YEAR 1 Overview		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computer Science Progression descriptors • Understand what algorithms are • Create simple programs	Programming Algorithms, Sequencing, Beebots/ Roamers	Algorithms and the use of directional instructions on physical devices Remote Control cars and Beebots - make them move place to place on simple routes – link to topic, which buttons move forward, backwards, right, left They use non-standard units and can make simple corrections to their instructions. Supportive – as first experience of directional arrows – ask to work in pairs/teams and support each other Apps to teach Programming Kodable/Bee Bot – Sequencing Instructions (Weeks 1-2)	Know how to program a robot to follow simple sequence of instructions (1- 2 turns) Make simple sets of instructions (Weeks 1-2)	Plan a beebot journey - around a simple route - eg Make routes around local landmarks - a map of our locality. Travel from country to country on a map of the UK (Weeks 1-2)	Use simple algorithms eg sequence a nursery rhyme (pictures) Put the seasons in the correct order. Plants growth – put photos in order (Weeks 1-2)	 Use Google maps find their homes and look at how they get to school. Use Bee bots to follow their route LA/MA – Introduce Right left HA Record instruction using arrow cards LA Forwards, backwards and left and right HA Bee Bots - Be a tour guide- drive your bus on a local route (Weeks 1-2) 	Be able to make simple predications about an algorithm and a programThe Bee Bot will go Be able to change (debug) the program to improve the route Bee Bot - Correct the program so they are able to debug their instructions when the turtle does not reach the intended destination Bee bot app – level 1change (debug) the program to improve the route Forgiving - prepared to accept making mistakes (Weeks 1-2)

Digital Literacy Progression descriptors • Use technology safely and respectfully and	Digital Literacy & Citizenship (Research) SWGFL scheme of work/Common Sense Media Online Communication and E-Safety, DLG, Blogging, E- mail)	Going Places Safely Know that they should always ask an adult before using the Internet http://www.childnet.co m/resources/smartie- the-penguin Nurturing – make aware that they should always protect themselves on the internet (Week 3)	Know what to do if they are unsure of something they see whilst using the Internet Internet Traffic Light – Common Sense Media https://www.comm onsense.org/educat ion/digital- citizenship/lesson/in ternet-traffic-light Respectful – recognise that some internet content is not	Jessie and Friends Think U Know – https://www.thinkukno w.co.uk/professionals/r esources/jessie-and- friends/ <i>Episode 1 Watching</i> videos <i>Episode2 - Sharing</i> pictures - video / animation / story book and song (Week 3)	Lee and Kim – CEOP https://www.thinkuknow. co.uk/professionals/resou rces/lee-and-kim/ (Week 3)	With support from an adult be able to find information on the internet Searching Pupils search for pictures online by clicking on letters of the alphabet. They learn that directory sites with alphabetical listings offer one way to find things on the Internet Researching ladybirds / Minibeasts Swiggle – safe search engine Ask Jeeves for Kids How technology makes you feel – Common Sense Media https://www.commonsense.org/educatio n/digital-citizenship/lesson/how- technology-makes-you-feel Explore websites and to say whether
keeping personal information private			respectful to others (Week 3)			<i>they like them or not and why</i> Caring – pay close attention to others opinions
	Communicatio n Publishing and collaborating (Multimedia Word Processing)	Be able to log onto a computer or use a QR code to evidence work Learn to log in to a computer – practice writing names in a basic word processor eg Textease Studio, Powerpoint (used as a word processor), Pages, Using J2E Write – https://www.j2e.com/j it5# (Week 3)	To improve keyboard / typing skills improve keyboard / typing skills http://primarygame sarena.com/Play/Ke yboard-2030 https://www.topma rks.co.uk/Christmas /ChristmasGames.a spx Forgiving – practise makes perfect and to not give up on	Be able to navigate around the screen with a mouse https://www.topmarks. co.uk/Christmas/Christ masGames.aspx - mouse skills Millies Mouse Skills - Early keyboard skills - free software (Week 3)	Know how to type text using space bar for separate words to create something meaningful Create a simple slide presentation in keynote / powerpoint - add text and a picture Inclusive – discuss all their learnt processing skills and how they have combined to create their slide presentation Keyboard Skills	(Week 3)
Progression descriptors			yourself		http://primarygamesaren	

Use technology		(Week 3)	a.com/Play/Keyboard-	
purposefully to		(Week 3)	2030	
create and			2030	
manipulate digital content			(Week 3)	
		Be able to independently find and use an app on a tablet for instance to take a	Make a simple animation Use Puppet pals to create retell fairy story	<i>School Visit</i> Take video footage / photos - playback to
		and view a photograph	(Week 4)	support writing Use footage from school visit and photos - write recount. (Word)
	Digital video Video &	<i>Video a message</i> for Santa, tell everyone about yourself, your favourite story		Inclusive – try to capture everyone's
	Animation Music / Sound	Teacher Morfo for message back from Santa		experiences
		Respectful – appreciate and celebrate each other's stories		(Week 4-5)
		(Week 4-5)		
		<i>Create a simple digital painting</i> (Week 6)	Be able to independently find and use an app on a tablet for instance to take and view a photograph	
		(week b)	photograph	
	Digital Imagery (Graphics & digital cameras)		<i>Photo walk of the local area</i> - Photo walk England - where are we on a map – google Earth	
			Add pictures to Pic Collage app	
			Supportive – encourage all to be independent in their activity but to also support one another	
			(Week 5-6)	
				https://www.j2e.com/jit5#pictogram
	Handling Information			How did you get to school today?
	(Database)			https://primaryschoolict.com/pictograph#
				(Week 6)

