Computing Progression

Where the National Curriculum Objectives are covered through the Computing Curriculum Units

KEY:

Computing Systems and Networks- Technology Around Us (CSN TA), Information Technology Around Us (CSN ITAU), Connecting Computers (CSN CC), The Internet (CSN TI), Sharing Information (CSN SI), Communication (CSN C)

Creating Media – Digital Painting (CM DP), Digital Witing (CM DW) Digital Photography (CM DPh), Making Music (CM MM), Animation (CM A), Desktop Publishing (CM DP), Photo Editing (CM PE), Video Production (CM VP) Vector Drawing (CM VD), 3D Modelling (CM 3DM), Web Page Creation (CM WC)

	By the end of Reception	By the end of Year 2	By the end of Year 4	By the end of Year 6
Computer Systems and Networks	*There are currently no statutory Computing objectives in the EYFS Curriculum. However, children will be taught to explore familiar, age- appropriate technology and learn about its purpose. Staff have developed objectives based on this. * Know that technology is used at home and school. Know how to use technology with support to find out information.	Recognise common uses of information technology beyond school (CSN TA) (PA MR-) (CSN ITAU) (CM DP)	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 (CSN CC) (CSN TI) Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content (CM DP) (CSN TI) (CM AP) (CM PE)	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 (CSN SI) (CSN C) Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content (CM VP) (CM FFD) (CM WC)

	By the end of Reception	By the end of Year 2	By the end of Year 4	By the end of Year 6
Creating Media	know how to operate simple age-appropriate technology Use technology to record my play and learning. Use hardware to interact with software Use technology toys in my role-play Use technology to create something new.	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content (CSN TA) (CM DP) (DI GD) (CM DW) (CSN ITAU) (CM DPh) (CM MM) (DI P)	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 (CSN CC) (CM A) (PA SM) (DI BD) (CM DP) (PB EAP) (PA RS) (PB RG) (DI DL) (CSN TI) (CM AP) (CM PE)	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 (CSN SI) (CM VP) (PA SPC) (CM FFD) (CM VD) (PB SQ) (CSN C) (CM WC) (PA VG) (CM S) (CM 3DM) (PB S)
	By the end of Reception	By the end of Year 2	By the end of Year 4	By the end of Year 6
Data and Information	Use technology to collect information.	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content (CSN TA) (CM DP) (DI GD) (CM DW) (CSN ITAU) (CM DP) (CM MM) (DI P)	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 (CSN CC) (CM A) (PA SM) (DI BD) (CM DP) (PB EAP) (PA RS) (PB RG) (DI DL) (CSN TI) (CM AP) (CM PE)	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 (CSN SI) (CM VP) (PA SPC) (CM FFD) (CM VD) (PB SQ) (CSN C) (CM WC) (PA VG) (CM S) (CM 3DM) (PB S)

	By the end of Reception	By the end of Year 2	By the end of Year 4	By the end of Year 6
Programming	Give instructions including positional language. Interact with a programmable toy inputting instructions.	Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions (PA MR-) (PA RA) (PB PQ) (PB PA) Create and debug simple programs (PA MR-) (PA RA) (PB PQ) (PB PA) Use logical reasoning to predict the behaviour of simple programs (PA MR-) (PA RA) (PB PQ) (PB PA)	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts (PA SM) (PB EAP) (PA RS) (PB RG) Use sequence, selection, and repetition in programs; work with variables and various forms of input and output (CSN CC) (PA SM) (PB EAP) (PA RS) (PB RG) (DI DL) Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs (PA SM) (PB EAP) (PA RS) (PB RG)	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts (PA SPC) (PB SQ) (CSN C) (PA VG) (PB S) Use sequence, selection, and repetition in programs; work with variables and various forms of input and output (PA SPC) (PB SQ) (PA VG) (PB S) Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs (PA SPC) (PB SQ) (PA VG) (PB S)
	By the end of Reception	By the end of Year 2	By the end of Year 4	By the end of Year 6
Online Safety	Know that there are some rules I need to follow when online and using technology and that some things are not safe.	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 (CSN TA) (DI GD) (CM DW) (CSN ITAU) (CM DP) (PA RA) (DI P)	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact (CM A) (DI BD) (CSN TI) (CM AP) (CM PE)	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact (CSN SI) (CM VP) (CM WC) (PA VG) (CM 3DM)

	Cycle 1				
	Reception	KS1	LKS2	UKS2	
	-iPad	Information Technology Around Us	The Internet Vocabulary	Communication and Collaboration	
	-Phone	<u>Key Vocabulary</u>	*For definitions see document on this	<u>Vocabulary</u>	
	-Tablet	*For definitions see document on	link*	*For definitions see document on this	
S	-Computer	this <u>link*</u>	Network	link*	
×	-Whiteboard	Technology,	Internet	Search Engine	
2	-Television	Man-made	World Wide Web	Internet	
ž	-Remote	Digital	Router	World Wide Web	
L L	-Earphones	Screen/monitor	Security	Crawlers	
<u>e</u>	-Button	Mouse	Webpage	Ranking	
Z		Keyboard	Website	Keyword	
σ		Program	Browser	Google	
Ĕ		Click	Domain	Tim Berners-Lee	
J		Drag and drop	Reliable	Browser	
S		Cursor		Algorithm	
3	I know that technology is	Information Technology Around Us	The Internet Knowledge and Skills	Communication and Collaboration	
e U	used at home and school.	Knowledge and Skills		Knowledge and Skills	
st			I can describe the internet as a network		
>	-With support I can	In this unit, pupils will look at	of networks. (L1)	I can recognise that data is transferred	
S	identify examples of	information technology at school and		using agreed methods. (L1)	
	technology I use in school.	beyond, in settings such as shops.	I can demonstrate how information is		
ţ	-iPad, computer,	Learners will investigate how	shared across the internet. (L1)	I can explain that internet devices have	
	whiteboard	information technology improves our		addresses. (L1)	
d		world, and they will learn about	I can discuss why a network needs		
<u>ک</u>	-With support I can	using information technology	protecting. (L1)	I can describe how computers use	
Q	identify examples of	responsibly. Much of this unit is		addresses to access websites. (L1)	
0	technology I use at	taught through class discussion and	I can describe the different networked		
	homephone, remote.	unplugged tasks and worksheets.	devices and how they connect. (L2)	I can identify and explain the main	
	earphones, television		, (,	parts of a data packet. (L2)	
		I can identify examples of computers	I can explain how the internet allows us		

