Castleside Primary School

Computing Long Term Planning 2021/22

Rationale for computing Planning:

Our curriculum was designed with the pupils at the centre. We took time to look at the local community and the factors affecting our children every day in their home lives. Through this analysis, we were able to identify challenges that our children may need to overcome in the short and long term. Our curriculum addresses these and ensures that they have the best possible opportunities and outcomes for the future.

EYFS planning is based on the Early Years Foundation Stage curriculum and is repeated annually. Compupter Science is taught per year group, all other aspects of the computing curriculum are taught through a 2 year curriculum. The curriculum is planned for a single age class in year 4.

In 2021/22 all classes will be teaching from year A.

Digital Literacy		
Autumn	**Spring**	**Summer**
Online Relationships	Self-image and identity	Health, wellbeing & lifestyle
Online Bullying	Online reputation	Privacy and security
Copy write and ownership	Managing online information	

Reception/Year 1 (Year A)

Ter	Year Group	Area	Topic	Knowledge and skills	Apps, equipment and websites I could use.	Lesson Sequence	Vocabulary
Autumn	Reception	Computer science Articles – 28,29	Computational thinking	• I can follow simple oral algorithms • I can spot simple patterns • I can sequence simple familiar task	Not necessarily a computer task. Seesaw	1. Children given three step instructions to follow. 2. Could sequence story on Seesaw.	Sequence
Autumn	Year 1		Computational thinking	•I understand what algorithms are •I can write simple algorithms •I understand the sequence of algorithms is important	Storyboard examples of familiar stories. Seesaw.	1. Order Algorithms- order seasons 2. Order algorithms – ordering pictures / sentences of a story 3. Writing Algorithm – getting ready to go outside.	Algorithm Sequence
Autumn		Information technology Articles – 13, 28,29	Word processing	• I can play on a touch screen game and use computers/keyboards/mouse in role play • I can type letters with increasing confidence using a keyboard and tablet. • I can dictate short, clear sentences into a digital device	Seesaw Pic Collage	1. Children take picture of activity and upload to Seesaw. 2. Children record voices saying what they did.	Upload Game Type Record
Autumn			Animation	• I can animate a simple image to speak in role	Chatterpix kids Animate anything	1. Make an inanimate object come to life. 2. Add eyes etc and record voice over.	Animate Record
Autumn			Sound	• I can create a sequence of sounds (instruments, apps/software) • I can explore short and long sounds. • I can record my voice and add different effects.	Seesaw	1. Record, change and alter voice.	Record Long Short
Spring	Reception	Computer science Articles – 28,29	Coding and programming	I can use a mouse, touch screen or appropriate access device to target and select options on screen	Daisy the Dinosaur	1. Experiment with app to see what the dinosaur can do.	Forwards Backwards Jump Spin Turn roll

Summer	Year 1	Computer science Articles – 28,29	Coding and programming	• I can create a simple program e.g. sequence of instructions for a Bee Bot [1 SEP]	Beebots Beebot Jnr App	1. Experiment with Beebots, make it go forwards, backwards turn, clear. 2. Get the children to become the Beebot, get other children to tell them what to do. 3. Use mats – can they make the Beebot reach a destination? (Two steps / action cards for each step) 4. Can they programm the Beebot to reach a location.	Beebot Forwards Backwards Clear Program
		Information technology Articles – 13, 28,29	Data Handling	• I can identify a chart. • I can sort physical objects, take a picture and discuss what I have done. • I can present simple data on a digital device	Seesaw	1. Children sort objects/pictures using Seesaw (old/new, hard/soft, float/sink)	Sort Group Classify
			Augmented reality	• I can scan a QR code. • I can explore a 360 image. • I can talk about AR objects in my class	Google Ar	1. Type in an animal name on google. View in AR. 2. Use Qr codes to play games / visit sites.	AR QR
	Reception	Computer science	Computational thinking Coding and programming.	• I can input a simple sequence of commands to control a digital device with support (Bee Bot)	Beebot	1. Can you make the Beebot go forwards, backwards, turn right and left.	Turn Forwards Backwards
	Year 1	Articles – 28,29	Computational thinking Coding and programming.	•I can debug simple algorithms •I understand that algorithms are implemented as programs on digital devices • I can use sequence in programs I can locate and fix bugs in my program	Seesaw Beebot Beebot Jnr App	1. Non computer – spot the mistake in the instructions. (Making toast) 2. Non- computer – Beebot going to wrong location – how can we edit? 3. Debugging programms in the app.	Debug Sequence Algorithm.
		Information technology Articles – 13, 28,29	Presentations, Web design and E-books.	• I can record my voice over a picture. • I can create a simple digital collage. • I can move and resize images with my fingers or mouse.	Seesaw Pic Collage	1. Children add images of task / topic. 2. Create Photo page with them.	Photo Collage
			Video Creation	• I know the difference between a photography and video. • I can record a short film using the camera • I can record and play a film • I can watch films back	Seesaw	1. Children record themselves performing a story or song on the Seesaw app.	Video Record Upload

			Photography and digital art	• I can take a photograph • I can take a photograph and use it in an app • I can use a painting app and explore the paint and brush tools	Seesaw Camera Pic collage	1. Take photo of work. 2. Add labels and save to Seesaw.	Photo Label Edit Explore

Reception/Year 1 (Year B)							
Term	**Year Group**	**Area**	**Topic**	**Knowledge and skills**	**Apps, equipment and websites I could use.**	**Lesson Sequence**	**Vocabulary**
Autumn	Reception	Computer science Articles – 28,29	Computational thinking	• I can follow simple oral algorithms • I can spot simple patterns • I can sequence simple familiar task	Not necessarily a computer task. Seesaw	1. Children given three step instructions to follow. 2. Could sequence story on Seesaw.	Sequence
	Year 1		Computational thinking	•I understand what algorithms are •I can write simple algorithms •I understand the sequence of algorithms is important	Storyboard examples of familiar stories. Seesaw.	1. Order Algorithms- order seasons 2. Order algorithms – ordering pictures / sentences of a story 3. Writing Algorithm – getting ready to go outside.	Algorithm Sequence

Spring		Information technology <mark>Articles – 13, 28,29</mark>	Word processing	• I can confidently type words quickly and correctly on a digital device. • I can.use the space bar to make space and delete to delete letters/words • I can make a new line using enter/return • I can dictate into a digital device more accurately and with punctuation.	Seesaw, Word, Pic Collage Improve keyboard / typing skills http://primarygamesarena.com/Play/Keyboard-2030 Dance Mat Typing - BBC Bitesize J2E Write - use for writing - https://www.j2e.com/jit5#	1. Open a text application and use it to type. Save. 2. Add and delete words from the text. 3.Use enter / return to add new lines.	Document Edit Save Open Type Add Delete Enter / return
			Animation	• I can add filters and stickers to enhance an animation of a character. • I can create an animation to tell a story with more than one scene. • I can add my own pictures to my story animation.	Puppet – Pals Chatterpix Seesaw (to record)	1. Use Chatterpix to animate the main character in a story. Record voice of character and add stickers. 2. Use puppet pals to recreate a story – add background and record voices.	Animate / animation Record Stickers Background character
			Sound	• I can create a sequence of sounds (instruments, apps/software) • I can explore short and long sounds. • I can record my voice and add different effects.	Seesaw, Garange band Voice memo	1. Explore app, experiment with different functions. 2. Alter sounds and voice using app.	Long sound Short shound Explore Sequence.
	Reception	Computer science <mark>Articles – 28,29</mark>	Coding and programming	I can use a mouse, touch screen or appropriate access device to target and select options on screen	Daisy the Dinosaur	2. Experiment with app to see what the dinosaur can do.	Forwards Backwards Jump Spin Turn roll
	Year 1		Coding and programming	• I can create a simple program e.g. sequence of instructions for a Bee Bot 🔲	Beebots Beebot Jnr App	1. Experiment with Beebots, make it go forwards, backwards turn, clear. 2. Get the children to become the Beebot, get other children to tell them what to do. 3. Use mats – can they make the Beebot reach a destination? (Two steps / action cards for each step) 4. Can they programm the Beebot to reach a location.	Beebot Forwards Backwards Clear Program

