	Computing Subject knowledge, discipline and vocabulary Year 4 Summer	
Unit	Photo Editing	Repetition in Games
Previous Learning	• I can use technology to capture photos. • I can use editing tools to alter images. • I can apply my knowledge to achieve a desired outcome.	• I can build sequences of commands • I can create a sequence of commands to achieve a given outcome • I can insert loops into commands for repetition
Subject Knowledge (what)	**Understanding how digital photographs are capture and manipulated.** NC: – *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* – *Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.* • Digital images can be manipulated. • Images can be changed for different purposes. • The composition of images can be edited (e.g. crop, snip) • Changes to images can be made globally (e.g. filters) • Changes can be made locally (e.g. retouch) • Additions can be made to images (e.g. draw, text)	**Understanding repetition in programming games.** NC: • *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* • Loop commands can be used in a program to repeat instructions. • Types of loop commands can be used in different programming environments • There are two types of loop: o Indefinite loops, which run until the program is stopped o Count-controlled loops, which stop after a specific number of times • Not all tools enable more than one process to run at once
Subject Discipline (how)	• Open/retrieve images stored on digital devices • Use applications to change the composition of an image to arrange, crop or cut out a part. • Use applications to make global changes to adjust colours, apply filters and add effects. • Use applications to make changes locally to retouch and reuse. • Use applications to make additions to images to draw, add text and add an element (e.g. border) • Use the most appropriate tool for a particular purpose.	• Use indefinite loops to produce a given outcome • Justify when to use loops in a program • Plan a program that includes appropriate loops to produce a given outcome • Recognise and use tools that enable more than one process to be run at the same time (concurrency) • Create two or more sequences that run at the same time

	• Consider the impact of changes made on the quality of an image.	
Key Vocab	• **Images-** a picture created in electronic form • **Font-** the representation of text • **Copy-** duplicating text, data, file or disks • **Paste-** to insert copied text, images, data, file or discs • **Digital-** storing information in the form of numbers. • **Background-** the area behind the subject in a photo. • **Edit-** altering an image • **Arrange-** organize things into an attractive way. • **Select-** highlight a piece of text, image or section • **Crop- r**emove unwanted edges of an image • **Undo-** erase the last change to a document • **Save-** storing data onto a hard-drive, disc etc. • **Search-** process of finding letters, words, files, web pages etc. • **Copyright-** protection for published work that prevents usage without permission • **Hue/saturation-** attribute of a visible light • **Pixels-** the small dots/squares the make up an image • **Rotate-** to turn an image clockwise or anti-clockwise • **Flip-** to turn an object over either vertically or horizontally • **Adjustments-** make small alterations • **Illustrator-** creator of an image • **Vignette-** a small illustration which fades into its background without a definite border • **Foreground-** the part of view closest to the observer • **Magic wand-** tool to select pixels based on tone and colour • **Sharpen-** enhances the definition of edges in an image • **Brighten-** changes all the colours from light to dark	• **Algorithm-** a set of rules followed by a computer. • **Design-** a plan or drawing to show the function of objects. • **Debugging-** fix a sequence. • **Sprite-** a character/object in Scratch Jr. • **Blocks-** a command in Scratch Jr. • **Event-** keyboard command (input). • **Repetition-** Lines of code that will be run multiple times • **Count-controlled loop-** a loop that will stop running after a certain number of times. • **Code-** set of instructions written in a particular programming language • **Loop-** a sequence of instructions that is continually repeated until a condition is met • **Infinite loop-** an action is repeated until the program ceases running • **Animate-** create movement from images • **Duplicate-** create another that is exactly the same • **Modify-** to change • **Evaluate-** to review and find improvements.