-I can identify when a	(L1) computer, laptop, printers,	to view the World Wide Web. (L2)	I can explain that data is transferred
piece of technology I use	cameras,		over networks in packets. (L2)
at home is the same or		I can recognise that the World Wide	
different to what I use in	I can describe some uses of	Web is the part of the internet that	I can explain that all data transferred
school. – camera, remote,	computers (L1) - to type, to paint, to	contains websites and web pages. (L2)	over the internet is in packets. (L2)
iPad	play games, to take pictures		
Tv vs whiteboard		I can explain the types of media that can	I can recognise how to access shared
	I can identify that a computer is part	be shared on the World Wide Web	files stored online. (L3)
I use technology toys in	of information technology (L1)	(WWW) (L3)	
my role-playpretend			I can send information over the
phones, scales, cameras,	I can explain the purpose of	I can describe where websites are	internet in different ways. (L3)
keyboard etc	information technology out of	stored when uploaded to the WWW.	
	school. (L2) cash machine, street	(L3)	I can explain that the internet allows
-I can pretend to use	lights, CCTV, debit card/card		different media to be shared. (L3)
technology I have seen	machine, till, speed camera	I can describe how to access websites	
grown-ups use when		on the WWW. (L3)	I can identify different ways of working
taking on a rolepretend	I can open a file. (L2) Click, Mouse,		together online. (L4)
to type, to talk on phone,	Program	I can create media which can be found	
to use cooking equipment		on websites. (L4)	I can recognise that working together
	I can move and resize images (L2)		on the internet can be public or private.
I know how to use	Click, Drag and drop, Cursor	I can recognise that I can add content to	(L4)
technology with support		the $M/M/M$ (1.4)	
to find out information.	I can find examples of information		I can explain how the internet enables
	technology (L3) computer, laptop,		effective collaboration. (L4)
I can use the internet to	printers, cameras, cash machine,	I can explain that new content can be	
search with support from	street lights, CCTV, debit card/card	created online. (L4)	I can explain the different ways in
an adult. – find out	machine, till, speed camera		which people communicate. (L5)
information that is		I can explain that websites and their	
relevant to the child's	I can talk about uses of information	content are created by people. (L5)	I can identify that there are a variety of
interests	technology (L3) – barcode in shop to		ways to communicate over the
	scan, card machine to pay, traffic	I can suggest who owns the content on	internet. (L5)
I can use technology to	lights to tell cars when to stop and	websites. (L5)	
find photos and videos	go		I can choose methods of
with support from an		I can explain that there are rules to	communication to suit particular
adult- find photos and	I can compare types of information	protect content. (15)	purposes. (L5)
viaeos that are relevant	technology (L3) – what will be used		
to the child's interests	inside a shop compared to on a	I can explain that not everything on the	can compare different methods of
	street?	World Wide Web is true. (L6)	communicating on the internet, (L6)

To know that there are		I can explain why some information I	
some rules I need to	I can demonstrate how information	find online may not be honest, accurate,	I can decide when I should and should
follow when online and	technology is used in a shop (L4)-	or legal. (L6)	not share information online. (L6)
that some things are not	barcodes, till, card machine		
safe. –		I can explain why I need to think	I can explain that communication on
	I can recognise that information	carefully before I share or re-share	the internet may not be private. (L6)
-I can say if given	technology can be connected (L4) -	content (L6)	
examples are right or	parts of a till		
wrong thigs to do when			
using a computer. – buy	I can explain how information		
something without an	technology helps people (L4)		
adults permission, go on	- Examples from class		
scary videos/games,	I can list different uses of		
throw/stand on drop	information technology (L5) to type,		
technology etc	to paint, to play games, to take		
	pictures, to contact someone		
-I can tell an adult what I			
am doing online.	I can recognise how to use		
	information technology responsibly		
	(L5)		
	I can say how rules can help me (15)		
	I can identify the choices that I make		
	when using information technology		
	(L6) connect and create		
	I can explain simple guidance for		
	using information technology in		
	different settings and environments		
	(L6) – ideas from the class.		
	I can enjoy a variety of activities (L6)		
	know that I need a balanced digital		
	diet with time away from the screen.		

Camera	Digital Photography Vocabulary	Photo Editing Vocabulary	3D Modelling Vocabulary
iPad	*For definitions see document on	*For definitions see document on this	*For definitions see document on this
Picture	this <u>link*</u>	link*	link*
Video	Photography	Photography	Modelling
Button	Editing	Editing	Three-Dimensional
Knob	Software	Software	Workspace
Swipe	Digital	Сгор	Faces
Click	Portrait	Rotate/Flip	Vertices
Record	Landscape	Сору	Edges
	Subject	Brightness	Handles
	Scene	Contrast	Duplicate
	Lighting	Enlarge	Holes
	°	Reduce	
I know how to operate	Digital Photography Knowledge and	Photo Editing Knowledge and Skills	3D Modelling Knowledge and Skills
simple age-appropriate	<u>Skills</u>		
technology.	In this unit pupils will learn to	I can identify changes that we can make	I can add 3D shapes to a project. (L1)
	recognise that different devices can	to an image. (L1)	
-I can pull or turn a knob	be used to capture photographs and		I can view 3D shapes from different
to interact with a toy.e.g.	will gain experience capturing,	I can explore how images can be	perspectives. (L1)
wind up toys Knob	editing, and improving photos.	changed in real life. (L1)	
	Finally, they will use this knowledge		I can move 3D shapes relative to one
-I can press a button to	to recognise that images they see	I can explain the effect that editing can	another. (L1)
interact with a toy or	may not be real. This unit will be	have on an image.(L1)	
piece of technology.	taught using practical equipment		I can resize an object in three
Button, camera iPad	such as tablets and cameras and	I can explain what has changed in an	dimensions. (L2)
	work will be done on the	edited image. (L2)	
-I can use my finger to	website/app Pixlr.		I can lift/lower 3D objects. (L2)
interact with a piece of		I can change the composition of an	
technology e.g. iPad	I can recognise what devices can be	image by selecting parts of it. (L2)	l can recolour a 3D object. (L2)
iPad, swipe, click	used to take photographs. (L1) digital		
	camera, CCTV, iPad/tablet, laptop,	I can consider why someone might want	I can rotate objects in three
	smart phone, speed camera	to change the composition of an image	dimensions. (L3)
I use technology to		(L2)	
record my play and	I can talk about how to take a		I can duplicate 3D objects. (L3)
learning.	photograph. (L1) – how to hold, what	I can talk about changes made to	
	to press	images (L3)	I can group 3D objects (L3)
-I can use a camera or			
iPad to take a picture or	I can explain what I did to capture a	I can choose effects to make my image	I can accurately size 3D objects. (L4)

video. iPad, camera, click,	digital photo. (L1) Photography	fit a scenario. (L3)	
button	Digital		I can show that placeholders can create
		I can explain why my choices fit a	holes in 3D objects. (L4)
-I can use a voice recorder	I can explain the process of taking a	scenario. (L3)	
to record to record audio.	good photograph. (L2) -in focus, see		I can combine a number of 3D objects.
- button	everything in photo	I can identify how an image has been	(L4)
		retouched. (L4)	
	I can take photos in both landscape		I can analyse a 3D model. (L5)
I use hardware to	and portrait format. (L2) Portrait	I can give examples of positive and	
interact with software.	Landscape	negative effects that retouching can	I can choose objects to use in a 3D
		have on an image. (L4)	model. (L5)
-I can use a mouse to	I can explain why a photo looks		
select items on a	better in portrait or landscape	I can choose appropriate tools to	I can combine objects in a design (15)
computer.	format. (L2) – landscape for scenes,	retouch an image. (L4)	
	building etc, portrait for people,		L can construct a 3D model based on a
-I can use a keyboard to	objects etc	I can sort images into 'fake' or 'real' and	design (16)
input on to a computer.		explain my choices. (L5)	
	I can identify what is wrong with a		L can explain how my 3D model could
-I can use a keyboard to	photograph. (L3) Subject, Scene,	I can combine parts of images to create	be improved. (16)
logon to a computer with	Lighting	new images. (L5)	
support.			I can modify my 3D model to improve
	I can discuss how to take a good	I can talk about fake images around me.	it. (L6)
Low oble to complete a	photograph. (L3) Subject, Scene,	(L5)	
i am able to complete a	Lighting	Lean consider the offect of adding other	
simple computer	Lean improve a photograph by	aloments to muserk (LC)	
program.	rotaking it (12)	elements to my work. (L6)	
-I can make the right		I can compare the original image with	
selections using my finger	I can explore the effect that light has	my completed publication (16)	
or hardware to complete	are relate (14) what effect adding		
an aim on a computer	on a photo. (L4) – what effect adding	I can evaluate the impact of my	
program	flash does	nublication on others through feedback	
P. 50 ann		(16)	
	I can experiment with different light		
	sources. (L4), - flash, natural light,		
	electric light		
	I can explain why a picture may be		