Summer		Information technology	Data Handling	• I can sort images or text into two or more categories on a digital device. • I can collect data on a topic. • I can create a tally chart and pictogram. • I can record myself explaining what I have done and what it shows me.	Seesaw, Pic Collage. https://www.j2e.com/jit5#pictogram https://www.j2e.com/jit5#chart	1. Sort information into two groups using Seesaw (odd/even, old/new) 2. Use Seesaw to collect images using Ipad to sort. 3. Create pictogram to record results using J2E software. 4. Record voice using Seesaw explaining chart.	Data Sort Images Pictogram Tally record
		<mark>Articles – 13, 28,29</mark>	Augmented reality	• I can explore an interactive 360 image. • I can scan a trigger image to begin a AR experience. • I can pretend to interact with AR objects.	Google Expeditions Google 3D animals	1. Use Google Expeditions to go on an interactive journey through the pyramids or rainforest. 2. Use Google 3D animals to explore and research. 3. Use camera and 3D animals to add animals to the classroom	AR (Augmented reality) Interact Image 3D
	Reception	Computer science <mark>Articles – 28,29</mark>	Computational thinking Coding and programming.	• I can input a simple sequence of commands to control a digital device with support (Bee Bot)	Beebot	1. Can you make the Beebot go forwards, backwards, turn right and left.	Turn Forwards Backwards
	Year 1		Computational thinking Coding and programming.	•I can debug simple algorithms •I understand that algorithms are implemented as programs on digital devices • I can use sequence in programs I can locate and fix bugs in my program	Seesaw Beebot Beebot Jnr App	1. Non computer – spot the mistake in the instructions. (Making toast) 2. Non- computer – Beebot going to wrong location – how can we edit? 3. Debugging programms in the app.	Debug Sequence Algorithm.
		Information technology	Presentations, Web design and E-books.	• I can add labels to an image • I can order images to create a simple storyboard. • I can create a simple spider diagram. • I can sequence a series of pictures to explain my understanding of a topic.	Seesaw, Pic Collage	1. Label all of the different characters in a story. 2. Sequence the images to retell the story. 3. Sequence the images into a spider diagram. 4. Retell the story recording your voice.	Sequence, Sort Label Record image
		<mark>Articles – 13, 28,29</mark>	Video Creation	• I can record a film using the camera app. • I can select images and record a voiceover. • I can highlight and zoom into images as I record.	IMovie,	1. Record role play as a group. 2. Sequence images using IMovie 3. Record voice over. 4. Add movement to images. 5. GD – Green screen news report / weather report.	Voiceover Film Edit Zoom Sequence Green screen

			Photography and digital art	• I can edit a photo with simple tools • I can use a paint/drawing app to create a digital image • I can begin to cut out an image to layer on another image.	Pic collage, Seesaw, Keynote https://www.j2e.com/jit	1. Use Pic Collage to take images and edit using the different tools. 2. Create own digital image using J2E 3. Use Pic Collage to layer images over the top of each other.	Digital image Photo Overlay Cut / crop

Year 2/3 (Year A)

Ter	Year Group	Area	Topic	Knowledge and skills	Apps, equipment and websites I could use.	Lesson Sequence	Vocabulary
Autumn	Year 2	Computer science Articles – 28,29	Computational thinking Programming and coding.	• I can write algorithms for everyday tasks • I can use logical reasoning to predict the outcome of algorithms • I understand programs execute by following precise and unambiguous instructions	Beebots Beebot app (Garden level) Daisy the Dinosaur	1. Can the children create algorithms for making toast, building Lego or brushing teeth. 2. Give children sequences of movements – where will the Beebots end up? (Practical – non computer.) 3. Children explore Beebots – how do they move, turn etc. (CLR, DEL) 4. Children move Beebots around maps to reach objectives. 5. Children explore app on the Garden level. 6. HA children to use Probots to navigate around the map.	Clr Go Directions

Year 3			Computational thinking Coding and Programming	• I can create algorithms for use when programming • I understand abstraction is focusing on important information • I can identify patterns in an algorithm I can use repetition in algorithms • I can design and create programs • I can write programs that accomplish specific goals • I can use repetition in programs I can work with various forms of input	https://code.org/ Course B Fundamentals (https://code.org/educate/curriculum/elementary-school) Extensions Hour of code – Flappy bird https://hourofcode.com/uk/learn ALEX	1. Children complete unplugged activities showing coding and algorithms in a hands on way. 2. Children complete Course B which builds through block programming, debugging, repetition and introduces some conditionals. 3. Extensions include Hour of Code and ALEX app	Algorithm Code Loop / repeat Design Create Input conditional
		Information technology <mark>Articles – 13, 28,29</mark>	Word processing / typing	• I can use the space bar only once between words and use touch to navigate to words letter to edit • I can copy and paste images and text • Use caps locks for capital letters. • I can add images alongside text in a word processed document. • I can dictate longer passages into a digital device with accurate punctuation.	Seesaw Word Pages Pic Collage Keynote https://www.j2e.com/jit5#	1. Children to type short piece – assess skills. Load and save 2. Use keyboard to change individual letters to capitals, navigate around the screen 3. Add images along side picture using copy and paste – safe search engine like Swiggle. 4. Dictation	Copy Paste Save Open Navigate Images Keyboard type
			Animation	• I can create multiple animations of an image and edit these together. • I can create a simple stop motion animation. • I can explain how an animation/flip book works	Puppet Pals 2 Chatterpix kids Seesaw to record <mark>I can animate *OOST</mark>	1. Show children real flipbooks. Experiment with the Puppet Pals app – what can you do? 2. Use the Puppet Pals to retell a story – add animation and backgrounds. 3. Develop story by adding a second character using the Puppet Pals.	Animate Stop/motion Flipbooks
			Sound	• Create a musical composition using software • I can record my own sound effects. • I can record my voice over a compositions to perform a song.	Seesaw Garage Band	1. Discuss a situation where a musical accompaniment is required (story setting, history). Experiment with Garage band 2. Create some music for a purpose – recount of a story. 3. Record voice over music (Seesaw, Thinglink)	Composition Perform Effect Overlay