YEAR 2 Overview		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Complete Science Science Progression descriptors • Understand what algorithms are; how they are implemented as programs on digital devices and that programs execute by following precise and unambiguous instructions • Create and debug simple programs • Use logical reasoning to predict the behaviour of simple programs • Recognise common uses of information technology beyond school	Programming Algorithms, Sequencing, Beebots / Roamers/ Probots	Beebots – using floor maps – LA - Moving Beebots – fd / bk MA /HA Moving Beebots -rt / It –pictures of toys (Week 1-2)	Understand that algorithms are implemented as programs on digital devices Using Beebots – rt / It – move from animal to animal HA Make some simple sets of instructions - to get around a route - eg follow an animal trail Challenge Make sets of instructions using cards Predict and debug Nurturing – as first experience of creating simple instructions - ask to work in pairs/teams and support each other (Week 1-2)	Understand that algorithms are implemented as programs on digital devices – use of programming ipad LA – Kodable / Beebot App / Daisy the Dinosaur - sequencing and instructions MA / HA Alex / Scratch Jun / Blue bot app (Week 1-2)	 All move to using Probots - look at programming language LA - introduce to Probot simple movements - e.g. railway routes MA / HA - How would you get from - Barnard Castle to Durham city - move Probot round a map of the Uk (cities) Challenge Make sets of instructions using cards Predict and debug BeeBot / Kodable App - program an onscreen app to complete a set task and debug their instructions when the turtle does not reach the intended destination. Learn about some of the uses of the internet. Respectful - appreciate the many various uses of the internet and how important it is to the world today (Week 1-2) 	Know how to program a robot to achieve set goal (sequence of 6-7 instructions: maze, point collecting) MA / HA Use of Probot for more complex instructions, programs and routes – e.g Local Area Challenge - Make routes using precise instructions – did it reach the right place? Honest – encouraging the pupils to use precise instructions Using a probot – HA Use more complex routes using ¼ turns. Use mathematical language eg right angle if ready Begin to use block	Use logical reasoning to predict the behaviour of simple programs – use of any theme e.g. seaside - predict sets of instructions – did it reach the correct place? If not debug. Challenge Probot – angles rt angles / ¼ turns Programming instructions to make things happen eg – make a square. Can you make a hexagon? Bee Bot / Blue Bot Use increasingly complex routes (using standard units to navigate) and debug their instructions when the turtle does not reach the intended destination eg map of UK / Europe / World on the floor. Can you drive from London to Newcastle? Be able to debug more complex problems e.g. a route on a Bee Bot / Blue

	programminge.g. Scratch Junior(Alex, Daisy Dino)to complete asimple program.Scratch JuniorTravel PlanningCreating analgorithm andchanging it intocodehttp://codeit.co.uk/scratchjrtavellingExtension:Usesimple Logo,Scratch or Turtleto navigatearound screen(Week 1-2)	Bot / Probot /Alex / Logo etc Alex - sequencing and debugging harder problems (L10 plus) Scratch Junior Dance Planning http://code- it.co.uk/scratchjrdanc g Extension: Create a 3D environment using Kodu that they can create and describe e.g. link this to a story such as an island adventure Forgiving - prepared to accept making (Week 1-2)mistakes
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			iPad – Book Crostor ann – crosto a book	Google – Safesearchkids Explore websites and say whether they like them or not Common Sense Media - https://www.commo nsense.org/educatio n/lesson/abc- searching-k-2 (Week 3)
J T Progression descriptors • Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Communicatio n Publishing and collaborating (Multimedia Word Processing)	Be able to confidently use pointing device Know how to type and format text including basic punctuation and capital letters (<u>Keyboard Activity</u>) http://primarygamesarena.com/Play/Keyboard- 2030 Use for writing - https://www.j2e.com/jit5# - basic word processor Powerpoint slide – LA picture of a topic related subject MA / HA Create some ppt slides showing topic related subjects HA present your information using the ppt Forgiving – practise makes perfect and to not give up on yourself (Week 4)	iPad – <i>Book Creator app</i> – create a book about topic related subject OR <i>Powerpoint</i> – make a simple presentation – topic related subject (Week 4)	Write and illustrate a story (Word) about your Local area / how to look after your pet / topic related subject Caring – encourage a sense of belonging to the local area/community (Week 4)

Digital video Video & Animation Music / Sound	Talk to video about your favourite toy - playback – use to enhance writing. Make a simple animation in Puppet Pals (Week 5)	Create a short TV advert to promote a visit to Barnard Castle or topic related - iMovies Use microphones and photos for a purpose (Week 5)	School Visit Take video footage / photos - playback to support writing. Sew together clips taken on visit to tell the story of your visit in video / pictures. Use footage from school visit and photos - write recount. (Word) Inspiring – encouraging the pupils to use all of their learnt video editing skills (Week 5)
Digital Imagery (Graphics & digital cameras)	 Be able to combine simple text and graphics For instance create a poster for a purpose / leaflet / invitation / electronic book Publisher / Word / Powerpoint / Keynote / Book Creator Be able to save, retrieve and print work For instance create a poster in Publisher, save it, amend it and print it. (Week 6) 	Be able to add and create simple images Create a simple digital painting https://www.j2e.com/jit, Textease Paint, Pic, Collage or equivalent related to other work in the curriculum. Add a suitable picture into a piece of work. (Week 6)	Photo walk of the local area - Photo walk England - where are we on a map – google Earth Caring – encourage a sense of belonging to the local area/community (Week 6)
Handling Information (Database)	<i>Starting Graph</i> Animals (Week 6)	Create and use a Pictogram https://www.j2e.com/jit5#pictogram (Week 6)	Materials – Textease branch https://www.j2e.com/ji t5#branch (Week 7)
Modelling			Explore Online Simulations – Charlie Chimp (Week 7)