unclear. (L4)		
I can recognise that images can be changed. (L5) Editing		
I can use a tool to achieve a desired effect. (L5) – filter tool		
I can explain my choices. (L5)		
I can apply a range of photography		
skills to capture a photo. (L6) -recap		
all skills learned in the unit		
Lean recognice which photos have		
hear shareed (LC)		
been changed. (L6)		
L can identify which photos are real		
and which have been changed. (L6)		
<u>Making Music Vocabulary</u>	Audio Editing Vocabulary	Web Page Creation Vocabulary
*For definitions see document on	*For definitions see document on this	*For definitions see document on this
this <u>link*</u>	link*	link*
Music	Audio	Webpage
Emotions	Input	Website
Pulse	Output	Domain
Rityulin	Speaker	nypertext
Ditch	Podcast	Audience
Tempo	Waveform	Browser
Instrument	lingle	Copyright
Sound	Track	Homepage
Note	Presenter	Navigation Pathways
		Ç ,

	Making Music Knowledge and Skills	Audio Editing Knowledge and Skills	Web Page Creation Knowledge and
	In this unit, pupils will be using a		<u>Skills</u>
	chrome music lab to create music.		
	They will listen to a variety of pieces	I can identify digital devices that can	l can explore a website. (L1)
	of music and consider now music can	record sound and play it back. (L1)	I am discuss the different types of
	make them think and jeel. Learners	I can identify the inputs and outputs	r can discuss the different types of
	and non digitally Learners will look	required to play audio or record cound	media used on websites. (LI)
	at patterns and purposefully create		I know that websites are written in
	music	(L1)	HTML (11)
	music.	I can recognise the range of sounds that	
	I can identify simple differences in	can be recorded (11)	I can recognise the common features of
	nieces of music (11) loud quiet		a web page (12)
	deep, soft, strong, sound	I can use a device to record audio and	
		play back sound. (L2)	I can suggest media to include on my
	I can listen with concentration to a	p,	page. (L2)
	range of music (L1)	I can suggest how to improve my	
		recording. (L2)	I can draw a web page layout that suits
	I can describe how music makes me		my purpose. (L2)
	feel, e.g. happy or sad (L1) (L6)	I can discuss what other people include	
		when recording sound for a podcast.	I can say why I should use copyright-
	I can create a rhythm pattern (L2)	(L2)	free images. (L3)
	rhythm, pattern, pulse, long, short		
		I can plan and write the content for a	I can find copyright-free images. (L3)
	I can play an instrument (in chrome	podcast. (L3)	
	music lab) following a rhythm		I can describe what is meant by the
	pattern (L2)	I can discuss why it is useful to be able	term 'fair use' (L3)
		to save digital recordings. (L3)	
	I can explain that music is created		I can add content to my own web page.
	and played by humans (L2)	I can save a digital recording as a file.	(L4)
	I and a second increase with a second	(L3)	Leave was down what was such as a leave
	(1.2) musical instruments on music	I can onon a digital recording from a file	i can preview what my web page looks
	lab with the sounds they make	(14)	IIKE. (L4)
	ab with the sounds they make.		I can evaluate what my web have looks
	I can use a computer to experiment	L can discuss ways in which audio	like on different devices and
	with pitch and duration (13) pitch	recordings can be altered. (14)	suggest/make edits (14)

	I can relate an idea to a piece of	I can edit sections of of an audio	I can explain what a navigation path is.
	music. (L3) - Animal to a piece of	recording. (L4)	(L5)
	music		
		I can discuss sounds that other people	I can describe why navigation paths are
	I can identify that music is a	combine. (L5)	useful. (L5)
	sequence of notes. (L4) -note,		
	sequence, tempo	I can choose suitable sounds to include	I can make multiple web pages and link
		in a podcast. (L5)	them using hyperlinks. (L5)
	I can use a computer to create a		
	musical pattern using three notes.	I can use editing tools to arrange	I can explain the implication of linking
	(L4)	sections of audio. (L5)	to content owned by others. (L6)
	I and the second second sectors and a	the second size the studie it all as a second in second state	t and another house all also the limit the state of
	i can refine my musical pattern on a	to be explain that digital recordings need	nearle's work (LC)
	computer. (L4)	to be exported to share them. (L6)	people's work. (L6)
	L can describe an animal using	L can discuss the features of a digital	I can evaluate the user experience of a
	sounds (15)	recording Like (16)	website (16)
	3001103. (E3)		
	L can explain my choices (15)	I can suggest improvements to a digital	
	real explaining choices (ES)	recording (16)	
	L can save my work (15)		
	I can reopen my work (L6)		
	I can explain how I made my work		
	better. (L6)		

Decord	Distoryana Vosabular	Data Longing Vocabulant	Concordebaate Vacabulante
Record	*For definitions and demonstrate	*For definitions and desure at the	Spreadsneets vocabulary
IVIOST	For definitions see document on	For definitions see document on this	For definitions see document on this
Least			
rewest	Information	Collection	Spreadsneet
same	Data	Data	Data
	Pictogram	Information	Information
	Group	Sensor	Format
	Tally	Logging	Formula
	Tally Chart	Analysis	Accounting
	Program	Data Logger	Filter
	Attribute	Interpret	Software
	Present	Conclusion	
	Problem		
To use technology to	Pictograms Knowledge and Skills	Data Logging Knowledge and Skills	Spreadsheets Knowledge and Skills
collect information	In this unit pupils will begin to		opreadsheets knowledge and skiiis
conect mormation.	understand what the term data	I can choose a data set to answer a	I can collect data (I 1)
	means and how data can be	given question (11)	
-I can collect pictures or	collected in the form of a tally chart		I can suggest how to structure my data
sound files.	They will learn the term (attribute)	I can suggest questions that can be	(11)
-I can view/listen to	They will learn the term attribute	answered using a given data set (11)	
what I have recorded	data They will then programs	answered using a given data set. (LT)	Leen enter dete inte e envedebeet (L1)
and talk about it.	adia. They will then progress onto		i can enter data into a spreadsheet. (L1)
-l can use a simple	presenting data in the form of	I can identify data that can be gathered	I and available what an items of data is
nictogram to collect	pictograms and block alagrams.	over time. (L1)	I can explain what an item of data is.
information	Learners will use the data presented		(L2)
	to answer questions. Some of this	I can explain that sensors are input	
-i can say which group	work will be done practically offline	devices (L2)	I can choose an appropriate format for
has the most.	and some using a computer		a cell. (L2)
	program.	I can use data from a sensor to answer a	
		given question. (L2)	I can apply an appropriate format to a
	I can record data in a tally chart. (L1)		cell. (L2)
	(L3) (L4) data, tally, tally chart	I can identify that data from sensors can	
		be recorded. (L2)	I can explain which data types can be
	I can represent a tally count as a		used in calculations. (L3)
	total. (L1)	I can identify a suitable place to collect	
		data. (L3)	I can construct a formula in a
	I can compare totals in a tally chart.		spreadsheet. (L3)
	(L1) – amounts of animals	I can identify the intervals used to	
		collect data. (L3)	I can identify that changing inputs