Spring	Year 2		Computational thinking Programming and coding.	• I understand decomposition is breaking objects/processes down • I can implement simple algorithms on digital devices (Bee Bots, Apps: Daisy the Dino) • I can create programs on a variety of digital devices	Beebot Beebot app Rapid router Level1-12 https://www.codeforlife.education/rapidrouter/	1. Sequence events review. Explore Scratch Jnr App. 2. Create programmes Rapid Router. 3. Explore Rapid router.	Sequence Left Right Forwards algorithm
	Year 3	Computer science <mark>Articles – 28,29</mark>	Computational thinking Coding and Programming	• I can create algorithms for use when programming • I can decompose tasks (such as animations) into separate steps to create an algorithm • I understand abstraction is focusing on important information • I can identify patterns in an algorithm I can use repetition in algorithms • I can design and create programs • I can write programs that accomplish specific goals • I can use repetition in programs I can work with various forms of input	Scratch 3 (Scratch Jnr) https://scratch.mit.edu/ Code It Gold – Shape and Game http://code-it.co.uk/gold/ (See appendix) (Sequence and loops)	1. Allow children to explore games (check before and give examples) on Scratch 3 Website 2. (Several sessions) Use Code It Gold (Shape or Game) to practise skills of writing algorithms, creating loops. (Lessons 1-3) 3. Extend by allowing children to develop their own games based on this.	Algorithm Code Loop / repeat Design Create Input conditional
		Information technology <mark>Articles – 13, 28,29</mark>	Data Handling	• I can sort digital objects into a range of charts such as Venn diagrams, carroll diagrams and bar charts using different apps and software. • I can orally record myself explaining what the data shows me. • I can create a branching database using questions	Seesaw Pic Collage https://www.j2e.com/jit5?fileId=zDFisvAfFjazae3z#branch	1. Sort numbers/ shapes into Venn Diagrams with Seesaw. Recording why data is in each place. 2. Sort numbers/ shapes into Carroll Diagrams with Seesaw. Recording why data is in each place. 3. Create Bar chats (J2E option) 4. Use a branching database 5. Create a branching database.	Sort / classify Venn Carroll Bar chart Branching database Question
			Augmented reality and virtual reality	• I can draw my own 360 image and explore it in VR. • I can bring objects into my surroundings using Augmented Reality. • I can create my own QR code.	Thinglink Google Expeditions	1. Explore 360 images in Google expeditions and Google 3D animals. 2. Design own 3d image using AR maker. 3. Develop and improve image. 4. 4. Use and create QR codes.	Virtual reality Augmented reality QR code 360 image

Summer	**Year 2**	Computer science Articles – 28,29	Computational thinking Programming and coding.	• I can debug algorithms • I can debug programs of increasing complexity • I can use logical reasoning to predict the outcome of simple programs	Beebots Scratch Jnr https://www.j2e.com/jit5#turtle Code.org Course A https://studio.code.org/s/coursea-2019?section_id=2740006	1. Show the children some algorithms for practical tasks – Cooking, getting ready, etc. Add errors, can the children identify the errors that are in place and fix them. 2. Complete similar task to lesson 1 with Beebot app. Or Beebots. What mistake has been made? Can they debug the mistakes? J2E good for this as well. 3. Introduce Scratch Jnr. Copy programmes then look to introduce own changes.	Outcome Program Sequence
	Year 3	Computer science Articles – 28,29	Computational thinking Coding and Programming	• I can create algorithms for use when programming • I can decompose tasks (such as animations) into separate steps to create an algorithm • I understand abstraction is focusing on important information • I can identify patterns in an algorithm I can use repetition in algorithms • I can design and create programs • I can write programs that accomplish specific goals • I can use repetition in programs I can work with various forms of input	Rapid router https://www.codeforlife.education/rapidrouter/ Logo https://www.j2e.com/logo.html ALEX	1. Children complete Rapid Router up to level 28. (Focus on repetition). 2. Use Probots to make shapes developing code from Scratch. 3. Use Logo to code shapes. Make procedures examples - http://code-it.co.uk/year3plan/logoplan/ 4.	Algorithm Code Loop / repeat Design Create Input conditional
		Information technology Articles – 13, 28,29	Presentations, web design and E-book creation	• I can add voice labels to an image. • I can add a voice recording to a storyboard. • I can add speech bubbles to an image to show what a character thinks. • I can import images to a project from the web and camera roll	Seesaw Pic Collage Thinglink Book Creator (limited with free version)	1. Sequence a familiar storyboard (English). 2. Add thought bubbles to characters to show what they are thinking. 3. Record voice over the top of the slides to explain what is happening in each one. (Better with Thinglink)	Record Sort Sequence Add Import

			Video creation	• I can write and record a script using a teleprompter tool. • I can use tools to add effects to a video • I can begin to use green screen techniques with support	Doink Greenscreen IMovie	1. Write a script and add it to teleprompter 2. Record a news item or weather report / interview on Greenscreen. 3. Add the interview to the IMovie app. Add background for Greenscreen. 4. Edit and change video effects	Teleprompter Effects Add Animate Green screen
			Photography and digital art	• I can edit a photo (crop, filters, mark up etc) • I can select and use tools to create digital imagery - controlling the pen and using the fill tool • I can cut images with accuracy to layer on other images.	Camera Pic Collage Photobooth Seesaw Keynote https://www.j2e.com/jit	1. Take photo of science experiment / drama session. 2. Edit photo with crops and filters, use the pen and fill tool. 3. Layer images together.	Cut Crop Paste Fill tool Layer Pen tool

Year 2/3 (Year B)

Ter	Year Group	Area	Topic	Knowledge and skills	Apps, equipment and websites I could use.	Lesson Sequence	Vocabulary
	Year 2	Computer science Articles – 28,29	Computational thinking Programming and coding.	• I can write algorithms for everyday tasks • I can use logical reasoning to predict the outcome of algorithms • *I understand programs execute by following precise and unambiguous instructions*	Beebots Beebot app (Garden level) Daisy the Dinosaur	1. Can the children create algorithms for making toast, building Lego or brushing teeth. 2. Give children sequences of movements – where will the Beebots end up? (Practical – non computer.) 3. *Children explore Beebots – how do they move, turn etc. (CLR, DEL)* 4. *Children move Beebots around maps to reach objectives.* 5. *Children explore app on the Garden level.*	Clr Go Directions

Year 3			Computational thinking Coding and Programming	• I can create algorithms for use when programming • I understand abstraction is focusing on important information • I can identify patterns in an algorithm I can use repetition in algorithms • I can design and create programs • I can write programs that accomplish specific goals • I can use repetition in programs I can work with various forms of input	https://code.org/ Course B Fundamentals (https://code.org/educate/curriculum/elementary-school) Extensions Hour of code – Flappy bird https://hourofcode.com/uk/learn ALEX	1. Children complete unplugged activities showing coding and algorithms in a hands on way. 2. Children complete Course B which builds through block programming, debugging, repetition and introduces some conditionals. 3. Extensions include Hour of Code and ALEX app	Algorithm Code Loop / repeat Design Create Input conditional
			Computer Networks	• I understand that computers in a school are connected together in a network • I understand why computers are networked • I understand the difference between the Internet and the World Wide Web (WWW)	http://code-it.co.uk/netintsearch https://www.twinkl.co.uk/resource/t2-i-032-the-difference-between-the-internet-and-the-world-wide-web-powerpoint https://www.mrpict.com/dr-chips-computer-science-support.html	1. Use the Code it website to complete the How are schools connected in a network lesson. 2. Use Twinkl Powerpoint to look at the differences between the internet and the World Wide Wed 3. Use Dr Chips lesson on network hunt.	Internet Network Packet Data WWW
		Information technology	Word processing	• I can use index fingers on keyboard home keys (f/j), use left fingers for a/s/ d/f/g, and use right fingers for h/j/k/l • I can edit the style and effect of my text and images to make my document more engaging and eye-catching. For example, borders and shadows. • I can use cut, copy and paste to quickly duplicate and organise text.	Seesaw Word Pages Book creator app Keynote https://www.kidztype.com/browse-typing-games.html	1. Use the keyboard to show how to position the hands when typing. Use weblink (if it works in school) to practise typing skills. 2. Type up a piece of writing 3. Edit text style and copy and paste pictures into document (Teach shortcut keys) 4. Use border, shadows to develop presentation.	Cut (Ctrl + x) Copy (Ctrl + c) Paste (Ctrl + V) Type Corder Shading Duplicate