YEAR 3 Overview		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computing	Programming (Algorithms, Sequencing and testing code)	Rapid Router - levels 1-18 (https://www.code forlife.education/ra pidrouter/) HA 18 +	<i>Be able to use a block program (Scratch Jun, Scratch, Microbit Blocks) to make a simple</i>	<i>Scratch</i> - basic use of Scratch Adding instructions / changing sprites etc	Inputs sets of instructions according to programming language and environment	Independently be able to debug basic mistakes. This skill will be gained from repeated	Begin to use conditionals – If I click here then this happensScratch Junior, Scratch, Microbit activities

Descriptors wite programs that accomplish specific goals use logical reasoning the explain how some simple agrothms work recognise uses of information technology beyond school htts://hourofcode com/uk/team - find appropriate coding write programs find appropriate coding Jmr, Microbit etc.) Scratch Junior Dressing up game instructions eg. create an animation whicrobit - Create a programs that displays a welcome the could/pathway show one simple agrothms work Jmr, Microbit etc.) Scratch Junior Dressing up game Dressing up game bitts://code: it.co.uk/pathway http://code: thco.uk/pathway http://code: thco.uk/pathway http://code: thco.uk/pathway http://code: thco.uk/pathway http://code: thco.uk/pathway http://code: thco.uk/pathway http://code: thco.uk/pathway http://code: thco.uk/pathway http://code: thco.uk/scratch / dressing procedures to procedures to	ragraceian		· · · · · · · · · · · ·				
• Wite programs that accomplish specific goals <i>Integrammal ind appropriate</i> coding <i>Sequencing and timing.Write programs that accomplish</i> specific goals. <i>Integrammal specific goals.Dir Microbit etc.Probots</i> – Make instructions- use <i>Microbit bits</i> to predict and debug instructions euse <i>Microbit</i> – Create a programs the use sequence in program that displays a welcome Microbit. Extend this so the message changes. <i>Write programs</i> specific goals. <i>Microbit</i> – Create a program that use sequence in programs to sequence to sequence this so the message changes. <i>Wite programs</i> specific goals. <i>Microbit</i> – Signific specific goals. <i>Scratch Junior</i> to predict and debug to predict and debug to prodict and debug to prodict and debug to prodict and debug the sequence in programs <i>Scratch Machine tec.ProbotsMicrobit</i> etc.• reconder used adporting work• microbit. Extend this so the message changes. <i>Microbit</i> – Create a message on the Microbit. Extend to not give up on yourself <i>Writ writosis of input</i> forms of <i>inputScratch</i> Machine to not give up on yourself <i>Scratch</i> Machine to not give up on yourself <i>Writ writosis of input</i> forms of <i>inputScratch</i> David to not give up on yourself <i>Writ writosis of input</i> forms of <i>input</i> to not give up on yourself <i>Scratch</i> David to not give up on yourself <i>Scratch</i> David to not give up on yourself <i>Writ writosis of input</i> forms of <i>input</i> to sequence accurately <i>Scratch</i> David to not give up on yourself <i>Write programs</i> to not give up on yourself <th></th> <th></th> <th>programme using</th> <th></th> <th>(Logo, Scratch</th> <th>programming</th> <th>.</th>			programme using		(Logo, Scratch	programming	.
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 •use sequence in programs •use logical reasoning to explain how some simple algorithms work •recognise uses of information information			Scratch Junior	specific goals.	animation or	instructions- use	<u>,,</u>
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Make a square / initial of name /				(Week 1-2)			
initial of name /							
						initial of name /	
hexagon / rocket						hexagon / rocket	
/draw shapes / make							
pictures							
						pictures	
Lego Fix the							
Factory – App							
teaching sequencing						teaching sequencing	
Logo Hour of Code						Logo Hour of Code	
Frozen, Star Wars						-	
						activities	

						https://code.org/lear n Nurturing – support each other after completing individually – share good practise and discuss misconceptions	
						(Week 1-2)	
Digital Literacy	Digital Literacy (Research / Esafety) Digital Citizenship (Online Communication and	Staying Safe Know that some people are the internet should not be trusted	<i>Use a simple</i> <i>password</i> Pupils learn to make good passwords for their accounts	<i>Staying Safe</i> Use a Search engine to find information given key words	<i>Be able to log in and out of websites used at school e.g. Lexia.</i>	<i>The Key to</i> <i>Keywords</i> Common Sense Media <u>https://www.commo</u> <u>nsense.org/educatio</u>	Know that using technology can sometimes be inappropriate.