I can enter data onto a computer		changes outputs. (L3)
(L2) – data picked by class, favourite	I can talk about the data that I have	
colour, fruit etc.	captured. (L3)	I can calculate data using different
	I can import a data set. (L4)	operations. (L4)
I can use a computer to view data in		
a different format. (L2) - pictogram	I can use a computer to view data in	I can create a formula which includes a
	different ways. (L4)	range of cells. (L4)
i can use pictograms to answer		Lean annhu a farmaula ta multinla calla
(12) which has most least etc.	data (14)	hy duplicating it (14)
(LS) – Which has most, least etc	uata. (L4)	by duplicating it. (L4)
I can use a tally chart to create a	I can propose a question that can be	I can use a spreadsheet to answer
pictogram. (13)	answered using logged data. (15)	questions. (15)
p.e.e.g (_e)		
I can create a pictogram to arrange	I can plan how to collect data using a	I can explain why data should be
objects by an attribute. (L4) Picked	data logger. (L5)	organised. (L5)
by class		
	I can use a data logger to collect data.	I can apply a formula to calculate the
I can answer 'more than'/'less than'	(L5)	data I need to answer questions. (L5)
and 'most/least' questions about an		
attribute. (L4) – by colour	I can interpret data that has been	I can produce a chart. (L6)
	collected using a data logger (L6)	
I can choose a suitable attribute to	I am during a second size of forms that date	I can use a chart to show the answer to
compare people. (L5) - properties	I can draw conclusions from the data	a question. (L6)
I can collect the data I need (15)	that I have conected (Lo)	I can suggest when to use a table or
T can conect the data Theed. (LS)	I can explain the benefits of using a data	chart (16)
I can create a pictogram and draw	logger. (L6)	
conclusions from it. (L5)		
I can use a computer program to		
present information in different		
ways. E.g. pictogram (L6) Present -		
I can share what I have found out		
using a computer (L6)		
I and the simulation of the		
i can give simple examples of why		

		information should not be shared. (L6) - name, age, DOB, school, address		
	Forwards Backwards	Animations and Quizzes Vocabulary *For definitions see document on	Events and Actions in Programming and Repetition in Games Vocabulary	Selection in Physical Computing and Sensing in Computing Vocabulary
	Turn	tnis <u>link*</u>	*For definitions see document on this	*For definitions see document on this
	Under	Robot		
	Over	Algorithm	Programming	Programming
	Next to	Programming	Scratch	Circuit
	Behind	Scratch Jr	Blocks	Electricity
	Move	Sprite	Commands	Microcontroller
	Directions	Home	Code	Code
D 0		Command	Events	LED
с С		Block	Motion	Algorithm
Ē		Quiz	Sequence	Motor
3		Sequence	Trialling	Sensor
		Stage	Debugging	Random
		Outcome		Condition
L		Debugging		Accelerometer
b 0		Background		Sequence
0				Emulator
7				Modify
				Debugging

I follow a set of	Animations Knowledge and Skills	Events and Actions in Programming	Selection in Physical Computing
instructions including	This unit introduces learners to on-	Knowledge and Skills	Knowledge and Skills
positional language.	screen programming through		
	ScratchJr. Pupils will explore the way	I can explain the relationship between	I can create a simple circuit and
-I can use listening skills.	a project looks by investigating	an event and an action, (L1)	connect it to a microcontroller. (L1)
	sprites and backgrounds. They will		
-I can listen and follow	use programming blocks to use,	I can choose which keys to use for	I can program a microcontroller to
instructions of more than	modify, and create programs.	actions and explain my choices. (L1)	make an LED switch on. (L1)
one step.	Learners will also be introduced to		
	the early stages of program design	I can identify a way to improve a	I can explain what an infinite loop does
-I can understand what	through the introduction of	program. (L1)	(L1)
different positional	algorithms.		
language words mean		I can choose a character for my project.	I can connect more than one output
e.g. forward, backwards,	I can find the commands to move a	(L2)	component to a microcontroller.
turn, over, under, next to,	sprite. (L1) – movement blocks, left,		(L2)
behind.	right, turn Scratch Jr, Sprite, Home,	I can choose a suitable size for a	
	Command, Block	character in a maze. (L2)	I can use a count-controlled loop to
l give instructions that			control outputs. (L2)
include positional	I can use commands to move a	I can program movement. (L2)	
language.	sprite (11) Algorithm Programming		I can design sequences that use count-
,	sprite. (EF) Algorithm, Hogramming	I can use a programming extension. (L3)	controlled loops. (L2)
-I can give instructions		I and any idea the weat would when	l con combrin that a condition is sitted
one at a time and then in		I can consider the real world when	T can explain that a condition is either
oraer.	I can compare different	making design choices. (L3)	true or faise. (L3)
I am think aband of what	programming tools. (L1) – beebot	l see shares blocks to get up mu	Lean design a conditional lager (L2)
-i can think aneda of what	and scratch jr – what is the same	rearrange (12)	I can design a conditional loop. (L3)
-i need to say next.	about them? Robot, Scratch	program. (L3)	respond to an input (12)
-I can think of how to get	I can use more than one block by	I can identify additional features (from a	
to a given point	icining them together (12) Sequence	given set of blocks) (14)	I can explain that a condition being met
to a given point.	Johning them together. (L2) Sequence		can start an action (14)
-l can use positional	I can use a Start block in a program	I can choose suitable keys to turn on	
language		additional features. (14)	I can identify a condition and an action
			in my project. (L4)
I can interact with a	l can run my program (12)	I can build more sequences of	, p. 0,000 (2.)
programmable tov		commands to make my design work.	I can use selection (an 'ifthen'
inputting instructions.	I can find blocks that have numbers	(L4)	statement) to direct the flow of a
	(L3)		program. (L4)

-I can press a button to		I can test a program against a given	
make a toy move.	I can change the value. (L3)	design. (L5)	I can identify a real-world example of a condition starting an action. (L5)
-l can press buttons to make a toy reach a destingtion	I can say what happens when I change a value (L3)	I can match a piece of code to an outcome. (L5)	I can describe what my project will do.
-l can rethink my	I can show that a project can include	I can modify a program using a design.	(LS)
instructions and try different ones if the toy	Lean delate a sprite (14)	I can make design choices and justify	project. (L5)
did not reach the destination that I wanted	Lean add blacks to each of my anvites	them. (L6)	I can write an algorithm that describes what my model will do. (L6)
it to.	(L4)	I can implement my design. (L6) I can evaluate my project. (L6)	I can use selection to produce an
	I can choose appropriate artwork for my project. (L5) – choose a space	Programming B – Repetition in Games	I can test and debug my project. (L6)
	background for a rocket race stage	I can list an everyday task as a set of instructions including repetition. (L1)	Programming B – Sensing
	I can decide how each sprite will move. (L5)	I can predict the outcome of a snippet	I can apply my knowledge of
	I can create an algorithm for each sprite. (L5)	of code. (L1)	programming to a new environment. (L1)
	I can use sprites that match my	a given outcome. (L1)	I can test my program on an emulator.
	design. (L6) – rockets for space	I can modify loops to produce a given outcome. (L2)	(L1)
	on my algorithm (L6)	I can choose when to use a count-	I can transfer my program to a controllable device. (L1)
	I can test the programs I have created. (L6)	L can recognise that some programming	I can identify examples of conditions in the real world. (L2)
	Programming B – Programming	languages enable more than one process to be run at once. (L2)	I can use a variable in an if, then, else
	<u>Quizzes</u> In this unit pupils will begin to	I can choose which action will be	statement to select the flow of a program. (L2)
	commands have an outcome, and	repeated for each object. (L3)	