			Animation	• I can create animations of faces to speak in role with more life-like realistic outcomes. (1 and 2) • I can use animation tools in presenting software to create simple animations (1 and 2) • I can improve stop motion animation clips with techniques like onion skinning. (3)	Puppetpals, ChatterPix Kids, Seesaw, *Animate Anything, I Can Animate,*	1. Use App to create character from History, Literacy or science. 2. Record the character telling a story or facts about their time in history. 3. Show the children how they can use stop motion clips like I can animate. (can be used to record science experiment or tell a story using lego)	Animate Present Stop motion Frames Onion skinning (ghosting)
			Sound	• I can create and edit purposeful compositions using music software to create mood or a certain style • I can experiment with live loops to create a song	Seesaw Garageband,	1. Play with Garageband to create sounds and record. 2. Can the children create some music to reflect a scene in a story – Horror, chase? 3. Use Garageband to create a loop to perform a piece of poetry / rap.	Loop Mood Scene
Spring	Year 2		Computational thinking Programming and coding.	• I understand decomposition is breaking objects/processes down • I can implement simple algorithms on digital devices (Bee Bots, Apps: Daisy the Dino) • I can create programs on a variety of digital devices	Beebot Beebot app Rapid router Level1-12 https://www.codeforlife.education/rapidrouter/	1. Sequence events review. Explore Scratch Jnr App. 2. Create programmes Rapid Router. 3. Explore Rapid router.	Sequence Left Right Forwards algorithm
	Year 3	Computer science 	Computational thinking Coding and Programming	• I can create algorithms for use when programming • I can decompose tasks (such as animations) into separate steps to create an algorithm • I understand abstraction is focusing on important information • I can identify patterns in an algorithm I can use repetition in algorithms • I can design and create programs • I can write programs that accomplish specific goals • I can use repetition in programs I can work with various forms of input	Scratch 3 (Scratch Jnr) https://scratch.mit.edu/ Code It Gold – Shape and Game http://code-it.co.uk/gold/ (See appendix) (Sequence and loops)	1. Allow children to explore games (check before and give examples) on Scratch 3 Website 2. (Several sessions) Use Code It Gold (Shape or Game) to practise skills of writing algorithms, creating loops. (Lessons 1-3) 3. Extend by allowing children to develop their own games based on this.	Algorithm Code Loop / repeat Design Create Input conditional

Summer		Informati on technolog y <mark>Articles – 13, 28,29</mark>	Data Handling	• I can create my own sorting diagram and complete a data handling activity with it using images and text. • I can start to input simple data into a spreadsheet. • I can create a feelings chart exploring	Excel Google Sheets Google Forms Numbers	1. Match with Statistics in maths. Collect and record data. 2. Input into spreadsheet and present as different types of graphs. 3. Import into Seesaw and voice over to explain what the information shows.	Spreadsheet Import Data Input export
			Augmented reality and Virtual reality.	• I can create my own digital 360 image and explore it in VR • I can create my own images and bring it into my surroundings through AR	<mark>Ar Makr</mark> *Google Tour Creator* *Google Expeditions* Keynote Seesaw Thinglink	1. Explore virtual environments with virtual expeditions. (Egypt, Stonehenge etc) 2. Use Google Tour Creator to begin to create your own expedition to a historical site or an art gallery of their own.	Virtual reality Augmented reality Import Copy Export
	Year 2	Compute r science <mark>Articles – 28,29</mark>	Computational thinking Programming and coding.	• I can debug algorithms • I can debug programs of increasing complexity • I can use logical reasoning to predict the outcome of simple programs	Beebots Scratch Jnr https://www.j2e.com/jit5#turtle Code.org Course A https://studio.code.org/s/coursea-2019?section_id=2740006	1. Show the children some algorithms for practical tasks – Cooking, getting ready, etc. Add errors, can the children identify the errors that are in place and fix them. 2. Complete similar task to lesson 1 with Beebot app. Or Beebots. What mistake has been made? Can they debug the mistakes? J2E good for this as well. 3. Introduce Scratch Jnr. Copy programmes then look to introduce own changes.	Outcome Program Sequence

Year 3	Computer science Articles – 28,29	Computational thinking Coding and Programming	• I can create algorithms for use when programming • I can decompose tasks (such as animations) into separate steps to create an algorithm • I understand abstraction is focusing on important information • I can identify patterns in an algorithm I can use repetition in algorithms • I can design and create programs • I can write programs that accomplish specific goals • I can use repetition in programs I can work with various forms of input	Rapid router https://www.codeforlife.education/rapidrouter/ Logo https://www.j2e.com/logo.html ALEX	1. Children complete Rapid Router up to level 28. (Focus on repetition). 2. Use Probots to make shapes developing code from Scratch. 3. Use Logo to code shapes. Make procedures examples - http://code-it.co.uk/year3plan/logoplan/	Algorithm Code Loop / repeat Design Create Input conditional	
	Information technology Articles – 13, 28,29	Presentation, web design and e-book creation.	• I can create an interactive comic with sounds, formatted text and video. • I can annotate an image with videos • I can create a simple web page. • I can create a simple digital timeline/mindmap	Book Creator Keynote Thinglink Google Sites Adobe Spark Page,	1. Use in literacy to show thoughts and feelings of a character. 2. Create a document about a history topic including videos (Thinglink) 3. Use Thinglink to create an interactive timeline o rmindmap with sound and video. (Good for evaluating topic knowledge)	Interactive Hyperlink Ebook Presentation Media Sound video	
		Video creation	*I can sequence clips of mixed media in a timeline and record a voiceover • I can trim and cut film clips and add titles and transitions • I can independently create a green screen clip. • I can create my own Movie trailer.	Doink Greenscreen IMovie Apple Clips	1. Create a film about something like Mummification using Apple Clips merging sound and images. 2. Add titles and transitions. 3. Use a Green Screen to create a weather or news report – add the image of a newsdesk in the backgroup. 4. Use IMovie to shorten, edit or merge clip (could have two newsreports with a studio and live report merged into one report)	Animate Sound Video Record Edit Voice over Green screen Layer	
		Photography and digital art.	• I can confidently take and manipulate photos • I can create a digital image using a range of tools, pens, brushes and effects *I can create a transparent image with Instant Alpha (Keynote)	Camera and Mark up Notes Seesaw Keynote Pic Collage	Create an image for a story – Giant cat attacks school Would be great for myths and legends. 1. Take image 2. Alter different image 3. Merge two images together.	Overlay Image Instant alpha Transparent Manipulate	

