develop skills to identify

I can use information purposefully to complete specific tasks I can understand the dynamics of search engines I can use search engines for different media I understand a website has a unique address I can explain that some information found through searching is more relevant than others I can describe the process of finding specific information I can collect appropriate information, enter it into a database or spreadsheet and use this to answer simple questions I can generate and compare different charts and graphs (using graphing software / app, spreadsheet etc)

and select information checking for bias and different viewpoints I understand the possible impact of using incorrect data. I can modify a search pattern in order to find specific information. I can check for accuracy by checking data, using different views, search tools, and graphing. I can identify and correct inaccuracies. I can solve complex enquiries involving selecting, processing, and presenting data; drawing conclusions from the process I can construct, refine and interpret frequency tables; bar charts with grouped discrete data; line graphs; interpret pie charts. I can recognise the consequences of data not

I consider the effectiveness of search results and refine where necessary. I can skim and select information checking for bias and different viewpoints I can talk about validity and plausibility and appropriateness of information, especially on the internet. I recognise the impact of using incorrect information in my work. I understand the possible impact of using incorrect data. I can use complex searches (and/or, is greater/less than) to search data when looking for relationships and patterns in data. I can modify a search pattern in order to find specific information. I can check for accuracy by checking data, using



what data needs to be
collected
I can change the
contents of cells in a
spreadsheet
I can use a spreadsheet
to record data
I can use a spreadsheet
to explore simple
patterns

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I can explain that different graphs are used for different purposes I can organise, present, analyse and interpret the data in tables, tally charts, charts / graphs, using IT where appropriate I am beginning to develop skills to identify what data needs to be collected and design a questionnaire or survey to aid its collection I can change the contents of cells in a spreadsheet to explore "What if ..." questions I can use a spreadsheet to record data and produce graphs I can use a spreadsheet to explore simple patterns (e.g. in a number square) I understand the need to structure information properly in a database or spreadsheet I know, understand and

use the vocabulary: file,

being accurate, relate to the wider world I can enter formulae into a spreadsheet and modify the data, (simple calculations + - × ÷)

different views, search tools, and graphing. I can identify and correct inaccuracies. I can solve complex enquiries involving selecting, processing, and presenting data; drawing conclusions from the process I can construct, refine and interpret frequency tables; bar charts with grouped discrete data; line graphs; interpret pie charts. I can recognise the consequences of data not being accurate, relate to the wider world I can enter formulae into a spreadsheet and modify the data, (simple calculations $+ - \times \div$) I can make predictions and changes and check results



		record, field, data and		
		information.		
Digital Literacy	I can make sensible	I make sensible decisions	I understand that some	I understand that some
(e-safety)	decisions if content is	if content is inappropriate	internet material is age	internet material is age
(C carety)	inappropriate or	or upsetting	related	related (especially games)
	upsetting	I explain the Internet	I can demonstrate safe	and the implications for
	I can explain the Internet	contains fact, fiction and	practice when selecting	ignoring such guidance.
	contains fact, fiction and	opinion and begin to	images or content for	I can demonstrate safe
	opinion	distinguish between	uploading to a personal	practice when selecting
	I am aware of online	these.	profile	images or content for
	marketing	I am aware of online	I understand some	uploading to a personal
	I can explain why we	marketing and begin to	malicious adults use the	profile
	must keep personal	develop strategies to deal	internet to make contact	I understand some
	information and	with it	and groom young children.	malicious adults use the
	passwords private when	I can explain why we	I know how to report any	internet to make contact
	communicating online.	must keep personal	suspicions (CEOP report	and groom young children.
	I know that anyone can	information and	abuse page).	I know how to report any
	create a user showing	passwords private when	I know the differences	suspicions (CEOP report
	any age or gender and	communicating online.	between public social	abuse page).
	people you meet online	I can explain that online	networking sites and	I can explain clearly the
	may not be who they say	communication is not	closed learning	differences between public
	they are.	always confidential and	environments,	social networking sites and
	I can create a personal	that it can be monitored.	I understand the purpose	closed learning
	profile with an alias and	I know that anyone can	of passwords, that	environments,
	avatar	create a user showing any	passwords should never be	I understand the purpose
	I can tell you how to	age or gender and people	shared,	of passwords, that
	deal with unpleasant	you meet online may not	I can explain the	passwords should never be
	communications via	be who they say they are.	importance of appropriate	shared,
	mobile, text, chat rooms		online behaviour and that	



I understand why you
should only befriend
people you know and
trust never to meet up
with "friends" you know
only online.
I can explain the
importance of copyright
issues and plagiarism
I know why it is
important to respect
others' feelings and
electronic work

I can create a personal profile with an alias and avatar rather than real name and photograph I can make decisions about when an email should not be opened or messages ignored. I can tell you how to deal with unpleasant communications via mobile, text, chat rooms I understand why you should only befriend people you know and trust never to meet up with "friends" you know only online. I can choose when to use appropriate writing conventions for electronic communication I can explain the importance of copyright issues and plagiarism; that taking text or images from some sites may be

stealing other people's

work.

online bullying is unacceptable.
I can explain why it is important to create a positive "digital footprint" I have an awareness of the need to check for copyright when downloading content from the internet

I understand the importance of appropriate online behaviour and that online bullying is unacceptable.
I can explain why it is important to create a positive "digital footprint" I have an awareness of the need to check for copyright when downloading content from the internet



	I know why it is important		
	to respect others' feelings		
	and electronic work		