	make predictions based on their		I can determine the flow of a program
	learning. They use and modify	I can explain what the outcome of the	using selection. (L2)
	designs to create their own quiz	repeated action should be, (L3)	0 ()
	questions in ScratchJr, and realise		I can use a condition to change a
	these designs in ScratchJr using	I can evaluate the effectiveness of the	variable. (L3)
	blocks of code. Finally, learners	repeated sequences used in my	, , , , , , , , , , , , , , , , , , ,
	evaluate their work and make	program. (L3)	I can experiment with different physical
	improvements to their programming		inputs. (L3)
	projects.	I can identify which parts of a loop can	I can explain that checking a variable
		be changed. (L4)	doesn't change its value. (L3)
	I can identify the start of a sequence.	ũ ()	3 ()
	(L1) sequence, command	I can explain the effect of my changes.	I can use an operand (e.g. <>=) in an if,
		(L4)	then statement (L4)
	I can identify that a program needs	I can re-use existing code snippets on	
	to be started (L1)	new sprites. (L4)	I can explain the importance of the
			order of conditions in else, if
	I can show how to run my program.	I can evaluate the use of repetition in a	statements (L4)
	(L1)	project. (L5)	
			I can modify a program to achieve a
	I can predict the outcome of a	I can select key parts of a given project	different outcome. (L4)
	sequence of commands. (L2)	to use in my own design. (L5)	
	outcome, sequence, command		I can decide what variables to include in
		I can develop my own design explaining	a project. (L5)
	I can match two sequences with the	what my project will do. (L5)	
	same outcome. (L2)		I can design the algorithm for my
		I can refine the algorithm in my design.	project. (L5)
	I can change the outcome of a	(L6)	
	sequence of commands. (L2)		I can design the program flow for my
		I can build a program that follows my	project. (L5)
	I can work out the actions of a sprite	design. (L6)	
	in an algorithm. (L3) debugging		I can create a program based on my
		I can evaluate the steps I followed when	design (L6)
	I can decide which blocks to use to	building my project. (L6)	
	meet the design. (L3)		I can test my program against my
			design (L6)
	I can build the sequences of blocks I		
	need. (L3)		I can use a range of approaches to find
			and fix bugs.

	I can choose backgrounds and	(L6)
	characters for the design. (L4) stage	
	I can create a program based on the	
	new design. (L4)	
	I can choose the images for my own	
	design. (L5)	
	I can create an algorithm. (L5)	
	terre la fisica en esta de fisica en	
	I can build sequences of blocks to	
	match my design. (LS)	
	I can compare my project to my	
	design (16)	
	I can improve my project by adding	
	features. (L6)	
	I can debug (L6) debugging	

Cycle 2			
 Reception	KS1	LKS2	UKS2

-iPad	Technology Around Us Vocabulary	Connecting Computers Vocabulary	Systems and Searching Vocabulary
-Phone	*For definitions see document on	*For definitions see document on this	*For definitions see document on this
-Tablet	this <u>link*</u>	link*	link*
-Computer	Technology	Network	Input
-Whiteboard	Man-made	Input	Output
-Television	Digital	Output	IP Address
-Remote	Screen/monitor	Process	Protocol
-Earphones	Mouse	Connection	Process
-Button	Keyboard	Server	Reuse
	Program	WAP – Wireless Access Point	Explore
	Click	E-Safety	Collaboration
	Drag and drop	Digital Device	System
	Cursor	Network Switch	Packet
I know that technology is	Technology Around Us Knowledge	Connecting Computers Knowledge and	Systems and Searching Knowledge and
used at home and school.	and Skills	<u>Skills</u>	<u>Skills</u>
	In this unit, learners will develop		
-With support I can	their understanding of technology	I can explain that digital devices accept	I can explain that systems are built
identify examples of	and how it can help us. They will	inputs. (L1)	using a number of parts. (L1).
technology I use in school.	start to become familiar with the		
	different components of a computer	I can explain that digital devices	I can describe the input, process, and
-With support I can	by developing their keyboard and	produce outputs. (L1)	output of a digital system. (L1)
identify examples of	mouse skills. Learners will also		
technology I use at home.	consider how to use technology	I can follow a process. (L1)	I can explain that computer systems
	responsibly. The unit will be taught		communicate with other devices. (L1)
-I can identify when a	through a mixture of discussion and	I can classify input and output devices.	
piece of technology I use	unplugged tasks and mouse and	(L2)	I can identify tasks that are managed by
at home is the same or	keyboard tasks on paintz.app.		computer systems. (L2)
different to what I use in		I can describe a simple process. (L2)	
school.	I can explain technology as		I can identify the human elements of a
	something that helps us. (L1)	I can design a digital device. (L2)	computer system. (L2)
I use technology toys in	manmade, digital, technology		
my role-play.		I can explain how I use digital devices	I can explain the benefits of a given
	I can locate examples of technology	for different activities. (L3)	computer system. (L2)
-I can pretend to use	in the classroom. (L1) - laptop,		
technology I have seen	desktop, pencil, glue stick, scissors.	I can recognise similarities between	I can make use of a web search to find
grown-ups use when	phone, pencil sharpener etc	using digital devices and using non-	specific information. (L3)
taking on a role.		digital tools. (L3)	

	I can explain how these technology		I can refine my web search. (L3)
I know how to use	examples help us. (L1)	I can suggest differences between using	
technology with support		digital devices and using non-digital	I can compare results from different
to find out information.	I can name the main parts of a	tools. (L3)	search engines. (L3)
	computer. (L2) screen / monitor,		
I can use the internet to	keyboard, mouse	I can recognise different connections.	I can explain why we need tools to find
search with support from		(L4)	things online. (L4)
an adult.	I can switch on and log into a		
	computer. (L2)	I can explain how messages are passed	I can recognise the role of web crawlers
I can use technology to		through multiple connections. (L4)	in creating an index. (L4)
find photos and videos	I can use a mouse to click and drag.		
with support from an	(L2) click, drag and drop	I can discuss why we need a network	I can relate a search term to the search
adult.		switch. (L4)	engine's index. (L4)
	I can use a mouse to open a		
To know that there are	program. (L3) program	I can recognise that a computer	I can order a list by rank. (L5)
some rules I need to		network is made up of a number of	
follow when online and	I can click and drag to make objects	devices. (L5)	I can explain that a search engine
that some things are not	on a screen. (L3)- use shape and fill		follows rules to rank results. (L5)
safe.	tools. click, drag and drop	I can demonstrate how information can	
		be passed between devices. (L5)	I can give examples of criteria used by
-I can say if given	I can use a mouse to create a picture.		search engines to rank results. (L5)
examples are right or	(L3)	I can explain the role of a switch, server,	
wrong thigs to do when		and wireless access point in a network.	I can describe some of the ways that
using a computer.	I can say what a keyboard is for. (L4)	(L5)	search results can be influenced. (L6)
	keyboard		
-I can tell an adult what I		I can identify how devices in a network	I can recognise some of the limitations
am doing online.	I can type my name on a computer.	are connected together. (L6)	of search engines. (L6)
	(14)		
		I can identify networked devices around	I can explain how search engines make
	I can save my work to a file (14)	me. (L6)	money. (L6)
	I can open my work from a file (15)	I can identify the benefits of computer	
	real opening work nonra nic. (ES)	networks. (L6)	
	I can use the arrow keys to may a the		
	i can use the arrow keys to move the		
	cursor. (L5) cursor		
	I can delete letters. (L5)		

