Computing Subject knowledge, discipline and vocabulary Year 5 Summer			
Unit Previous Learning Subject Knowledge (what)	Vector Drawing I can use desktop publishing to create documents, which include images I can create digital paintings I can insert shapes onto digital documents 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 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	Selection in quizzes I can use indefinite loops within a program I can use count-controlled loops within a program I can use count-controlled loops within a program I can create two or more sequences that run concurrently 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 'ifthen' statement to start an action Use selection to switch program flow Use 'ifthenelse' to switch program flow in one of two ways 	

	Select, combine and modify multiple objectsChange 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