Year Group	Suggested Order	Unit Name	Learning Objectives	Success Criteria	National Curriculum Links							Teach Computing Taxonomy										Cross Curricular Links
					2.1	2.2	2.3	2.4	2.5	2.6	2.7	Algorithms	Creating Media	Computer Systems	Design and Development	Data and information	Effective use of tools	Information Technology	Computer Networks	Programming	Safety and security	
3	Autumn 1	**Computing systems and networks – Connecting computers**	-To explain how digital devices function	-I can explain that digital devices accept inputs - I can explain that digital devices produce outputs - I can follow a process		■		■		■				■									Maths- number problems
			-To identify input and output devices	-I can classify input and output devices - I can describe a simple process - I can design a digital device		■		■		■				■									
			-To recognise how digital devices can change the way we work	-I can explain how I use digital devices for different activities - I can recognise similarities between using digital devices and non-digital tools - I can suggest differences between using digital devices and non-digital tools		■		■		■				■				■					Art and design- techniques
			-To explain how a computer network can be used to share information	-I can discuss why we need a network switch - I can explain how messages are passed through multiple connections - I can recognise different connections		■		■		■				■					■				
			-To explore how digital devices can be connected	-I can demonstrate how information can be passed between devices - I can explain the role of a switch, server, and wireless access point in a network - I can recognise that a computer network is made up of a number of devices		■		■		■				■					■				
			-To recognise the physical components of a network	-I can identify how devices in a network are connected together - I can identify networked devices around me - I can identify the benefits of computer networks		■		■		■				■					■				
3	Autumn 2	**Creating media - Stop-frame animation**	-To explain that animation is a sequence of drawings or photographs	-I can create an effective flip book—style animation - I can draw a sequence of pictures - I can explain how an animation/flip book works						■	■		■			■						
			-To relate animated movement with a sequence of images	-I can create an effective stop-frame animation - I can explain why little changes are needed for each frame - I can predict what an animation will look like						■	■		■			■						
			-To plan an animation	-I can break down a story into settings, characters and events - I can create a storyboard - I can describe an animation that is achievable on screen						■	■		■		■							English- draft and write narratives
			-To identify the need to work consistently and carefully	-I can evaluate the quality of my animation - I can review a sequence of frames to check my work - I can use onion skinning to help me make small changes between frames						■	■		■		■	■						History- the Roman Empire
			-To review and improve an animation	-I can evaluate another learner's animation - I can explain ways to make my animation better - I can improve my animation based on feedback						■	■		■		■	■						History- the Roman Empire
			-To evaluate the impact of adding other media to an animation	-I can add other media to my animation - I can evaluate my final film - I can explain why I added other media to my animation						■	■		■		■	■						History- the Roman Empire
3	Spring 1	**Programming A - Sequencing sounds**	-To explore a new programming environment	-I can explain that objects in Scratch have attributes (linked to) - I can identify the objects in a Scratch project (sprites, backdrops) - I can recognise that commands in Scratch are represented as blocks	■	■	■			■							■			■		
			-To identify that commands have an outcome	-I can choose a word which describes an on-screen action for my plan - I can create a program following a design - I can identify that each sprite is controlled by the commands I choose	■	■	■			■							■			■		
			-To explain that a program has a start	-I can create a sequence of connected commands - I can explain that the objects in my project will respond exactly to the code - I can start a program in different ways	■	■	■			■							■			■		
			-To recognise that a sequence of commands can have an order	-I can combine sound commands - I can explain what a sequence is - I can order notes into a sequence	■	■	■			■							■			■		
			-To change the appearance of my project	-I can build a sequence of commands - I can decide the actions for each sprite in a program - I can make design choices for my artwork	■	■	■			■					■		■			■		
			-To create a project from a task description	-I can identify and name the objects I will need for a project - I can implement my algorithm as code - I can relate a task description to a design	■	■	■			■			■		■		■			■		
3	Spring 2	**Data and information – Branching databases**	-To create questions with yes/no answers	-I can create two groups of objects separated by one attribute - I can investigate questions with yes/no answers - I can make up a yes/no question about a collection of objects						■							■					Science
			-To identify the attributes needed to collect data about an object	-I can arrange objects into a tree structure - I can create a group of objects within an existing group - I can select an attribute to separate objects into groups						■							■					Science
			-To create a branching database	-I can group objects using my own yes/no questions - I can select objects to arrange in a branching database - I can test my branching database to see if it works						■							■	■				Science
			-To explain why it is helpful for a database to be well structured	-I can compare two branching database structures - I can create yes/no questions using given attributes - I can explain that questions need to be ordered carefully to split objects into similarly sized groups						■					■		■	■				Science
			-To plan the structure of a branching database	-I can create a physical version of a branching database - I can create questions that will enable objects to be uniquely identified - I can independently create questions to use in a branching database						■							■	■				Science
			-To independently create an identification tool	-I can create a branching database that reflects my plan - I can suggest real-world uses for branching databases - I can work with a partner to test my identification tool						■					■		■					Science
3	Summer 1	**Creating media – Desktop publishing**	-To recognise how text and images convey information	-I can explain the difference between text and images - I can identify the advantages and disadvantages of using text and images - I can recognise that text and images can communicate messages clearly					■	■			■									English- non-narrative material
			-To recognise that text and layout can be edited	-I can change font style, size, and colours for a given purpose - I can edit text - I can explain that text can be changed to communicate more clearly					■	■			■					■				English- non-narrative material
			-To choose appropriate page settings	-I can create a template for a particular purpose - I can define the term 'page orientation' - I can recognise placeholders and say why they are important					■	■			■					■				English- non-narrative material
			-To add content to a desktop publishing publication	-I can choose the best locations for my content - I can make changes to content after I've added it - I can paste text and images to create a magazine cover					■	■			■					■				English- non-narrative material
			-To consider how different layouts can suit different purposes	-I can choose a suitable layout for a given purpose - I can identify different layouts - I can match a layout to a purpose					■	■			■		■			■				English- non-narrative material
			-To consider the benefits of desktop publishing	-I can compare work made on desktop publishing to work created by hand - I can identify the uses of desktop publishing in the real world - I can say why desktop publishing might be helpful					■	■			■		■			■	■			English- non-narrative material
3	Summer 2	**Programming B - Events and actions in programs**	-To explain how a sprite moves in an existing project	-I can choose which keys to use for actions and explain my choices - I can explain the relationship between an event and an action - I can identify a way to improve a program	■	■	■			■							■			■		
			-To create a program to move a sprite in four directions	-I can choose a character for my project - I can choose a suitable size for a character in a maze - I can program movement	■	■	■			■							■			■		
			-To adapt a program to a new context	-I can choose blocks to set up my program - I can consider the real world when making design choices - I can use a programming extension	■	■	■			■							■			■		
			-To develop my program by adding features	-I can build more sequences of commands to make my design work - I can choose suitable keys to turn on additional features - I can identify additional features (from a given set of blocks)	■	■	■			■							■			■		
			-To identify and fix bugs in a program	-I can match a piece of code to an outcome - I can modify a program using a design - I can test a program against a given design	■	■	■			■					■					■		
			-To design and create a maze-based challenge	-I can evaluate my project - I can implement my design - I can make design choices and justify them	■	■	■			■					■					■		