Progression Descriptors - Use technology safely, respectfully and responsibly; E-Safety, DLG, Biogging, E-mail) Know that concerns about what they see on-line should be reported to a trusted adult Common Sense Media https://www.common see.org/education n/digital- citizenship/lesson/pis sword-power-up • Use search technologies effectively Smart Crew Videos - http://www.childin et.com/resources/t he-adventures-of- kara-winston-and- the-smart-crew (Week 3) • Umest - encouraging pupils to use the internet safely and question if not sure (Week 3)	Know which websites are useful and begin to understand that all might not be trustworthy Password Power Up Common Sense Media https://www.commo nsense.org/educatio n/digital- citizenship/lesson/is- seeing-believing Password Power Up Common Sense Media https://www.commo nsense.org/educatio n/digital- citizenship/lesson/is- seeing-believingCreate Posters - to demonstrate understanding of key issues. (Publisher or Pages) http://www.kidsmart .org.uk/teachers/KS2 /lessonplans.aspx Power of words Common Sense Media https://www.commo nsense.org/educatio n/lesson/the-power- of-words-3-5 Respectful - consider and appreciate the importance of keeping personal details private Power of words Common Sense Media https://www.commo nsense.org/educatio n/digital- citizenship/lesson/th e-power-of-words Respectful - consider and appreciate the importance of keeping personal details privateCommon Sense Media https://www.commo nsense.org/educatio n/digital- citizenship/lesson/th e-power-of-words Week 3)	n/lesson/the-key-to- keywords-3-5	Device-Free MomentsCommon Sense Media https://www.commons ense.org/education/di
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I C T Progression Descriptors • Select, use and combine a variety of software to design and create a range of programs, that accomplish given goals, including collecting, presenting data and information	Communication Publishing and collaborating (Multimedia Word Processing)	Be able to log in to computer system as themselves and can find their documents (personal drive) This would relate to any computer- based activity Know how to open shared documents and pictures. On a computer using the shared drive. On an iPad being able to use Air Drop or equivalent to share work. Supportive – if first experience - ask to work in pairs/teams and support each other (Week 4)	 Know how to use software to create an e-book, brochure or poster. Learn to write and deliver a presentation on a given topic Publisher or Pages using a variety of content including headlines, text, pictures and graphics. Eg. Make an information leaflet (Week 4) 	 Know how to sequence and add to slides to make a simple presentation Keynote, Powerpoint, iMovie. The simple presentation should allow pupil to sequence relatively straight forward idea eg. Make an instruction leaflet Be able to create a meaningful document that contains both pictures and text. This could be completed in any appropriate software. Inclusive – discuss all their learnt processing skills and how they have combined to create their slide presentation (Week 4-6)
	Digital video Video & Animation Music / Sound	Take, adapt or create images to enhance or further develop their workPlan and Video a short TV advert - related to current topicInclusive – try to capture everyone's experiences in planning stage(Week 5)	 Develop a storyboard and then create a simple animation - using 'Puppet Pals' or 'Stop Motions' Animation' Respectful – appreciate it can be time consuming to complete and everyone works at different levels (Week 5 -6) 	
	Digital Imagery (Graphics & digital cameras)	Topic pictures - add images and amend www.pixlr.com/editor or pixlr app (Week 6) Image: Complexity of the second secon		
	Handling Information (Database)	Use google Earth to locate related topic Courageous- allow children to find countries that they have visited or would like to visit-to take adventures (Week 6)	Use Topic for database / fact file – Textease Database Honest – ensure only facts are researched (Week 6)	

			Summer 1	Summer 2
ComputingProgression Descriptors • design write and debug programs that accomplish specific goalssolve problem by decomposing them in smaller parts• use sequence, sequence, the sequence, selection and repetition in programs• use sequence, sequence, the sequence, sequence, selection and repetition in programs• use sequence, sequence, the sequence, sequence, selection and repetition in programs• use sequence, sequence, sequence, sequence, selection and repetition in programs• use logical reasoning to explain (Algorithms, sequencing and to detect and correct errors in algorithms and programs• recognise common uses of information technology beyond school• recognise common uses of information technology beyond sch	Scratch - Design programs that accomplish specific goals Use a storyboard to plan an animation in Scratch, include movements, sounds and hiding characters Scratch - Smoking Car http://code- it.co.uk/scratch/s moking_car/smoki ngcaroverview Hour of Code https://studio.code .org/flappy/1 Recognise common uses of information technology beyond school Pupils learn to collaborate electronically by blogging - mailing and working on shared documents using the pupil sites of the DLG	Design and create programs Use repetition in programs Plan a set of instructions to draw a repeating pattern e.g. the "Spirograph" repeating shapes generated by drawing and rotating. Scratch – write programs make more complex screens – with more complex moves Lots of examples at varying levels http://code- it.co.uk/csplanning - HA try some of the higher Scratch activities (Week 1-2)	Summer 1 Pupils learn to sequence instructions (Scratch animation or Timings features in Powerpoint) Create an animation with several characters like a "flipbook" Control or simulate physical systems – simulate simple physical system (e.g. traffic lights) Supportiive – ask to work in pairs/teams and support each other	Summer 2 Textease Turtle – Pictures of topic area landmarks - use on screen turtle to move around HA More complex routes – more difficult - drawing shapes Kodu - build a simple world and program an object so that it can be controlled with keys Extension – pupils create a simple game using a graphical language such as Kudo or Scratch (Week 1-2)

