 Code	This concept involves developing an understanding of instructions, logic and sequence.
 Connect	This concept involves developing an understanding of how to safely connect with others.
 Communicate	This concept involves using apps to communicate one's ideas.
 Collect	This concept involves developing an understanding of databases and their uses.

Lower KS2 Cycle A 22 - 23	Autumn		Spring		Summer	
Breadth	Programming 1 – Events and actions	Creating media – Animation	Online Safety	Internet Research and Communication	Programming 2 – Repetition in games	Creating media – Desktop publishing
Knowledge Categories						
Overview	Learners will explore the links between events and actions, while consolidating prior learning relating to sequencing. Learners begin by moving a sprite in four directions (up, down, left, and right). Explore movement and design to choose an appropriately sized sprite. This unit also introduces programming extensions, through the use of **Pen** blocks. Learners draw lines with sprites and change the size and colour of lines. Design and code and coding their own program.	Learners will use a range of techniques to create a stop-frame animation using tablets. Apply those skills to create a story-based animation. Learners will add other types of media to their animation, such as music and text.	Learners will look at how to write and send emails, as well as how to decide if an email is safe to open. They will build on their existing knowledge of cyberbullying and how to deal with unkind behaviour online. The use and importance of privacy settings is introduced and children will discuss the types of information we should not share online. They will build on the idea of a digital footprint by thinking about how the adverts they see online are targeted at them.	Learners will focus on how to effectively search using keywords and how to safely communicate online. Examine the results returned and how to distinguish between a reliable and unreliable website or webpage. Children will learn to save webpages in a browser, as well as in a file or folder. They will also understand how this can be shared with others. Children will identify ways of communicating online, how they can keep safe and the importance of being responsible while communicating online with others.	Learners will explore the concept of repetition in programming using the Scratch environment. Learners explore similarities between two environments. Learners look at the difference between count-controlled and infinite loops, and use their knowledge to modify existing animations and games using repetition. Design and create a game which uses repetition, applying stages of programming design throughout	Learners will use desktop publishing software and consider careful choices of font size, colour and type to edit and improve premade documents. Learners will be introduced to the terms 'templates', 'orientation', and 'placeholders' and begin to understand how these can support them in making their own template for a magazine front cover. They will start to add text and images to create their own pieces of work using desktop publishing software.
NC Links	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Analyse, evaluate and present data and information Use a variety of software to design and create content that accomplish given goals Select, use and combine a variety of software including analysing, evaluating and presenting data and information	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration.	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve 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 errors in algorithms and programs	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. Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Milestone 2	**Motion:** Use specified screen coordinates to control movement. **Looks:** Set the appearance of objects and create sequences of changes. **Draw:** Control the shade of pens. **Variables and lists:** Use variables to store a value. Use the functions define, set, change, show and hide to control the variables.	Use some of the advances features of applications and devices in order to communicate ideas, work or messages professionally.	Give examples of the risks posed by online communications. Understand that comments made online that are hurtful or offensive are the same as bullying.	Give examples of the risks posed by online communications. Understand that comments made online that are hurtful or offensive are the same as bullying.	**Motion:** Use specified screen coordinates to control movement. **Looks:** Set the appearance of objects and create sequences of changes. **Sound:** Create and edit sounds. Control when they are heard, their volume, duration and rests. **Draw:** Control the shade of pens. **Events:** Specify conditions to trigger events. **Control:** Use IF THEN conditions to control events or objects. **Sensing:** Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions). **Variables and lists:** Use variables to store a value. Use the functions define, set, change, show and hide to control the variables.	Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.
Vocab	Motion, event, sprite, algorithm, logic, move, resize, algorithm, extension block, pen up, set up, action, design, debugging, errors, setup, test, debug	Animation, Stop-frame animation, frame, sequence, image, photograph, setting, character, events, onion skinning, evaluation	Email, password, online, communicate, respect, responsible, privacy, cyber bullying	World wide web, internet, bookmark, favourite, reliable, digital footprint	Scratch, programming, sprite, blocks, code, loop, repeat, value, forever, infinite loop, count-controlled loop, costume, repetition, animate, event block, duplicate, modify, design, design, sprite, algorithm	Text, images, advantages, disadvantages, communicate, font, font style, communicate, template, landscape, portrait, orientation, placeholder, template, layout, content