Vocabulary: digital device, input, process, output, program, digital, non-digital, connection, network, switch, server, wireless access point, cables, sockets

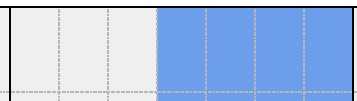
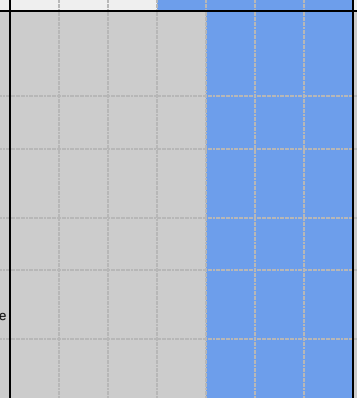
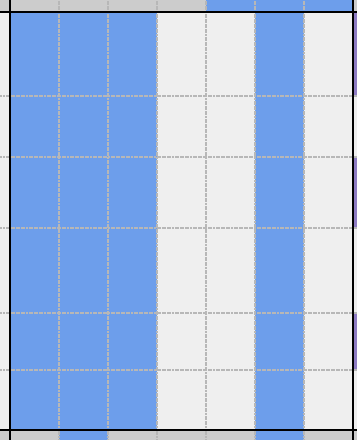
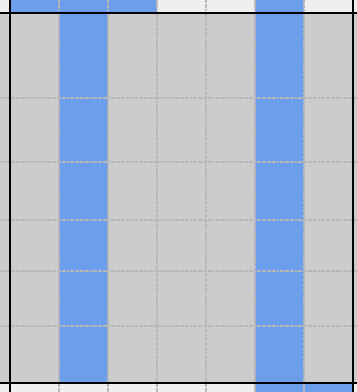
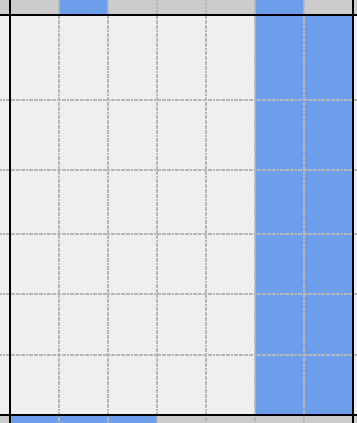
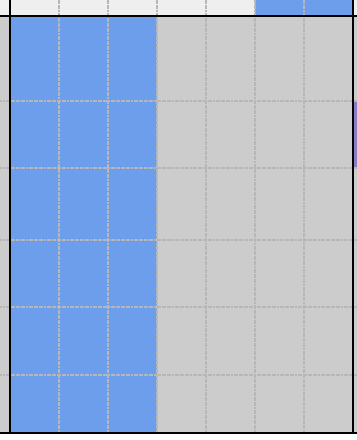
Vocabulary: animation, flip book, stop frame, frame, sequence, image, photograph, setting, character, events, onion skinning, consistency, evaluation, delete, media, import, transition.