			 "wrong" shape or programme Probot to react to its environment eg. to explore and reverse and turn when it collides with an object Forgiving – practise makes perfect and to not give up on yourself (Week 1-2) 	Caring – encourage a sense of belonging to the local area/community (Week 1-2)			
Digital Literacy	Digital Literacy (Research / ESafety) Digital Citizenship (Online Communication and	What makes a healthy media choice	<i>Know that pictures and text share on-line can end up with</i>	<i>Reliably know what to do if they are exposed to unpleasant</i>	Know that having a balance of online and offline activities is important.	<i>Know what the key words are to enter into a Search engine to</i>	Kidsmart <u>– Safe</u> <u>Searching</u> Google – <u>How search</u> <u>works</u>

Progression	E-Safety, DLG,	Begin to understand	strangers	materials on any		find information	A creator's rights
DescriptorsUse technology	Blogging, E-mail)	the implications for	-	device.	My Media Choices	they want.	and responsibilities
safely, respectfully		the information that	Google – Be an		Common Sense		Common Sense Media
and responsibly;		they share online	Internet Legends	Covered by	Media	Introduce basics of	https://www.commons
recognise acceptable/		and how some	Series of lessons	Internet Legends -	https://www.com	online searching,	ense.org/education/di
unacceptable		websites might use		learn about spam	monsense.org/ed	including how to use	gital-
behaviour; identify		that information	about many aspects	and how to deal	ucation/digital-	effective keywords.	citizenship/lesson/a-
a range of ways to		without their	of being safe online.	with it.	<u>citizenship/lesson</u>	Learn to conduct	creators-rights-and-
report concerns about content and		knowledge - check	https://beinterne		<u>/my-media-</u>	searches that	responsibilities
contact		with a trusted adult	<u>tlegends.withgoo</u>		choices	provide them with	
		before sharing	<u>gle.com/en_uk/to</u>	Digital		the most helpful	Explore how they
Use search		private information	<u>olkit</u>	citizenship Role	Reliably uses a	and relevant	interact with others
technologies		Common Sense		·····	more complex	information	and are introduced
effectively,		Media https://www.commo	Cyber-Detectives	Reflect on how	password to		to the concept of
appreciate how results are selected			– Teacher led lesson	they are	access resources.	Consider using first	cyberbullying
and ranked and be		nsense.org/educatio		responsible not		few lessons from	
discerning in		<u>n/digital-</u>	where children solve	only for	Resources within	Google	Learn how to
evaluating digital content		citizenship/lesson/m	a mystery	themselves but for	Internet legends.	https://www.google	communicate to be a
content		<u>y-media-choices</u>	https://esafety.gov.a	others, in order to		.com/insidesearch/s	responsible member of
			u/education-	create a safe and	Honest – recognise	earcheducation/less	a connected culture
		Digital footprint	resources/classroom	comfortable	truthfully the amount	<u>ons.html</u>	effectively in order to
		and identity	-	environment	of time they spend	Pupils learn that	prevent
		Common Sense	resources/cybersmar	Common Sense	online	-	miscommunication
		Media	t-detectives	Media	(Week 3)	the Internet is a	Deen activity of a theory
		https://www.commo		https://www.co	(Week S)	public space	Respectful -of others in different cultures
		nsense.org/educatio	(Week 3)	mmonsense.org/			
		n/digital-		education/digital		Develop the skills to	
		citizenship/lesson/ou				protect their privacy	(Week 3)
		r-online-tracks		citizenship/lesso		and respect the	
		1-OHIME-LIACKS		<u>n/rings-of-</u>		privacy of others	
		Caring – for the		<u>responsibility</u>		(11/1-2)	
		information that		Kooning		(Week 3)	
		they share online		Keeping Games fun and			
		and how some					
		websites might use		friendly			
		that information		Common Sense Media			
		without their					
		knowledge		https://www.com			
		Knowieuge		monsense.org/edu			
		(Maak 2)		cation/digital-			
		(Week 3)		citizenship/lesson/			
				1			

r					
			keeping-games-		
			fun-and-friendly		
			BBC HH Video		
			http://www.bbc.co		
			.uk/cbbc/watch/p0		
			<u>Onxznx</u>		
			Being a digital		
			Citizen		
			https://www.com		
			https://www.com monsense.org/edu		
			cation/digital-		
			<u>cation/digital-</u> <u>citizenship/lesson/</u>		
			<u>super-digital-</u>		
			<u>citizen</u>		

I C T Progression Descriptors • 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	Communication Publishing and collaborating (Multimedia Word Processing)	 Be able to save a document in a shared folder and retrieve this to continue working on it. Computer. On an iPad work could be shared by Airdrop or equivalent. For instance, open a presentation template or document started by the teacher and add additional content and material. Publisher, Powerpoint, Word, Documents, Pages, Keynote (Apple devices using air drop) Photos to Word / Publisher – add instructions, sequence photos to make a set of instructions http://cookit.e2bn.org/historycookbook/inde x-30-romano-british.html You are a publisher who has been asked to create promotional materials for a new Italian restaurant in Barnard castle. Design what you need. Supportive – if first experience - ask to work in pairs/teams and support each other (Week 4-5) 	 Be able to organise their personal folder effectively for instance by organising work into folders for each year at school By teacher demonstration and organising work into folders on the school network. Difficult to implement on tablets unless using a cloud system. Know how to use software to create an e-book, brochure or poster. Learn to write and deliver a presentation on a given topic Publisher or Pages using a variety of content including headlines, text, pictures and graphics. Eg. Make an information leaflet Create and sequence a simple linear Powerpoint and add some animated effects - linked to current topic Inclusive – discuss all their learnt processing skills and how they have combined to create their slide presentation (Week 4-5) 	Know how to change font size and style; include shapes and backgrounds and to use the Spellcheck function To produce a piece of work related to other learning for instance in English or the Humanities. (Week 4)
	Digital video Video & Animation Music / Sound	To be able to use sequence to create an effective presentation or video Keynote, Powerpoint or iMovie. Pupils to sequence key ideas before delivering presentation Keynote, Powerpoint Slides Be able to deliver a simple presentation to their peers Plan and Video a short TV advert to tell people about the issues surrounding current topic	Record and Edit Media (iMovies) – create a short sequence around topic Garage band App – create some mesmerising music, use instruments and video (Week 6)	 Develop a storyboard and then create a simple animation - using 'Stop Motions' Animation Respectful – appreciate it can be time consuming to complete and everyone works at different levels Plan a short information video on a place in North East – share with others Photos – distort / amend using pixlr. Can we guess where it is? www.pixlr.com/editor