Lower KS2 Cycle B 23 - 24	Autumn		Spring		Summer	
Breadth	**Computing systems and networks – The Internet**	**Creating media – Audio editing**	**Online Safety**	**Programming - Sequencing**	**Creating media – Photo editing**	**Programming - Repetition**
Knowledge Categories						
Overview	Learners will explore the internet as a network of networks which need to be kept secure. They will learn that the World Wide Web is part of the internet, and be given opportunities to explore the World Wide Web for themselves to learn about who owns content and what they can access, add, and create. Evaluate online content to decide how honest, accurate, or reliable it is, and understand the consequences of false information.	In this unit, learners will initially examine devices capable of recording digital audio, which will include identifying the input device (microphone) and output devices (speaker or headphones) if available. Learners will discuss the ownership of digital audio and the copyright implications of duplicating the work of others. In order to record audio themselves, learners will produce a podcast, which will include editing t, adding multiple tracks, and opening and saving the audio files	Learn about preventing and dealing with cyberbullying; how to use search engines efficiently; how to avoid plagiarism online; and how to be a good digital citizen. Apply knowledge to design a poster to be displayed around school to promote online safety.	Explore the concept of sequencing in programming through Scratch. Explore a selection of motion, sound, and event blocks which learners will use to create their own programs, featuring sequences.	Learners will develop their understanding of how digital images can be changed and edited, and how they can then be resaved and reused. Consider the impact that editing images can have, and evaluate the effectiveness of their choices.	Learners will create programs by planning, modifying, and testing commands to create shapes and patterns. They will use Logo, a text-based programming language and look at repetition and loops within programming
NC Links	Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	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 Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve 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 errors in algorithms and programs	Use search technologies effectively 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	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve 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 errors in algorithms and programs

Milestone 2	Give examples of the risks posed by online communications. Understand that comments made online that are hurtful or offensive are the same as bullying. Understand how online services work.	Use some of the advances features of applications and devices in order to communicate ideas, work or messages professionally.	Give examples of the risks posed by online communications. Understand the term 'copyright'. Understand that comments made online that are hurtful or offensive are the same as bullying.	**Motion:** Use specified screen coordinates to control movement. **Looks:** Set the appearance of objects and create sequences of changes. **Sound:** Create and edit sounds. Control when they are heard, their volume, duration and rests.	Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.	**Motion:** Use specified screen coordinates to control movement. **Looks:** Set the appearance of objects and create sequences of changes. **Draw:** Control the shade of pens. **Events:** Specify conditions to trigger events. **Control:** Use IF THEN conditions to control events or objects. **Variables and lists:** Use variables to store a value. Use the functions define, set, change, show and hide to control the variables.
Vocab	World wide web (WWW), network, connect, router, security, Network Switch, WAP – wireless access point, browser, website, web address, links, files, use, content, download, sharing, ownership, permission, information, sharing, accurate, honest, content, adverts	Audio, record, playback, microphone, speaker, headphones, input, output, sound, record, start, pause, stop, podcast, save, file, selection, edit, Export, MP3, audio, editing, evaluate, feedback	Online, acceptable, unacceptable, search, safely, respect, responsible, plagiarism , digital citizen, cyberbullying	Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop, Sprites, motion, turn, point in direction, go to, glide, sequence, event, task, note, chord, design, algorithm, bug, debug	Image, edit, arrange, select, digital, crop, undo, save, Image, search, copyright, composition, edit, pixels, crop, rotate, flip, adjustments, effects, colours, hue/saturation, sepia, version, illustrator, vignette, retouch, clone, recolour, magic wand, adjust, sharpen, brighten, fake, real, composite, cut, copy, paste, alter, background, foreground,	Program, Turtle, commands, code snippet, algorithm, debug, logo, pattern, repeat, repetition, count-controlled loop, value, repetition, trace, value, decompose, procedure,