		I can identify rules to keep us safe and healthy when we are using technology in and beyond the home. (L6) I can give examples of some of these rules. (L6) – hold device carefully, only use approved apps, stop when talking to someone, limit time I can discuss how we benefit from these rules. (L6)		
	Camera iPad	Digital Painting Vocabulary	Animation Vocabulary *For definitions see document on this	Vector Drawing Vocabulary *For definitions see document on this
m	Picture	this link*	link*	link*
	Video	Paint Program	Animation	Object
0	Button	ТооІ	Frame	Layering
٦	Knob	Paintbrush	Illusion	Enlarge/ Reduce
2	Swipe	Erase	Sequence	Rotate
b 0	Click	Fill	Onion Skinning	Handles
2	Record	Undo	Playback	Zoom
ti		lcon	Storyboard	Alignment
с С		Save	Audio	Grouping
LE			Consistency	Vector
			Taut	Cradiant

I know how to operate	Digital Painting Knowledge and	Animation Vocabulary Knowledge and	Vector Drawing Knowledge and Skills
simple age-appropriate	<u>Skills</u>	<u>Skills</u>	
technology.	During this unit, pupils develop their		I can recognise that vector drawings are
	understanding of a range of tools	I can draw a sequence of pictures. (L1)	made using shapes. (L1)
-I can pull or turn a knob	used for digital painting. They then		
to interact with a toy.	use these tools to create their own	I can create an effective flip book—style	I can experiment with the shape and
	digital paintings, while gaining	animation. (L1)	line tools. (L1)
-I can press a button to	inspiration from a range of artists'		
interact with a toy or	work. The unit concludes with	I can explain how an animation/flip	I can discuss how vector drawings are
piece of technology.	learners considering their	book works. (L1)	different from paper-based drawings.
	preferences when painting with and		(L1)
-I can use my finger to	without the use of digital devices.	I can predict what an animation will	
interact with a piece of	The unit is taught using either	look like. (L2)	I can identify the shapes used to make
technology.	Microsoft Paint or Paintz.app.		a vector drawing. (L2)
		I can explain why little changes are	
	I can make marks on a screen and	needed for each frame. (L2)	I can explain that each element added
I use technology to	explain which tools I used. (L1) paint		to a vector drawing is an object. (L2)
record my play and	program, tool, paintbrush, erase, fill	I can create an effective stop-frame	
learning.		animation. (L2)	I can move, resize, and rotate objects I
	I can draw lines on a screen and		have duplicated. (L2)
-I can use a camera or	explain which tools I used. (L1) tool,	I can break down a story into settings,	I can use the zoom tool to help me add
iPad to take a picture or	paintbrush	characters and events. (L3)	detail to my drawings. (L3)
video.			
	I can use the paint tools to draw a	I can describe an animation that is	I can explain how alignment grids and
-I can use a voice recorder	picture. (L1) tool, paintbrush, erase,	achievable on screen. (L3)	resize handles can be used to improve
to record to record audio.	fill		consistency. (L3)
		l can create a storyboard. (L3)	
	I can make marks with the square		I can modify objects to create a new
I use hardware to	and line tools. (L2) save, icon, undo	I can use onion skinning to help me	image. (L3)
interact with software.		make small changes between frames.	
	I can use the shape and line tools	(L4)	I can identify that each added object
-I can use a mouse to	effectively. (L2)		creates a new layer in the drawing. (L4)
select items on a		I can review a sequence of frames to	
computer.	I can use the shape and line tools to	check my work. (L4)	I can change the order of layers in a
	recreate the work of an artist. (Piet		vector drawing. (L4)
-I can use a keyboard to	Mondrian, Henri Matisse, Georges	I can evaluate the quality of my	
input on to a computer.	Seurat, Wassilly Kandinsky) (L2, L3,	animation. (L4)	I can use layering to create an image.
	14, 15)		(L4)

-I can use a keyboard to		I can explain ways to make my	
logon to a computer with	I can choose appropriate shapes. (L3)	animation better. (L5)	I can copy part of a drawing by
support.			duplicating several objects. (L5)
	I can make appropriate colour	I can evaluate another learner's	
I am able to complete a	choices. (L3)	animation. (LS)	and ungroup objects (LE)
simple computer		L can improve my animation based on	
program.	I can create a picture in the style of	feedback. (15)	I can reuse a group of objects to further
P0	an artist. (L3)		develop my vector drawing. (L5)
-I can make the right		I can add other media to my animation.	
selections using my finger	I can explain that different paint	(L6)	I can create a vector drawing for a
or hardware to complete	tools do different jobs. (L4) draw, fill,		specific purpose. (L6)
an aim on a computer	spray paint, circle tool	I can explain why I added other media	
program.	I can choose appropriate paint tools	to my animation. (L6)	I can reflect on the skills I have used
	and colours to recreate the work of	1 con evaluate rev final film (1 C)	and why I have used them. (L6)
	an artist (Eassilly Kandinsky). (L4)	i can evaluate my imai mm. (LO)	L can compare vector drawings to
)	freehand paint drawings (16)
	I can say which tools were helpful	,	
	and why. (L4)		
	I can make dots of colour on the		
	page. (LS)		
	I can change the colour and brush		
	sizes. (L5)		
	I can use dots of colour to create a		
	picture in the style of an artist on my		
	own. (Georges Seurat) (L5)		
	I can explain that pictures can be		
	naue in lots of unferent ways. (L6) –		
	computer		
	I can spot the differences between		
	painting on a computer and on		
	paper. (L6) – decided by pupils		

	through discussion		
	I can say whether I prefer painting		
	using a computer or using paper. (L6)		
·	Digital Writing Vocabulary	Desktop Publishing Vocabulary	Video Editing Vocabulary
	*For definitions see document on	*For definitions see document on this	*For definitions see document on this
	this link*	link*	link*
	Word Processor	Publishing	Plot
	Text	Text	Audio
	Font	Images	Dialogue
	Enter	Font	Message
	Spacebar	Templates	Themes
	Backspace	Orientation	Zoom
	Toolbar	Placeholders	Angle
	Caps Lock	Software	Pan/Tilt
	Bold	Purpose	Video
	Italic	Audience	Props
	Underline		
	Undo		
	Redo		

Digital Writing Knowledge and Skills	Desktop Publishing Knowledge and	Video Editing Knowledge and Skills
During this unit, pupils will develop	<u>Skills</u>	
their understanding of the various		I can explain that video is a visual
aspects of using a computer to	I can explain the difference between	media format. (L1)
create and manipulate text. Pupils	text and images. (L1)	
will become more familiar with using	I can recognise that text and images can	I can identify features of videos. (L1)
a keyboard and mouse to enter and	communicate messages clearly. (L1)	
remove tex. They will learn how to		I can compare features in different
change the look of their text, and will	I can identify the advantages and	videos. (L1)
be able to justify their reasoning in	disadvantages of using text and images.	
making these changes. Finally,	(L1)	I can identify and find features on a
learners will consider the differences		digital video recording device. (L2)
between using a computer to create	I can change font style, size, and colours	
text, and writing text on paper. They	for a given purpose. (L2)	I can experiment with different camera
will be able to explain which method		angles. (L2)
they prefer and explain their	I can edit text. (L2)	
reasoning for choosing this. This unit		I can make use of a microphone. (L2)
will be taught using Microsoft Word.	I can explain that text can be changed to	
	communicate more clearly. (L2)	I can suggest filming techniques for a
I can open a word processor. –		given purpose. (L3)
Microsoft word (L1) word processor	I can explain what 'page orientation'	
	means. (L3)	I can capture video using a range of
I can recognise keys on a keyboard.		filming techniques. (L3)
(L1) – keyboard, enter	I can recognise placeholders and say	
	why they are important. (L3)	I can review how effective my video is.
I can identify and find keys on a		(L3)
keyboard. (L1)	I can create a template for a particular	
	purpose. (L3)	I can outline the scenes of my video.
I can enter text into a computer. (L2)		(L4)
text	I can choose the best locations for my	
	content. (L4)	I can decide which filming techniques I
I can use letter, number, and Space		will use. (L4)
keys. (L2) spacebar	I can paste text and images to create a	
	magazine cover. (L4)	I can create and save video content.
I can use Backspace to remove text.		(L4)
(L2) backspace	I can make changes to content after I've	
	added it. (L4)	I can store, retrieve, and export my
I can type capital letters. (L3)		recording to a computer. (L5)