	Inclusive – try to capture everyone's experiences in planning stage (Week 6)		(Week 5-6)
Digital Imagery (Graphics & digital cameras)	Topic pictures - add images and amend <u>www.pixlr.com/editor</u> or pixlr app <i>(Week 7)</i>	<i>Take, adapt or create images to enhance or further develop their work</i> <i>(Week 7)</i>	
Handling Information (Database)	Use Google Earth - locate current topic Courageous – allow children to find countries that they have visited or would like to visit-seek adventure (Week 7)	<i>Learn to Search, Sort and Graph</i> <i>Information (Database)</i> – eg your top ten places to visit in the North-East <i>(Week 7)</i>	<i>Pictogram -</i> Textease Database (Week 7)

Overview Year 5		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 5 Computer Science Progression Descriptors Design, write and debug programs that accomplish specific goals Use selection in programs Work with variables Use logical reasoning to explain how some simple algorithms work Use logical reasoning to detect and correct errors in algorithms	Programming (Algorithms, Sequencing and testing code) Beebot / Roamer / Probot Programming apps	Scratch Refresher of basics http://code- it.co.uk/csplannin g.html Solve problems by decomposing them into smaller parts Use selection in programs Create a simple game that moves a sprite around the stage. Movement can be controlled by using the arrow keys Create a more complex animation that makes use of the broadcast command to	Use logical reasoning to explain how some simple algorithms work Use logical reasoning to detect and correct errors in algorithms Design an animation using a storyboard, adding movement and sounds. Debug and be able to explain how it works. Use customisation to change a working program and its effect – eg. backgrounds and sprite in Scratch	Kodu Starting Activity - make a fish tank https://www.yout ube.com/watch?v =9cypjWtamGc Create an on- screen game in Kodu - that makes use of movement and includes a scoring system. eg "Shooting Fish" and collects/eats things Challenge - Add criteria for winning and losing. Use of Microbits Simple	Rapid Router - Levels 19 to 32 Lightbot App – completing procedures and loops sections Fix the Factory App – sequencing instructions Powerpoint - take a simple working hyperlinked presentation and to customise it by adding additional content and navigation. Supportive – as primary experience of creating simple loops - ask to work	Uses variables, conditional sentences (when/then), external triggers and loops to achieve set goals (creating game in Scratch, an interactive slide in Powerpoint or Keynote for instance to create an interactive story) Microbit - Temperature activity lesson Powerpoint – Create an interactive story which has different endings depending on the choices made. (Week 1-2)	Use loops to achieve goals Scratch – Slug Trail http://code- it.co.uk/scratch/slugtrai J/slugtrailoverview Uses an input to steer an on-screen object Scratch – Crab Maze http://code- it.co.uk/scratch/crabma Ze Kodu – Create a game where the character gets points for instance by collecting coins. (Week 1-2)
		control processes <i>Work with</i> <i>variables</i>	<i>Scratch</i> – Build a Scene <u>http://code-</u> <u>it.co.uk/goldscene</u> where code is modified to have different effects.	programming using Microbits Hour of Code <u>https://hourofcod</u> <u>e.com/nz/learn</u>	in pairs/teams and support each other (Week 1-2)		

	Digital Literacy &	Include a simple scoring system that records how many times the sides of the maze are hit! (Week 1-2)	Or Helicopter Game http://code- it.co.uk/goldgame/ Write a simple algorithm – create a basic traffic light sequence (Go/Flowgo) Forgiving – practise makes perfect and to not give up on yourself (Week 1-2)	Microbit - Rock Paper Scissors Lesson Microbit - Snowflake Fall Lesson Rapid Router- Levels 13-18 (Week 1-2)	Effective on-line	Know how to	Know the 'do's and
Digital Literacy	(Research) SWGFL scheme of work (Online Communication and E-Safety, DLG, B	internet is a great place where online relationships can be	roles as digital citizens in an online community, where they reflect on their	balance of online and offline activities is important to	searching using effective keywords, using directories and subject	compare information from different websites and know that	don'ts' of copying and pasting information to avoid plagiarism. Learn how to avoid plagiarism by