Vocabulary: Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop, motion, turn, point in direction, go to, glide, sequence, event, task, design, run the code, order, note, chord, algorithm, bug, debug, code

Vocabulary: attribute, value, questions, table, objects, branching, database, objects, equal, even, separate, structure, compare, order, organise, selecting, information, decision tree.

Vocabulary: text, images, advantages, disadvantages, communicate, font, style, landscape, portrait, orientation, placeholder, template, layout, content, desktop publishing, copy, paste, purpose, benefits.

Vocabulary: motion, event, sprite, algorithm, logic, move, resize, extension block, pen up, set up, pen, design, action, debugging, errors, setup, code, test, debug, actions.

4	Autumn 1	**Computing systems and networks – The Internet**	-To describe how networks physically connect to other networks	-I can demonstrate how information is shared across the internet - I can describe the internet as a network of networks - I can discuss why a network needs protecting		RSE and Health Education
Vocabulary: internet, network, router, security, switch, server, wireless access point (WAP), website, web page, web address, routing, web browser, World Wide Web, content, links, files, use, download, sharing, ownership, permission, information, accurate, honest, content, adverts			-To recognise how networked devices make up the internet	-I can describe networked devices and how they connect - I can explain that the internet is used to provide many services - I can recognise that the World Wide Web contains websites and web pages		RSE and Health Education
			-To outline how websites can be shared via the World Wide Web (WWW)	-I can describe how to access websites on the WWW - I can describe where websites are stored when uploaded to the WWW - I can explain the types of media that can be shared on the WWW		RSE and Health Education
			#NAME?	-I can explain that internet services can be used to create content online - I can explain what media can be found on websites - I can recognise that I can add content to the WWW		RSE and Health Education
			-To recognise how the content of the WWW is created by people	-I can explain that there are rules to protect content - I can explain that websites and their content are created by people - I can suggest who owns the content on websites		RSE and Health Education
			-To evaluate the consequences of unreliable content	-I can explain that not everything on the World Wide Web is true - I can explain why I need to think carefully before I share or reshare content - I can explain why some information I find online may not be honest, accurate, or legal		RSE and Health Education
4	Autumn 2	**Creating media - Audio production**	-To identify that sound can be recorded	-I can explain that the person who records the sound can say who is allowed to use it - I can identify the input and output devices used to record and play sound - I can use a computer to record audio		
Vocabulary: audio, microphone, speaker, headphones, input device, output device, sound, podcast, edit, trim, align, layer, import, record, playback, selection, load, save, export, MP3, evaluate, feedback.			-To explain that audio recordings can be edited	-I can discuss what sounds can be added to a podcast - I can inspect the soundwave view to know where to trim my recording - I can re-record my voice to improve my recording		Science- sound
			-To recognise the different parts of creating a podcast project	-I can explain how sounds can be combined to make a podcast more engaging - I can plan appropriate content for a podcast - I can save my project so the different parts remain editable		English- non-narrative material
			-To apply audio editing skills independently	-I can improve my voice recordings - I can record content following my plan - I can review the quality of my recordings		English- non-narrative material
			-To combine audio to enhance my podcast project	-I can arrange multiple sounds to create the effect I want - I can explain the difference between saving a project and exporting an audio file - I can open my project to continue working on it		English- non-narrative material
			-To evaluate the effective use of audio	-I can choose appropriate edits to improve my podcast - I can listen to an audio recording to identify its strengths - I can suggest improvements to an audio recording		English- non-narrative material
4	Spring 2	**Programming A – Repetition in shapes**	-To identify that accuracy in programming is important	-I can create a code snippet for a given purpose - I can explain the effect of changing a value of a command - I can program a computer by typing commands		
Vocabulary: Logo (programming environment), program, turtle, commands, code snippet, algorithm, design, debug, pattern, repeat, repetition, count-controlled loop, value, trace, decompose, procedure			-To create a program in a text-based language	-I can test my algorithm in a text-based language - I can use a template to create a design for my program - I can write an algorithm to produce a given outcome		
			-To explain what 'repeat' means	-I can identify everyday tasks that include repetition as part of a sequence, eg brushing teeth, dance moves - I can identify patterns in a sequence - I can use a count-controlled loop to produce a given outcome		
			-To modify a count-controlled loop to produce a given outcome	-I can choose which values to change in a loop - I can identify the effect of changing the number of times a task is repeated - I can predict the outcome of a program containing a count-controlled loop		
