	Computing Subject knowledge, discipline and vocabulary Year 5 Summer	
Unit	Vector Drawing	Selection in quizzes
Previous Learning	• I can use desktop publishing to create documents, which include images • I can create digital paintings • I can insert shapes onto digital documents	• I can use indefinite loops within a program • I can use count-controlled loops within a program • I can create two or more sequences that run concurrently

Subject Knowledge (what)	**Understanding how desktop programming can create vector drawings.**
	NC:
	  - *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.*
	
	• Vector drawings are made using simple shapes and lines
	• Vector images can be scaled without impact on quality
	• Each element of a vector drawing is an object
	• Objects can be grouped together
	• Objects can be modified in groups
	• Objects can be moved, resized, rotated and duplicated
	• Alignment grids and resize handles can be used to help improve consistency between objects
	• Each object creates a new layer in a drawing
	• The order of layers in a drawing can be altered
		Understanding conditions can be used in programming.
		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*
		
		• A condition can only be true or false
		
		• A count-controlled loop:
		    ○ Contains a condition
		    ○ Will stop when a condition is met
		    ○ Will complete a cycle before it stops
		• Selection can be used to branch the flow of a program
		• A loop can be used to repeatedly check whether a condition has been met

Subject Discipline (how)	• Create graphical objects on a computer screen • Add and remove objects, including shapes, lines and text • Drag an object on a page • Select, delete and duplicate objects • Modify objects, including repositioning, rotating, resizing and recolouring • Alter object proportions	• Chose a condition to use in a program • Create a condition-controlled loop • Use a condition in an 'if…then…' statement to start an action • Use selection to switch program flow • Use 'if…then…else…' to switch program flow in one of two ways

	• Select, combine and modify multiple objects • Change the layers of objects	

| Key Vocab | **Vector-** a line with direction and magnitude **Drawing tools-** tools on an application that allow the insertion of shapes and lines **Shapes-** a geometric figure formed by lines **Objects-** something that can be inserted onto a digital document (e.g. shapes, images, text) **Icons-** an image that represents an application, tool or function **Toolbar-** a strip of icons that can be clicked on to perform certain functions **Vector drawing-** a drawing that is made on a computer from simple lines and shapes **Move-** to reposition an object on a document **Resize-** to alter the size of an object **Rotate-** to turn an object around a point **Duplicate-** make an exact copy of an object **Colour-** to alter the colour of an object **Organise–** to arrange objects on a document **Zoom-** magnifying an object on a screen **Alignment grid-** an invisible grid on a document which can help objects be lined up with each other **Handles-** small black blocks located at the corners of objects **Consistency-** objects being the same **Modify-** make changes **Layers-** the different levels at which you can place an object or image file **Front-** the uppermost layer **Back-** the bottom most layer **Order-** the order of the layers **Copy-** make a duplicate of an object **Paste-** insert a duplicate of an object **Group-** to combine two or more objects **Ungroup-** split apart objects that have been grouped **Reuse-** use an object again **Improvement-** to make something better **Evaluate-** to review the positive and negative features of something **Alternatives-** a different way to achieve the same purpose | **Algorithm-** a set of rules followed by a computer. **Condition-** statements that are created to evaluate actions in the program **Conditional statement-** the statement to instruct the program on which decision to make **Count-controlled loop-** a loop that will stop running after a certain number of times. **Design-** a plan or drawing to show the function of objects. **Debugging-** fix a sequence. **False-** the condition is not fulfilled **Implement-** to recognize and use the code written in the program **Input-** data entered into a program **Outcomes-** the result of a program **Program-** a specific set of ordered operations for a computer **Run-** execute a program **Selection-** a program of code is run only if a condition is met **Task-** a unit of programming that an operating system controls **Test-** finding out how effectively something works **True-** a condition is met |