 Progression Descriptors Use technology safely, respectfully and responsibly Recognise acceptable/ unacceptable behaviour Use search technologies effectively 	developed. Compare and contrast online friends and real life, face to face friends and learn how to respond if an online friend asks them a personal question Know the risks posed to them by using Social Media, including	responsibilities and learn that good digital citizens are responsible and respectful in the digital world Our Digital Life Common Sense Media https://www.comm onsense.org/educat ion/lesson/digital- life-101-6-8 Digital Friendships Common Sense	maintain good health. My Media Choices Common Sense Media https://www.com monsense.org/ed ucation/digital- citizenship/lesson /my-media- choices Caring – pay close attention to others opinions	categories, and how to analyse the usefulness and relevancy of the results. Effectively use a search engine to find multiple criteria using AND/OR to refine searches Google Search Lessons https://sites.google. com/site/gwebsearc	some sites may show bias Trust Me https://www.lgfl.net/ online-safety/trust- me Reliability of Websites www.allaboutexplore s.com Horrible Histories – Useful as a starter about reliability Learn to create secure passwords	putting informationin their own words,putting excerptedinformation intoquotes, andproviding citations.Learn to showrespect for otherpeople's creationsby giving themcreditOther A CreatorsRights andResponsibilitiesCommon Sense Mediahttps://www.commonsense.org/education/digital-citizenship/lesson/a-
	-					Common Sense Media
	Media,			https://sites.google.		
	-					
	understanding	Media	(Week 3)	heducation/lessonpl	for their accounts. On line password	creators-rights-and-
	that people may	https://www.comm onsense.org/educat		ans	checker	<u>responsibilities</u>
	not be who they	ion/digital-		(Week 3)	https://howsecur	Livestreaming -
	say they are.	citizenship/lesson/d		(eismypassword.ne	good and bad
	Know that it is	igital-friendships			<u>t/</u>	attention
	irresponsible to				Deeneetful	https://www.thinkukno
	share images of				Respectful – appreciate the	w.co.uk/professionals/r
	friends on-line	Caring – encourage a sense of			reasons for	<u>esources/live-</u> streaming/
	without their	belonging to the			passwords and their	<u>suedning/</u>
	permission.	local			important role in	(Week 3)
	Know how to	area/community			internet safety	
	report concerns				(11/1-2)	
	on-line.	(Week 3)			(Week 3)	
	Play Like Share					
	- CEOP https://www.think					
	uknow.co.uk/prof					
	essionals/resource					
	s/play-like-share/					
	What is					
	Cyberbullying? Common Sense					
	Common Sense Media					
	Meula					

		https://www.com monsense.org/ed ucation/digital- citizenship/lesson/ whats- cyberbullying Caring – be accepting of others and being kind Honest – encouraging pupils to use the internet safely by not sharing their personal information or anyone else's over the internet (Week 3)					
I T	Communication Publishing and collaborating (Multimedia Word Processing)	<i>their personal foll</i> <i>collaboratively wi</i> Collectively generate each pupil, or group slides which are the	<i>ith others.</i> e a presentation with os of pupils creating n sequenced d be done by using a network or sharing ugh Air Drop. This	<i>Digital Publishing</i> use software to cre brochure or poster incorporating a ran <i>(Week 4)</i>	on a given subject,	effective poster or l	oint or Pages to create a

Progression descriptors • Select, use and combine a variety of software on a range of digital devices to design and create a range of programs that accomplish given goals, including collecting and presenting data and information	Digital video Video & Animation Music / Sound	Develop a storyboard and then create a simple animation – using 'Stop Motions Animation' Forgiving – practise makes perfect and to not give up on yourself (Week 4-5)	Independently, prepare an effective presentation to show their learning to others which includes some elements of timing or sequence - for instance, in Keynote, Powerpoint, iMovie – eg add photos of Topic to iMovie and voice over to tell the story Respectful – appreciate and celebrate each other's presentations Create promotional materials - Publisher Greenscreen – Make a short documentary style video (iPad) about the above (Week 5-6)	Independently, prepare an effective presentation to show their learning to others which includes some elements of timing or sequence – make a short TV documentary about life within a Topic subject (iMovie) Courageous – encouraging the pupils to use all of their learnt video editing skills (Week 5-6)
	Digital Imagery (Graphics & digital cameras)	Pop art - pixIr app on iPAD – on current topic to distort/change images www.pixIr.com/editor Add effects / amend (Week 6)		Pop art - pixIr app on IPAD – on current topic to distort/change images www.pixIr.com/editor Add effects / amend (Week 7)
	Handling Information (Database / Spreadsheets)		Using software know how to add data into a prepared spreadsheet to answer simple questions - using Excel – budget for a school party/function. Search, sort and graph information Supportive/caring– encourage all to be independent in their activity but to also support one another (Week 7)	