Year 4

Ter	Year Group	Area	Topic	Knowledge and skills	Apps, equipment and websites I could use.	Lesson Sequence	Vocabulary
Autumn	Year 4	Computer science	Computational thinking Coding and Programming	• I can use simple selection in programs • I can work with various forms of output • I can use logical reasoning to systematically detect and correct errors in programs • I can work with various forms of output. *I can use abstraction to focus on what's important in my design • I can write increasingly more precise algorithms for use when programming. • I can use simple selection in algorithms • I can use logical reasoning to detect and correct errors in programs	https://code.org/ Course C Fundamentals (https://code.org/educate/curriculum/elementary-school) Extensions Hour of code - Minecraft https://hourofcode.com/uk/learn ALEX	1. Children complete unplugged activities showing coding and algorithms in a hands on way. 2. Children complete Course B which builds through block programming, debugging, repetition and introduces some conditionals. 3. Extensions include Hour of Code and ALEX app	Algorithm Code Loop / repeat Design Create Input conditional
		<mark>Articles – 28,29</mark>	Computer Neworks	• I understand that servers on the Internet are located across the planet • I understand how email is sent across the Internet • I understand how the Internet enables us to collaborate	http://code-it.co.uk/netintsearch https://www.mrpict.com/dr-chips-computer-science-support.html Visual traceroute Submarine clips. https://www.bbc.co.uk/bitesize/clips/zwp3r82	1. Use the code it site to complete Connecting the internet activity. 2. Watch the video on Visual traceroute and discuss. 3. Use the short BBC video to discuss how emails work (link with digital literacy lessons)	Servers, Internet Connected collaborate

			Word Processing / Typing	• I can combine digital images from different sources, objects, and text to make a final piece of a a variety of tasks: posters, documents, eBooks, scripts, leaflets. • Confidently and regularly use text shortcuts such as cut, copy and paste and delete to organise text • Use font sizes appropriately for audience and purpose.\Use spell check and thesaurus including through Siri and other AI technology	Seesaw Word Pages <mark>Book creator app</mark> Keynote https://www.kidztype.com/browse-typing-games.html	1. Use the keyboard to show how to position the hands when typing. Use weblink (if it works in school) to practise typing skills. 2. Type up a piece of writing 3. Edit text style and copy and paste pictures into document (Teach shortcut keys) Use border, shadows to develop presentation. 4. Spell check with computer and Siri for thesaurus definitions.	Cut (Ctrl + x) Copy (Ctrl + c) Paste (Ctrl + V) Type Corder Shading Duplicate
	Information technology <mark>Articles – 13, 28,29</mark>		Animation	I can take multiple animations of a character I have created and edit them together for a longer video. • I can use software to create a 3D animated story. • I can use line draw tool to create animations.	Puppetpals, ChatterPix Kids, Seesaw, *Animate Anything,*	1. Use App to create character from History, Literacy or science. 2. Use them to retell a story in a 3d animation. 3. Show the children how they can use stop motion clips like I can animate. (can be used to record science experiment or tell a story using lego)	Animate Present Stop motion Frames Onion skinning (ghosting)
			Sound	• Edit sound effects for a purpose. • Create a simple four chord song following the correct rhythm. • I can record a radio broadcast or audiobook	Seesaw Garageband,	1. Play with Garageband to create sounds and record. 2. Create a short four chord song – could be for internet safety nd record. 3. Change one of their stories into their own audiobook.	Loop Mood Scene

Spring	Year 4	Computer science Articles – 28,29	Computational thinking Coding and Programming	• I can use simple selection in programs • I can work with various forms of output • I can use logical reasoning to systematically detect and correct errors in programs • I can work with various forms of output. *I can use abstraction to focus on what's important in my design • I can write increasingly more precise algorithms for use when programming. • I can use simple selection in algorithms • I can use logical reasoning to detect and correct errors in programs	Scratch 3 (Scratch Jnr) https://scratch.mit.edu/ Code It Gold – Shape and Game http://code-it.co.uk/gold/ (See appendix) (Sequence and loops)	1. Allow children to explore games (check before and give examples) on Scratch 3 Website 2. (Several sessions) Use Code It Gold (Shape or Game) to practise skills of writing algorithms, creating loops. (Lessons 1-3) 3. Extend by allowing children to develop their own games based on this.	Algorithm Code Loop / repeat Design Create Input conditional
		Information technology Articles – 13, 28,29	Data Handling	• I can create my own online multiple choice questionnaire. • I can input data into a spreadsheet and export the data in a variety of ways: charts, bar charts, pie charts. • I understand how data is collected.	Excel Google Sheets Google Forms Numbers	1. Match with Statistics in maths. Collect and record data. 2. Input into spreadsheet and present as different types of graphs. 3. Import into Seesaw and voice over to explain what the information shows.	Spreadsheet Import Data Input export
			Augmented reality and Virtual reality	I can create my own 360 video. • I can use the camera to create a 360 image. • I can add multiple objects into my surroundings through AR to explain a concept.	Ar Makr Google Tour Creator Google Expeditions Keynote Seesaw Thinglink	1. Explore virtual environments with virtual expeditions. (Egypt, Stonehenge etc) 2. Use Google Tour Creator to begin to create your own expedition to a historical site or an art gallery of their own.	Virtual reality Augmented reality Import Copy Export

Summer	**Year 4**	Computer science ==Articles – 28,29==	Computational thinking Coding and Programming	• I can use simple selection in programs • I can work with various forms of output • I can use logical reasoning to systematically detect and correct errors in programs • I can work with various forms of output. *I can use abstraction to focus on what's important in my design • I can write increasingly more precise algorithms for use when programming. • I can use simple selection in algorithms • I can use logical reasoning to detect and correct errors in programs	Logo https://www.j2e.com/logo.html ==Microbits==	1. Make sure children are comfortable with Logo using http://code-it.co.uk/year3plan/logoplan/ 2. Then complete the fireworks activities. http://code-it.co.uk/wp-content/uploads/2015/05/fireworks_prog_mswlogo.pdf 3. Introduce Microbits using https://microbit.org/projects/make-it-code-it/?filters=beginner	Algorithm Code Loop / repeat Design Create Input conditional
		Information technology ==Articles – 13, 28,29==	Presentation, web design and e-book creation.	• I can create an interactive quiz eBook introducing hyperlinks. • I can create an eBook with text, images and sound. • I can create a presentation demonstrating my understanding with a range of media. • I can create a digital timeline/mindmap and include different media - sound and video.	Book Creator Keynote Thinglink Powerpoint *Google Sites* *Adobe Spark Page,*	1. Create quiz questions based on the Millionaire template. Add hyperlinks for each of the questions. 2. Create a document about a history topic where each page is hyperlinked. 3. Add sounds and images to each of the pages. 4. Use Thinglink to create an interactive timeline with sound and video.	Interactive Hyperlink Ebook Presentation Media Sound video
			Video Creation	• I can add music and sound effects to my films • I can add animated titles and transitions • I can add simple subtitles to a video clip. • I can use confidently use green screen adding animated backgrounds	==Doink Greenscreen== IMovie Apple Clips	1. Create a film about something like Mummification using Apple Clips merging sound and images. 2. Edit it to include titles, voice overs and transitions. 3. Use a Green Screen to create a weather or news report – add the image of a newsdesk in the backgroup.	Animate Sound Video Record Edit Voice over Green screen Layer

			Photography and digital imagery.	• I can enhance digital images and photographs using crop, brightness, contrast & resize • I can manipulate shapes to create digital art. • I can draw a series of images and export as an animated GIF	Camera and Mark up Notes Seesaw Keynote Pic Collage	1. Take image and experiment with the setting in Pic Collage. 2. Use to create image with art. 3. Create own Gif by editing and altering images and putting them together (See ICT with Mr P – Digital avatar sequence)	Overlay Image Instant alpha Transparent Manipulate