	Caps Lock	I can identify different layouts. (L5)	
	I can explain what the keys that I		I can explain how to improve a video by
	have already learnt about do. (L3) -	I can match a layout to a purpose. (L5)	reshooting and editing. (L5)
	caps lock, spacebar, backspace		I can select the correct tools to make
		I can choose a suitable layout for a given	edits to my video. (L5)
	I can identify the toolbar and use	purpose. (L5)	
	bold, italic, and underline. (L3)		I can make edits to my video and
	toolbar, bold, italic, underline	I can identify the uses of desktop	improve the final outcome. (L6)
		publishing in the real world. (L6)	
	I can select a word by double-		I can recognise that my choices when
	clicking. (L4)	I can say why desktop publishing might	making a video will impact the quality
		be helpful. (L6)	of the final outcome. (L6)
	I can select all of the text by clicking		
	and dragging. (L4)	I can compare work made on desktop	I can evaluate my video and share my
		publishing to work created by hand. (L6	opinions. (L6)
	I can change the font. (L4) Font		
	I can say what tool I used to change		
	the text. (L5)		
	I can decide if my changes have		
	improved my writing. (L5)		
	I can use 'Undo' to remove changes.		
	(L5) undo		
	I can make changes to text on a		
	computer. (L6) undo, redo		
	I can explain the differences		
	between typing and writing. (L6) -		
	easier to edit on a computer, make		
	copies etc		
	I can say why I prefer typing or		
	writing. (L6)		

	Record	Grouping Data Vocabulary	Branching Databases Vocabulary	Flat File Databases Vocabulary
	Most	*For definitions see document on	*For definitions see document on this	*For definitions see document on this
	Least	this <u>link*</u>	link*	link*
	Fewest	Search	Attributes	Database
	Same	Data	Data	Data
		Information	Information	Information
		Group	Group	Collection
		Label	Branching	Search
		Properties	Database	Sort
		Similar	Multiple	Fields
		Different	Classify	Records
		Describe	Structure	Filter
			Present	Software
Ĩ	To use technology to	Grouping Data Knowledge and Skills	Branching Databases Knowledge and	Flat File Databases Knowledge and
	collect information.	This unit introduces pupils to data	<u>Skills</u>	<u>Skills</u>
		and information. Labelling, grouping,		
	-I can collect nictures or	and searching are important aspects	I can investigate questions with yes/no	I can create a database using cards .
	sound files	of data and information. Searching is	answers. (L1)	(L1)
	L can view/liston to	a common operation in many		
	-i call view/listen to	applications, and requires an	I can make up a yes/no question about a	I can explain how information can be
	what I have recorded	understanding that to search data, it	collection of objects. (L1)	recorded. (L1)
	and talk about it.	must have labels. This unit of work		
	-l can use a simple	focuses on assigning data (images)	I can create two groups of objects	I can order, sort, and group my data
	pictogram to collect	with different labels in order to	separated by one attribute. (L1)	cards. (L1)
	information.	demonstrate how computers are		
	-I can say which group	able to group and present data. This	I can select an attribute to separate	I can explain what a field and a record
	has the most.	unit is taught through a combination	objects into groups. (L2)	is in a database. (L2)
		of unplugged practical tasks and		
		using digital worksheets on Microsoft	I can create a group of objects within an	I can navigate a flat-file database to
		word.	existing group. (L2)	compare different views of
				information. (L2)
		I can describe objects using labels.	I can arrange objects into a tree	
		(L1) – animals, objects around	structure. (L2)	I can choose which field to sort data by
		classroom e.g, pencils, rulers.		to answer a given question. (L2)
		Label	I can select objects to arrange in a	
			branching database. (L3)	I can explain that data can be grouped
		I can match objects to groups.(L1)		using chosen values. (L3)

animals, objects around classroom	I can group objects using my own	
e.g, pencils, rulers.	yes/no questions. (L3)	I can group information using a
	I can test my branching database to see	database. (L3)
I can identify the label for a group of	if it works. (L3)	I can combine grouping and sorting to
objects. (L1)		answer specific questions. (L3)
	I can create yes/no questions using	the state of the s
I can count objects. (L2)	given attributes. (L4)	I can choose which field and value are
L can group objects (12) -rulers	L can compare two branching database	(14)
nencils rubbers group	structures $(1A)$	(L4)
pencils, rubbers group		I can outline how 'AND' and 'OR' can be
I can count a group of objects. (L2)	I can explain that questions need to be	used to refine data selection. (L4)
	ordered carefully to split objects into	
I can describe an object. (L3) -colour,	similarly sized groups. (L4)	I can choose multiple criteria to answer
size, shape		a given question. (L4)
	I can independently create questions to	
I can describe a property of an	use in a branching database. (L5)	I can select an appropriate chart to
object. (L3) properties		visually compare data. (L5)
	I can create questions that will enable	
I can find objects with similar	objects to be uniquely identified. (L5)	I can refine a chart by selecting a
properties. (L3) similar, different,	I and success a short-set constant of a	particular filter. (L5)
search, data	i can create a physical version of a hranching database (LE)	L can explain the henefits of using a
L can group similar objects – shapes	branching uatabase. (LS)	computer to create charts (15)
(14) similar different group	L can create a branching database that	
	reflects my plan. (L6)	I can ask questions that will need more
I can group objects in more than one		than one field to answer. (L6)
way. (L4) – colour and shape	I can work with a partner to test my	, , , , , , , , , , , , , , , , , , ,
	identification tool. (L6)	I can refine a search in a real-world
I can count how many objects share		context. (L6)
a property. (L4)	I can suggest real-world uses for	
	branching databases. (L6)	I can present my findings to a group.
I can choose how to group objects.		(L6)
(L5)		
L can describe groups of objects (15)		
- properties		
h. the const		

		I can record how many objects are in a group. (L5) I can decide how to group objects to answer a question. (L6) I can compare groups of objects. (L6) – which has more or less? I can record and share what I have found. (L6)		
	Forwards	Moving a Robot and Robot	Sequencing Sounds and Repetition in	Selection in Quizzes and Variables in
	Backwards	<u>Algorithms Vocab</u>	<u>Shapes Vocabulary</u>	<u>Games Vocabulary</u>
	Turn	*For definitions see document on	*For definitions see document on this	*For definitions see document on this
	Under	this <u>link*</u>	link*	link*
	Over	Robot	Programming	Programming
	Next to	Algorithm	Scratch	Scratch
	Behind	Button	Blocks	Variable
	Move	Direction	Commands	Events
	Directions	Forward	Code	Code
		Backward	Sprite	LED
b0		Right	Stage	Algorithm
а С		Left	Costume	Motor
. <u> </u>		Route	Backdrop	Commands
3		Obstacle	Sequence	Condition
Ē		Design	Logo	Selection
		Error	Cursor	Sequence
lo L		Debugging	Algorithm	Logical
00		Chunking	Pattern	Trialling
0		Predict	Debugging	Modify
7				Debugging