Year 6 Overview		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computer Science		Scratch - Refresher of basics Solve problems by decomposing them into	Use conditional sentences (when/then) to program Scratch objects Scratch For	<i>Microbit - f</i> or Instance – Magic Button Activity <i>Light Bot</i> App - additional levels not completed in	<i>Kodu</i> - for instance a racing game that makes use of movement and includes a scoring system	Be able to explain what a program might do and accurately predict the effect of changes	Know that networks are interconnected. Activities http://www.code- it.co.uk/netintsearch. html
Progression descriptors • Design, write and debug programs that accomplish specific goals; including controlling or simulating physical systems and solving problems by decomposing them into smaller parts • Use sequence, selection and repetition in programs • Work with variables and various forms of input and output • Use logical reasoning to explain how some simple algorithms work and to detect and correct	Programming (Algorithms, Sequencing and testing code) Beebot / Roamer / Probot Programming apps	smaller parts Use selection in programs Create a more complex game/animation that includes using the Broadcast command to pass control between elements Work with variables Use logical reasoning to	instance fortune telling using PRIMM Harder egs. of Scratch http://code- it.co.uk/csplanning. html examples that could be used or add own from link above Use conditional sentences (when/then) to program objects but use mathematical	Y5 which will reinforce learning (completing procedures and loops sections) <i>Fix the Factory</i> <i>App</i> – sequencing instructions <i>Cargo Bot App</i> – sequencing instructions – procedures and developing efficiency <i>Rapid Router</i>	<i>Microbit</i> – for instance Die Roll and Compass activity Honest – encouraging the pupils to use precise instructions (Week 1-2)	Print and annotate the code for a programming project and explain any changes made that make the program better <i>Know that Networks</i> <i>are interconnected</i> – activities <u>http://www.code-</u> it.co.uk/netintsearch.ht <u>ml</u> Collaborate electronically by blogging - mailing, and working on shared documents using the pupil sites of the DLG.	Create more difficult / advanced Kodu screens https://www.youtube .com/watch?v=zTaW snyXfzc Develop an on- screen game in Kodu - such as "Space Invaders" Include a variable to manage a simple scoring system movements and scoring.
 errors in algorithms and programs Understand computer networks including the internet; how they can provide multiple services, such as the world wide web, and the opportunities they offer for 		explain how some simple algorithms work Include a simple scoring system, and a system to determine when the game has	expressions when constructing conditionals eg trigger winning when (If loops >5 then) Scratch - for instance Coins (change machine)	level 51+ Nurturing – as primary experience of creating simple loops - ask to work in pairs/teams and		Extension - work with other schools Pupils learn that connected devices exchange packets of data and this can convey a range of information from a text to a video call	<i>Challenge</i> - Complete one of the Mars Explorer missions available in Kodu (examples on YouTube) Extension - begin to program a Raspberry Pi to create and test

communication and collaboration		been won. (This should include a conditional response) <i>Write a simple</i> <i>algorithm</i> – use flowcharting software (Go/Flowgo) to create a simple program to control an onscreen icon and explain how the program works (Week 1-2)	Use logical reasoning to detect and correct errors in algorithms Design a plan for their game to help explain how the algorithm works and debug it when it fails! Forgiving – practise makes perfect and to not give up on yourself (Week 1-2)	support each other (Week 1-2)		Caring – encourage a sense of belonging to the local area/community (Week 1-2)	elements of code in Python. Start to appreciate how the device stores and executes instructions. (Week 1-2)
Digital Literacy	Digital Literacy & Citizenship (Research) SWGFL scheme of work (Online Communication and E-Safety, DLG, B	Know how to reduce the risks posed by using Social Media by managing	Know that having a healthy balance of online and offline activities is important for health.	Know how to validate information found through searches by checking more than one source.	Begin to consider the impact of their online presence on their own self- image and the way others see them and explore how	<i>Know that hacking</i> <i>or misusing</i> <i>someone else's</i> <i>account is illegal.</i> This is covered in some of the Google Internet	Know that search results can be manipulated by sponsorship and advertising. You won't believe this!

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I T	Communication Publishing and collaborating (Multimedia Word Processing)	Digital Publishing - learn how to use software to create an e-book, brochure or poster on a given subject, incorporating a range of media - for instance, create a presentation and a key facts handout for a topic (Week 4)	 Make a presentation (ppt – prezzi – keynote) about current topic – use photos and video. Add hyperlinks hotspots to link ppt pages – present to an audience. Respectful – appreciate and celebrate each other's presentations (Week 4) 	Pupils use a simple blog to share ideas and collaborate Pupils use a blog and incorporate multimedia elements to make it more attractive to the audience (Week 4)
Progression descriptors • 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	Digital video Video & Animation Music / Sound	Learn how to develop a storyboard and then create a simple animation - 'Stop Motions Animation' – extend by editing the final product in using video editing software Forgiving – practise makes perfect and to not give up on yourself (Week 5)		To create and sequence a video, add sound effects, transitions and title/subtitles - use all the main features in iMovie to make an effective short film with incorporates stills with movement, text, sounds and narration <i>or</i> create a simple video in Windows. (Week 5)
evaluating and presenting data and information	Digital Imagery (Graphics & digital cameras)	Pop art - pixIr app on iPAD – Current Topic www.pixIr.com/editor Add effects / amend (Week 6)	Know how to edit a picture. For instance, in Paint.net Be able to use layers, add filters, select areas to modify, add text or other appropriate content. (Week 5-6)	 To be able to use two or more programmes to create a final piece of work. (e.g. edit a picture before inserting into a document). Create a video that then is incorporated into a presentation or edit a picture which might then be used as a background in a presentation etc. Courageous – encouraging the pupils to use all of their learnt video editing skills <i>Extension</i> - Edit a webpage by using X-Ray Goggles. Print the finished version. Write a webpage to be published internally and include interactive content (Week 6)
	Handling Information (Database / Spreadsheets)			Know how to create a simple formula in a spreadsheet to work out given mathematical tasks such as adding a set

	<i>of numbers -</i> for instance, use Excel, Sheets or Numbers to create a spreadsheet that would work out the value of stock in a school tuckshop. (Multiplication and addition of columns). Search, sort and graph information
	Caring/supportive– encourage all to be independent in their activity but to also support one another (Week 7)