Year 5/6 (Year A)

Ter	Year Group	Area	Topic	Knowledge and skills	Apps, equipment and websites I could use.	Lesson Sequence	Vocabulary

Autumn	Year 5	Computer science	Computational thinking Coding and Programming	• I can solve problems by decomposing them into smaller parts • I can use selection in algorithms • I can recognise the need for conditions in repetition within algorithms • I can use logical reasoning to explain how a variety of algorithms work and detect and correct errors. • I can evaluate my work and identify errors • I can create programs by decomposing them into smaller parts • I can use selection in programs • I can use conditions in repetition commands • I can work with variables • I can create programs that control or simulate physical systems • I can evaluate my work and identify errors	https://code.org/ Course D Fundamentals (https://code.org/educate/curriculum/elementary-school) Extensions Hour of code – Dance Party https://hourofcode.com/uk/learn Light Bot	1. Children complete unplugged activities showing coding and algorithms in a hands on way. 2. Children complete Course D which builds through block programming, debugging, repetition conditionals and loops. (4 / 5 sessions) 3. Extensions include Hour of Code	Algorithm Code Loop / repeat Design Create Input Conditional If, while, until
	Year 6	==Articles – 28,29==	Computational thinking Coding and Programming	• I can recognise, and make use, of patterns across programming projects • I can write precise algorithms for use when programming • I can identify variables needed and their use in selection and repetition • I can decompose code into sections for effective debugging • I can use a range of sequence, selection and repletion commands combined with variables as required to implement my design • I can create procedures to hide complexity in programs • I can identify and write generic code for use across multiple projects • I can critically evaluate my work and suggest improvements	https://code.org/ Course E Fundamentals (https://code.org/educate/curriculum/elementary-school) Extensions Hour of code – Frozen https://hourofcode.com/uk/learn Cargo Bot	1. Children complete unplugged activities showing coding and algorithms in a hands on way. 2. Children complete Course E which builds through block programming, debugging, repetition conditionals, loops and variables.(5 sessions) 3. Extensions include Hour of Code	Algorithm Code Loop / repeat Design Create Input conditional

			Computer Networks	• I understand how we view web pages on the Internet • I use search technologies effectively • I understand that web spiders index the web for search engines • I appreciate how pages are ranked in a search engine	https://www.mrpict.com/dr-chips-computer-science-support.html How search engines work. http://code-it.co.uk/netintsearch https://www.bbc.co.uk/bitesize/topics/z7wtb9q/articles/ztbjq6f	1. Introduce using BBC link. Use the Code it website to look at how a search engine works and how their pages are ranked. 2. Use Dr Chips video to prompt discussion and practise using internet searches safely.	Search engine Spider index Rank Effective Safe searching
		Information technology	Word Processing / Typing	*I can start to apply other useful effects to my documents such as hyperlinks. • I can import sounds to accompany and enhance the text in my document. • I can organise and reorganise text on screen to suit a purpose	Seesaw Word Pages Keynote Book Creator	1. Create a document based around literacy topic – arguments / NCR 2. Include hyperlinks linking to websites that back up the arguments. 3. Use sounds to create minibooks for other children in Seesaw.	Hyperlinks Sound Edit
		<mark>Articles – 13, 28,29</mark>	Animation	• I can record animations of different characters and edit them together to create an interview. • I can add green screen effects to a stop motion animation. • I can create flip book animation using digital drawings and export as a Gif or video	Puppetpals, ChatterPix Kids Seesaw I Movie *Animate Anything* *I Can Animate*	1. Interview scientist, fictional character or historical figure. What questions? What would the answers be? 2. Create animations using Puppet pals or Chatter pix Kids where they answer the questions. 3. Use greenscreen to video children asking the questions. (Time gaps) 4. Merge the green screen with animation using IMovie.	Animate Motion Effect Green screen Import
			Sound	• Add voice over and edit sound clips (volume, pitch, fade, effect) to create a podcast • *Create a remix of a popular song.*	Seesaw Garageband	This can be completed alongside first two units 1. Create a voice over to use with their word processing document in section 1. What happens when they play with the different effects?	Pitch Fade Effect Soundtrack Import Save

Spring	Year 5	Computer science	Computational thinking	• I can solve problems by decomposing them into smaller parts • I can use selection in algorithms • I can recognise the need for conditions in repetition within algorithms • I can use logical reasoning to explain how a variety of algorithms work and detect and correct errors. • I can evaluate my work and identify errors	Rapid router https://www.codeforlife.education/rapidrouter/ Hour of code – Star Wars https://hourofcode.com/uk/learn Light Bot	1. Children complete Rapid Router from level 29 up to level 44. (Focus on loops and if/then blocks). Probably 3 sessions. 2. Extension - Hour of code - Frozen https://hourofcode.com/uk/learn	Algorithm Code Loop / repeat Design Create Input Conditional If
			Coding and Programming	• I can create programs by decomposing them into smaller parts • I can use selection in programs • I can use conditions in repetition commands • I can work with variables • I can create programs that control or simulate physical systems • I can evaluate my work and identify errors			
	Year 6	<mark>Articles – 28,29</mark>	Computational thinking	• I can recognise, and make use, of patterns across programming projects • I can write precise algorithms for use when programming • I can identify variables needed and their use in selection and repetition • I can decompose code into sections for effective debugging	<mark>Kodu</mark> https://www.twinkl.co.uk/resource/tp2-i-139-new-planit-computing-year-6-kodu-programming-unit-pack Extension – Hour of code – Dance Party, Code a cartoon. https://hourofcode.com/uk/learn	1. Investigate Kodu as a program 2. Start to programme Kodu with simple instructions. 3. Add features to the landscape 4. Analyse and deconstruct the code in a game. 5. Programme a character within a game	Decompose Code Algorithm Learning environment Analyse Variable conditional
			Coding and Programming	• I can use a range of sequence, selection and repletion commands combined with variables as required to implement my design • I can create procedures to hide complexity in programs • I can identify and write generic code for use across multiple projects • I can critically evaluate my work and suggest improvements			

Summer		**Information technology** ==Articles – 13, 28,29==	Data Handling	• I can create and publish my own online questionnaire and analyse the results. • I can use simple formulae to solve calculations including =sum and other statistical functions • I can edit and format difference cells in a spreadsheet.	Google Sheets Google Forms Excel Numbers	1. Use Google forms to create questionnaire to be answered by other children in school / parents. 2. Present results using Excel or sheets. 3. Create spreadsheets to work out costs of trips, shopping lists, bills etc. (Maths -Money) or make quizzes.	Cell Formulae Sum=() Statistics Data Questionnaire Analyse present
			Augmented reality and Virtual reality	• I can create an interactive VR experience. • I can create an AR experience using objects I have created to explain a concept. *• I can create an animated object and bring it into my surroundings through AR*	Thinglink Keynote, Google Tour Creator Google Expeditions ==EyeJack== ==Merge Cube== ==Figment AR== ==Adobe Aero==	1. Explore the VR experiences in Google Expeditions. Discuss ways that we could design our own. (Tour of a Anderson shelter, school tour) 2. Plan to create a VR experience using Google Tour Creator. Take image and information points. 3. Create an animated object to import into the Tour Creator.	Import AR VR 3D Expeditions
	Year 5	**Computer science** ==Articles – 28,29==	Computational thinking Coding and Programming	• I can solve problems by decomposing them into smaller parts • I can use selection in algorithms • I can recognise the need for conditions in repetition within algorithms • I can use logical reasoning to explain how a variety of algorithms work and detect and correct errors. • I can evaluate my work and identify errors • I can create programs by decomposing them into smaller parts • I can use selection in programs • I can use conditions in repetition commands • I can work with variables • I can create programs that control or simulate physical systems • I can evaluate my work and identify errors	==Microbits== https://microbit.org/projects/make-it-code-it/?filters=intermediate,makecode Scratch https://www.twinkl.co.uk/resource/tp2-i-028-planit-computing-year-5-scratch-unit-pack	1. Work through using a microbit to program conditionals using activities such as light sensor 2. Design a set of instructions using scratch (Maze Game- Twinkl) 3. Add characters / effects to the game. 4. Make a new game using Scratch 5. Introduce variable such as scoring.	Programme Algorithm Debug Variable Sensor Conditional decompose Evaluate