			-To decompose a task into small steps	-I can explain that a computer can repeatedly call a procedure - I can identify 'chunks' of actions in the real world - I can use a procedure in a program		
			-To create a program that uses count-controlled loops to produce a given outcome	-I can design a program that includes count-controlled loops - I can develop my program by debugging it - I can make use of my design to write a program		
4	Spring 1	**Data and information – Data logging**	-To explain that data gathered over time can be used to answer questions	-I can choose a data set to answer a given question - I can identify data that can be gathered over time - I can suggest questions that can be answered using a given data set		Science (LKS2), Maths-data
Vocabulary: data, table, layout, input device, sensor, logger, logging, data point, interval, analyse, dataset, import, export, logged, collection, review, conclusion.			-To use a digital device to collect data automatically	-I can explain what data can be collected using sensors - I can identify that data from sensors can be recorded - I can use data from a sensor to answer a given question		Science (LKS2), Maths-data
			-To explain that a data logger collects 'data points' from sensors over time	-I can identify the intervals used to collect data - I can recognise that a data logger collects data at given points - I can talk about the data that I have captured		Science (LKS2), Maths-data
			-To recognise how a computer can help us analyse data	-I can explain that there are different ways to view data - I can sort data to find information - I can view data at different levels of detail		Science (LKS2), Maths-data
			-To identify the data needed to answer questions	-I can plan how to collect data using a data logger - I can propose a question that can be answered using logged data - I can use a data logger to collect data		Science (LKS2), Maths-data
			-To use data from sensors to answer questions	-I can draw conclusions from the data that I have collected - I can explain the benefits of using a data logger - I can interpret data that has been collected using a data logger		Science (LKS2), Maths-data
4	Summer 1	**Creating media – Photo editing**	-To explain that the composition of digital images can be changed	-I can explain why I might crop an image - I can improve an image by rotating it - I can use photo editing software to crop an image		
Vocabulary: image, edit, digital, crop, rotate, undo, save, adjustments, effects, colours, hue, saturation, sepia, vignette, image, retouch, clone, select, combine, made up, real, composite, cut, copy, paste, alter, background, foreground, zoom, undo, font.			-To explain that colours can be changed in digital images	-I can experiment with different colour effects - I can explain that different colour effects make you think and feel different things - I can explain why I chose certain colour effects		
			-To explain how cloning can be used in photo editing	-I can add to the composition of an image by cloning - I can identify how a photo edit can be improved - I can remove parts of an image using cloning		
			-To explain that images can be combined	-I can experiment with tools to select and copy part of an image - I can explain why photos might be edited - I can use a range of tools to copy between images		
			-To combine images for a purpose	-I can choose suitable images for my project - I can create a project that is a combination of other images - I can describe the image I want to create		
			-To evaluate how changes can improve an image	-I can combine text and my image to complete the project - I can review images against a given criteria - I can use feedback to guide making changes		
4	Summer 2	**Programming B – Repetition in games**	-To develop the use of count-controlled loops in a different programming environment	-I can list an everyday task as a set of instructions including repetition - I can modify a snippet of code to create a given outcome - I can predict the outcome of a snippet of code		
Vocabulary: Scratch, programming, sprite, blocks, code, loop, repeat, value, infinite loop, count-controlled loop, costume, repetition, forever, animate, event block, duplicate, modify, design, algorithm, debug, refine, evaluate.			-To explain that in programming there are infinite loops and count controlled loops	-I can choose when to use a count-controlled and an infinite loop - I can modify loops to produce a given outcome - I can recognise that some programming languages enable more than one process to be run at once		
			-To develop a design that includes two or more loops which run at the same time	-I can choose which action will be repeated for each object - I can evaluate the effectiveness of the repeated sequences used in my program - I can explain what the outcome of the repeated action should be		
			-To modify an infinite loop in a given program	-I can explain the effect of my changes - I can identify which parts of a loop can be changed - I can re-use existing code snippets on new sprites		
			-To design a project that includes repetition	-I can develop my own design explaining what my project will do - I can evaluate the use of repetition in a project - I can select key parts of a given project to use in my own design		
			-To create a project that includes repetition	-I can build a program that follows my design - I can evaluate the steps I followed when building my project - I can refine the algorithm in my design		