I follow a set of	Moving a Robot Knowledge and	Sequencing Sounds Knowledge and	Selection in Quizzes Knowledge and
instructions including	<u>Skills</u>	<u>Skills</u>	<u>Skills</u>
positional language.	This unit introduces pupils to early		
	programming concepts. Pupils will	I can identify the objects in a Scratch	I can recall how conditions are used in
-I can use listening skills.	explore using individual commands,	project (sprites, backdrops) (L1)	selection. (L1)
	both with other pupils and as part of		I can identify conditions in a program.
-I can listen and follow	a computer program. They will	I can explain that objects in Scratch	(L1)
instructions of more than	identify what each floor robot	have attributes (linked to). (L1)	I can modify a condition in a program.
one step.	command does and use that		(L1)
	knowledge to start predicting the	I can recognise that commands in	I can use selection in an infinite loop to
-I can understand what	outcome of programs. The unit is	Scratch are represented as blocks. (L1)	check a condition. (L2)
different positional	paced to ensure time is spent on all		
language words mean	aspects of programming and builds	I can identify that each sprite is	I can identify the condition and
e.g. forward, backwards,	knowledge in a structured manner.	controlled by the commands I choose.	outcomes in an 'if then else'
turn, over, under, next to,	Pupils are also introduced to the	(L2)	statement. (L2)
behind.	early stages of program design		
	through the introduction of	I can choose a word which describes an	I can create a program that uses
I give instructions that	algorithms. This unit will be taught	on-screen action for my plan. (L2)	selection to produce different
include positional	through practical directions tasks		outcomes
language.	and using beetbots.	I can create a program following a	To explain how selection directs the
		design. (L2)	flow of a program. (L2)
-I can give instructions	I can predict the outcome of a		
one at a time and then in	command on a device. (L1) –	I can start a program in different ways.	I can explain that program flow can
order.	pressing an arrow will move the	(L3)	branch according to a condition. (L3)
	beebot		
-I can think ahead of what	Button, robot	I can create a sequence of connected	I can design the flow of a program that
-I need to say next.		commands. (L3)	contains 'if then else' (L3)
	I can match a command to an	I can explain that the objects in my	
-I can think of how to get	outcome. (L1) –	project will respond exactly to the code.	I can show that a condition can direct
to a given point.	Direction, forward, backward, left,	(L3)	program flow in one of two ways. (L3)
	right		
-I can use positional		I can explain what a sequence is. (L4)	I can outline a given task. (L4)
language.	I can run a command on a device.		
	(L1)	I can combine sound commands. (L4)	I can use a design format to outline my
I can interact with a			project. (L4)
programmable toy	I can follow an instruction. (L2)	I can order notes into a sequence. (L4)	
inputting instructions.			I can identify the outcome of user input
	I can recall words that can be acted	I can build a sequence of commands.	in an algorithm. (L4)

-I can press a button to	out. (L2) forward, backward, left,	(L5)	
make a toy move.	right, stop, turn		I can implement my algorithm to create
		I can decide the actions for each sprite	the first section of my program. (L5)
-I can press buttons to	I can give directions. (L2) forward,	in a program. (L5)	
make a toy reach a	backward, left, right		I can test my program. (L5)
destination.		I can make design choices for my	
	I can compare forward and backward	artwork. (L5)	I can share my program with others.
-I can rethink my	movements. (L3) forwards,		(L5)
instructions and try	backwards	I can identify and name the objects I will	
different ones if the toy		need for a project. (L6)	I can identify ways the program could
did not reach the	I can start a sequence from the same		be improved. (L6)
destination that I wanted	place. (L3)	I can relate a task description to a	I can identify the setup code I need in
it to.		design. (L6)	my program. (L6)
	I can predict the outcome of a		
	sequence involving 'forwards' and	I can implement my algorithm as code.	I can extend my program further. (L6)
	'backwards' commands. (L3) predict	(L6)	
			Programming B – Variables in Games
	I can compare left and right turns.	Programming A – Repetition in Shapes	
	(L4) left, right		I can identify examples of information
		I can program a computer by typing	that is variable. (L1)
	I can experiment with 'turn' and	commands. (L1)	
	'move' commands to move a robot.		I can explain that the way a variable
	(L4)	I can explain the effect of changing a	changes can be defined. (L1)
		value of a command. (L1)	
	I can predict the outcome of a		I can identify that variables can hold
	sequence involving up to four	I can create a code snippet for a given	numbers or letters. (L1)
	commands. (L4) route, chunking,	purpose. (L1)	
	algorithm		I can identify a program variable as a
		I can use a template to draw what I	placeholder in memory for a single
	I can explain what my program	want my program to do. (L2)	value. (L2)
	should do. (L5)		
		I can write an algorithm to produce a	I can explain that a variable has a name
	I can choose the order of commands	given outcome. (L2)	and a value. (L2)
	in a sequence. (L5)		
		I can test my algorithm in a text-based	I can recognise that the value of a
	I can debug my program. (L5)	language. (L2)	variable can be changed. (L2)
	debugging, error		
		I can identify repetition in everyday	I can decide where in a program to

	I can identify several possible	tasks. (L3)	change a variable. (L3)
	solutions. (L6) debugging I can plan two programs. (L6)	I can identify patterns in a sequence. (L3)	I can make use of an event in a program to set a variable. (L3)
	Programming A – Robot Algorithms This unit develops pupils' understanding of instructions in	I can use a count-controlled loop to produce a given outcome. (L3)	I can recognise that the value of a variable can be used by a program. (L3)
	sequences and the use of logical reasoning to predict outcomes. Pupils will use given commands in	I can identify the effect of changing the number of times a task is repeated. (L4)	I can choose the artwork for my project. (L4)
	different orders to investigate how the order affects the outcome. Pupils will also learn about design in	I can predict the outcome of a program containing a count-controlled loop. (L4)	I can create algorithms for my project. (L4)
	programming. They will develop artwork and test it for use in a	I can choose which values to change in a loop. (L4)	I can explain my design choices. (L4)
	program. They will design algorithms and then test those algorithms as programs and debug them. This unit	I can identify 'chunks' of actions in the real world. (L5)	I can create the artwork for my project. (L5)
	will be taught using beebots.	I can use a procedure in a program. (L5)	I can choose a name that identifies the role of a variable. (L5)
	someone else. (L1) Forward, Backward, Right, Left	I can explain that a computer can repeatedly call a procedure.(L5)	I can test the code that I have written (L5)
	I can choose a series of words that can be acted out as a sequence. (L1) Forward, Backward, Bight, Left, turn	I can design a program that includes count-controlled loops. (L6)	I can identify ways that my game could be improved. (L6)
	stop	I can make use of my design to write a program. (L6)	I can use variables to extend my game. (L6)
	move a person around the room	I can develop my program by debugging it. (L6)	I can share my game with others. (L6
	create different algorithms. (L2) algorithm		
	I can use an algorithm to program a		

sequence on a floor robot. (L2) robot, algorithm	
I can show the difference in outcomes between two sequences	
that consist of the same instructions.	
(L2) – moving body – was it same,	
– does it matter where it started.	
I can follow a sequence. (L3)	
I can predict the outcome of a	
sequence. (L3) - where will the	
beebot end up? route	
I can compare my prediction to the	
program outcome. (L3)	
I can explain the choices that I made	
for my mat design. (L4) design	
I can identify different routes around	
I can test my mat to make sure that	
it is usable. (L4) debugging	
I can explain what my algorithm	
should achieve. (L5)	
I can create an algorithm to meet my	
goal. (L5) algorithm,	
I can use my algorithm to create a	
program. (LS) error, debugging	
I can test and debug each part of the	

	program. (L6) error, debugging	
	I can plan algorithms for different parts of a task. (L6) design	
	I can put together the different parts of my program. (L6) chunking	