Year 6			Computational thinking Coding and Programming	• I can recognise, and make use, of patterns across programming projects • I can write precise algorithms for use when programming • I can identify variables needed and their use in selection and repetition • I can decompose code into sections for effective debugging • I can use a range of sequence, selection and repletion commands combined with variables as required to implement my design • I can create procedures to hide complexity in programs • I can identify and write generic code for use across multiple projects • I can critically evaluate my work and suggest improvements	Scratch https://www.twinkl.co.uk/resource/tp2-i-039-planit-computing-year-6-scratch-animated-stories-unit-pack Microbits https://microbit.org/projects/make-it-code-it/?filters=intermediate,makecode	1. Create characters for an animation in Scratch 2. Structure the timing and control of events 3. Develop code with show and hide 4. Sequence events in a narrative. 5. Record and insert speech 6. Develop code 7. Use BBC website to anaylse different tyes of code. 8. Use as a basis to develop own games.	Decompose Code Algorithm Analyse Variable Conditional Debug
	Information technology Articles – 13, 28,29		Presentation, web design and e-book creation.	*I can collaborate with peers using online tools, e.g. blogs, Google Drive, Office 365 • I can create and export an interactive presentation including a variety of media, animations, transitions and other effects. • I can create an interactive guide to an image by embedding digital content and publishing it online. • I can create a webpage and embed video.	Google Sites Keynote Powerpoint Thinglink Seesaw	1. Use Powerpoint or Keynote to create a presentation (Fire safety, History, school brochure). 2. Add animations and import videos, sound clips and weblinks in groups. 3. Present work using class blog.	Import Export Video Present Transition Embed Animations
			Video Creation	• I can use cutaway and split screen tools in iMovie. • I can evaluate and improve the best video tools to best explain my understanding. • I can further improve green screen clips using crop and resize and explore more creative ways to use the tool - wearing green clothes and the masking tool.	DoInk Greenscreen IMovie Apple Clips Explain Everything	1. Use split screen tools to show person commentating with a video on the other side.(Earthquakes etc Geogrpahy / Literacy) 2. Create floating heads to create a 'Holly' effect from Red Dwarf. Can be used to commentate on an event / newsreport.	Greenscreen Cutaway Evaluate Edit Crop Resize

| | | | Photography and digital imagery. | • I can make a digital photo using camera settings
• I can enhance digital photos and images using crop, brightness and resize tools
• I can link and explain how to photoshop images and how this is used in the media | Camera and Mark up, Notes
Seesaw
Keynote
Pic Collage
https://www.mrpict.com/digital-literacy.html (Selfies) | 1. Look at pictures of celebrities in the media / online. Do they really look like that? Use ICT with MrP video to discuss selfies.
2. Use photo editing software to change and alter images.
3. Create a before and after comparison and get the children to create their own voice overs that discuss this. | Enhance
Crop
Brightness
Contrast
Resize
Filter
Photoshop
Media |

Year 5/6 (Year B)							
Ter	Year Group	Area	Topic	Knowledge and skills	Apps, equipment and websites I could use.	Lesson Sequence	Vocabulary

Autumn	**Year 5**	Computer science	Computational thinking Coding and Programming	• I can solve problems by decomposing them into smaller parts • I can use selection in algorithms • I can recognise the need for conditions in repetition within algorithms • I can use logical reasoning to explain how a variety of algorithms work and detect and correct errors. • I can evaluate my work and identify errors • I can create programs by decomposing them into smaller parts • I can use selection in programs • I can use conditions in repetition commands • I can work with variables • I can create programs that control or simulate physical systems • I can evaluate my work and identify errors	https://code.org/ Course D Fundamentals (https://code.org/educate/curriculum/elementary-school) Extensions Hour of code – Dance Party https://hourofcode.com/uk/learn Light Bot	1. Children complete unplugged activities showing coding and algorithms in a hands on way. 2. Children complete Course D which builds through block programming, debugging, repetition conditionals and loops. (4 / 5 sessions) 3. Extensions include Hour of Code	Algorithm Code Loop / repeat Design Create Input Conditional If, while, until
	Year 6 Articles – 28,29		Computational thinking Coding and Programming	• I can recognise, and make use, of patterns across programming projects • I can write precise algorithms for use when programming • I can identify variables needed and their use in selection and repetition • I can decompose code into sections for effective debugging • I can use a range of sequence, selection and repletion commands combined with variables as required to implement my design • I can create procedures to hide complexity in programs • I can identify and write generic code for use across multiple projects • I can critically evaluate my work and suggest improvements	https://code.org/ Course E Fundamentals (https://code.org/educate/curriculum/elementary-school) Extensions Hour of code – Frozen https://hourofcode.com/uk/learn Cargo Bot	1. Children complete unplugged activities showing coding and algorithms in a hands on way. 2. Children complete Course E which builds through block programming, debugging, repetition conditionals, loops and variables.(5 sessions) 3. Extensions include Hour of Code	Algorithm Code Loop / repeat Design Create Input conditional

			Computer Networks	• I understand what HTML is and recognize HTML tags • I know a range of HTML tags and can remix a web page • I can create a webpage using HTML	https://garyhall.org.uk/html-projects-ks2.html	1. Explore what HTML is and how we can see it on a website.	Html Code tags
		Information technology <mark>Articles – 13, 28,29</mark>	Word Processing / Typing	• I can confidently choose the best application to demonstrate my learning. • I can format text to suit a purpose. • I can publish my documents online regularly and discuss the audience and purpose of my content.	Seesaw Word Pages Keynote Book Creator	1. Ask the children which of the packages they want to use and why. Present information. 2. Discuss features of adverts / NCR and how they can be displayed. Complete matching purpose. 3. Create class blog that is updated with the work of children on a regular basis.	Hyperlinks Sound Edit
			Animation	*I can mix animations and videos recordings of myself to create video interviews. • I can plan, script and create a 3D animation to explain a concept or tell a story. • I can choose and create different types of animations to best explain my learning.	Puppetpals, ChatterPix Kids Seesaw I Movie *Animate Anything* *I Can Animate*	1. Interview scientist, fictional character or historical figure. What questions? What would the answers be? 2. Create animations using Puppet pals or Chatter pix Kids where they answer the questions. 3. Use greenscreen to video children asking the questions. (Time gaps) 4. Merge the green screen with animation using IMovie.	Animate Motion Effect Green screen Import
			Sound	• Add voice over and edit sound clips (volume, pitch, fade, effect) to use in a film or radio broadcast (podcast) • Compose a soundtrack that can be added to a film project	Seesaw Garageband	This can be completed alongside first two units 1. Create a voice over to use with their word processing document in section 1. What happens when they play with the different effects? 2. Create a soundtrack for the introduction of the animation interview. Add it to the start of the animation using IMovie.	Pitch Fade Effect Soundtrack Import Save

| Spring | Year 5 | Computer science | Computational thinking / Coding and Programming | • I can solve problems by decomposing them into smaller parts
• I can use selection in algorithms
• I can recognise the need for conditions in repetition within algorithms
• I can use logical reasoning to explain how a variety of algorithms work and detect and correct errors.
• I can evaluate my work and identify errors

• I can create programs by decomposing them into smaller parts
• I can use selection in programs
• I can use conditions in repetition commands
• I can work with variables
• I can create programs that control or simulate physical systems
• I can evaluate my work and identify errors | Rapid router
https://www.codeforlife.education/rapidrouter/

Hour of code – Star Wars
https://hourofcode.com/uk/learn

Light Bot | 1. Children complete Rapid Router from level 29 up to level 44. (Focus on loops and if/then blocks). Probably 3 sessions.

2. Extension - Hour of code - Frozen
https://hourofcode.com/uk/learn | Algorithm
Code
Loop / repeat
Design
Create
Input
Conditional
If |
| | Year 6 | Articles – 28,29 | Computational thinking / Coding and Programming | • I can recognise, and make use, of patterns across programming projects
• I can write precise algorithms for use when programming
• I can identify variables needed and their use in selection and repetition
• I can decompose code into sections for effective debugging

• I can use a range of sequence, selection and repletion commands combined with variables as required to implement my design
• I can create procedures to hide complexity in programs
• I can identify and write generic code for use across multiple projects
• I can critically evaluate my work and suggest improvements | Kodu
https://www.twinkl.co.uk/resource/tp2-i-139-new-planit-computing-year-6-kodu-programming-unit-pack

Extension – Hour of code – Dance Party, Code a cartoon.
https://hourofcode.com/uk/learn | 1. Investigate Kodu as a program
2. Start to programme Kodu with simple instructions.
3. Add features to the landscape
4. Analyse and deconstruct the code in a game.
5. Programme a character within a game | Decompose
Code
Algorithm
Learning environment
Analyse
Variable
conditional |

		Information technology	Data Handling	• I can write spreadsheet formula to solve more challenging maths problems. • I can create and publish my own online quiz with a range of media (images and video)	Google Sheets Google Forms Excel Numbers	1. Use Excel or sheets to answer problems relating to scale or ratio. Costs of trips / journeys. 2. Use Excel to create interactive quizzes for the other children in the class and school to enjoy. Publish on the webpage/blog.	Cell Formulae Sum=() Statistics Data Questionnaire Analyse present
			Augmented reality and Virtual reality	• I can create and upload my own VR Google Expedition. • I can create an interactive poster using AR • I can explain how VR and AR works.	ARMAKR Thinglink Keynote, Google Tour Creator Google Expeditions EyeJack Merge Cube Figment AR Adobe Aero	1. Explore the VR experiences in Google Expeditions. Discuss ways that we could design our own. Look at how AR and VR work. 2. Plan to create a VR experience using Google Tour Creator. Take image and information points. (Think Harry Potter newspapers) 3. Create an animated object to import into the Tour Creator.	Import AR VR 3D Expeditions

Summer	**Year 5**	Computer science Articles – 28,29	Computational thinking Coding and Programming	• I can solve problems by decomposing them into smaller parts • I can use selection in algorithms • I can recognise the need for conditions in repetition within algorithms • I can use logical reasoning to explain how a variety of algorithms work and detect and correct errors. • I can evaluate my work and identify errors • I can create programs by decomposing them into smaller parts • I can use selection in programs • I can use conditions in repetition commands • I can work with variables • I can create programs that control or simulate physical systems • I can evaluate my work and identify errors	Microbits https://microbit.org/projects/make-it-code-it/?filters=intermediate,makecode Scratch https://www.twinkl.co.uk/resource/tp2-i-028-planit-computing-year-5-scratch-unit-pack	1. Work through using a microbit to program conditionals using activities such as light sensor 2. Design a set of instructions using scratch (Maze Game- Twinkl) 3. Add characters / effects to the game. 4. Make a new game using Scratch 5. Introduce variable such as scoring.	Programme Algorithm Debug Variable Sensor Conditional decompose Evaluate
	Year 6		Computational thinking Coding and Programming	• I can recognise, and make use, of patterns across programming projects • I can write precise algorithms for use when programming • I can identify variables needed and their use in selection and repetition • I can decompose code into sections for effective debugging • I can use a range of sequence, selection and repletion commands combined with variables as required to implement my design • I can create procedures to hide complexity in programs • I can identify and write generic code for use across multiple projects • I can critically evaluate my work and suggest improvements	Scratch https://www.twinkl.co.uk/resource/tp2-i-039-planit-computing-year-6-scratch-animated-stories-unit-pack Microbits https://microbit.org/projects/make-it-code-it/?filters=intermediate,makecode	1. Create characters for an animation in Scratch 2. Structure the timing and control of events 3. Develop code with show and hide 4. Sequence events in a narrative. 5. Record and insert speech 6. Develop code 7. Use BBC website to anaylse different tyes of code. 8. Use as a basis to develop own games.	Decompose Code Algorithm Analyse Variable Conditional Debug

		Information technology **Articles – 13, 28,29**	Presentation, web design and e-book creation.	• I can create a web site which includes a variety of media. • I can choose applications to communicate to a specific audience. • I can evaluate my own content and consider ways to improvements • *I can design an app prototype that links multimedia pages together with hyperlinks.*	Google Sites Keynote Powerpoint Thinglink Seesaw	1. Use Powerpoint or Keynote to create a webpage (Fire safety, History, school brochure). Identify good examples to be added to school webpage. 2. Add animations and import videos, sound clips and weblinks in groups. 3. Present work using class blog. Ask for peer and self evaluations.	Import Export Video Present Transition Embed Animations
			Video Creation	• I can use the green screen masking tool with more than one character. • I can use picture in picture tools in iMovie. • I can add animated subtitles to my film to further enhance my creation. • I can create videos using a range of media - green screen, animations, film and image.	DoInk Greenscreen IMovie Apple Clips Explain Everything	1. Create Green screen video in groups relating to a topic – How to be a Viking, Fire Safety video. 2. Edit video and add background using IMovie. 3. Import movie into Apple Clips. Add a title, voice over, subtitles to the video.	Greenscreen Cutaway Evaluate Edit Crop Resize
			Photography and digital imagery.	• I can edit a picture to remove items, add backgrounds, merge 2 photos • I can evaluate and discuss images explaining effects and filters that have been used to enhance the media. • *Use a 3D drawing app to create a realistic representation of world object*	Camera and Mark up, Notes Seesaw Keynote Pic Collage	1. Remove backgrounds from pictures and overlay them on top of new pictures (Fake postcards from history) 2. Create a step by step guide to help a younger children to change and edit photos.	Enhance Crop Brightness Contrast Resize Filter Photoshop Media