COMPUTING LONG TERM PLAN

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
AUTUMN 1	**Computing Systems and Networks – Technology Around Us** To identify technology To identify a computer and its main parts To use a mouse in different ways To use a keyboard to type on the computer To use the keyboard to edit text To create rules for using technology responsibly	**Computing Systems and Networks – IT Around Us** To recognise the uses and features of information technology To identify the uses of information technology in the school and beyond school To explain how information technology helps us To explain how to use information technology safely To recognise that choices are made when using information technology	**Computing Systems and Networks** To explain how digital devices function To identify input and output devices To recognise how digital devices can change the way we work To explain how a computer network can be used to share information To explore how digital devices can be connected To recognise the physical components of a network	**Computing Systems and Networks – The Internet** To describe how networks physically connect to other networks To recognise how networked devices make up the internet To outline how websites can be shared via the World Wide Web (WWW) To describe how content can be added and accessed on the World Wide Web (WWW) To recognise how the content of the WWW is created by people To evaluate the consequences of unreliable content	**Computing Systems and Networks – Systems and Searching** To explain that computers can be connected together to form systems To recognise the role of computer systems in our lives To experiment with search engines To describe how search engines select results To explain how search results are ranked To recognise why the order of results is important, and to whom	**Computing Systems and Networks – Communication and Collaboration** To explain the importance of internet addresses To recognise how data is transferred across the internet To explain how sharing information online can help people to work together To evaluate different ways of working together online To recognise how we communicate using technology To evaluate different methods of online communication
AUTUMN 2	**Creating Media – Digital Painting** To describe what different freehand tools do To use the shape tool and the line tools To make careful choices when painting a digital picture To explain why I chose the tools I used To use a computer on my own to paint a a picture To compare painting a picture on a computer and on paper	**Creating Media – Digital Photography** To use a digital device to take a photograph To make choices when taking a photograph To describe what makes a good photograph To decide how photographs can be improved To use tools and change an image To recognise that photos can be changed	**Creating Media** To explain that animation is a sequence of drawings or photographs To relate animated movement with a sequence of images To plan an animation To identify the need to work consistently and carefully To review and improve an animation To evaulate the impact of adding other media to an animation	**Creating Media – Audio Production** To identify that sound can be recorded To explain that audio recordings can be edited To recognise the different parts of creating a podcast project To apply audio editing skills independently To combine audio to enhance my podcast project To evaluate the effective use of audio	**Creating Media – Video Production** To explain what makes a video effective To identify digital devices that can record video To capture video using a range of techniques To create a storyboard To identify that video can be improved through reshooting and editing To consider the impact of the choices made when making and sharing a video	**Creating Media – Web Page Creation** To review an existing website and consider its structure To plan the features of a web page To consider the ownership and use of images (copyright) To recognise the need to preview pages To outline the need for a navigation path To recognise the implications of linking to content owned by other people

SPRING 1	**Programming A – Moving a Robot** To explain what a given command will do To act out a given word To combine forwards and backwards commands to make a sequence To combine four direction commands to make sequences To plan a simple program To find more than one solution to a problem	**Programming A – Robot Algorithms** To describe a series of instructions as a sequence To explain what happens when we change the order of instructions To use logical reasoning to predict the outcome of a program To explain that programming projects can have code and artwork To design an algorithm To create and debug a program that I have written	**Programming A – Sequencing Sounds** To explore a new programming environment To identify that commands have an outcome To explain that a program has a start To recognise that a sequences of commands can have an order To change the appearance of my project To create a project from a task description	**Programming A – Repetition in Shapes** To identify that accuracy in programming is important To create a program in a text-based language To explain what 'repeat' means To modify a count-controlled loop to produce a given outcome To decompose a task into small steps To create a program that uses count-controlled loops to produce a given outcome	**Programming A – Selection in Physical Computing** To control a simple circuit connected to a computer To write a program that includes count-controlled loops To explain that a loop can stop when a condition is met To explain that a loop can be used to repeatedly check whether a condition has been met To design a physical project that includes selection To create a program that controls a physical computing project	**Programming A – Variables in Games** To define a 'variable' as something that is changeable To explain why a variable is used in a program To choose how to improve a game by using variables To design a project that builds on a given example To use my design to create a project To evaluate my project
SPRING 2	**Data and Information – Grouping Data** To label objects To identify that objects can be counted To describe objects in different ways To count objects with the same properties To compare groups of objects To answer questions about groups of objects	**Data and Information – Pictograms** To recognise that we can count and compare objects using tally charts To recognise that objects can be represented as pictures To create a pictogram To select objects by attribute and make comparisons To recognise that people can be described by attributes To explain that we can present information using a computer	**Data and Information – Branching Databases** To create questions with yes/no answers To identify the attributes needed to collect data about an object To create a branching database To explain why it is helpful for a database to be well structured To plan the structure of a branching database To independently create and identification tool	**Data and Information – Data Logging** To explain that data gathered over time can be used to answer questions To use a digital device to collect data automatically To explain that a data logger collects 'data points' from sensors over time To recognise how a computer can help us analyse data To identify the data needed to answer questions To use data from sensors to answer questions	**Data and Information – Flat File Databases** To use a form to record information To compare paper and computer-based databases To outline how you can answer questions by grouping and then sorting data To explain that tools can be used to select specific data To explain that computer programs can be used to compare data visually To use a real-world database to answer questions	**Data and Information – Introductions to Spreadsheets** To create a data set in a spreadsheet To build a data set in a spreadsheet To explain that formulas can be used to produce calculated data To apply formulas to data To create a spreadsheet to plan an event To choose suitable ways to present data

SUMMER 1	**Creating Media – Digital Writing** To use a computer to write To add and remove text on a computer To identify that the look of text can be changed on a computer To make careful choices when changing text To explain why I used tools that I chose To compare typing on a computer to writing on paper	**Creating Media – Digital Music** To say how music can make us feel To identify that there are patterns in music To experiment with sound using a computer To use a computer to create a musical pattern To create music for a purpose To review and refine our computer work	**Creating Media – Desktop Publishing** To recognise how text and images convey information To recognise that text and layout can be edited To choose appropriate page settings To add content to a desk top publishing publication To consider how different layouts can suit different purposes To consider the benefits of desktop publishing	**Creating Media – Photo Editing** To explain that the composition of digital images can be changed To explain that colours can be changed in digital images To explain how cloning can be used in photo editing To explain that images can be combined To combine images for a purpose To evaluate how changes can improve an image	**Creating Media – Introduction to Vector Graphics** To identify that drawing tools can be used to produce different outcomes To create a vector drawing by combining shapes To use tools to achieve a desired effect To recognise that vector drawings consist of layers To group objects to make them easier to work with To apply what I have learned about vector drawings	**Creating Media – 3D Modelling** To recognise that you can work in three dimensions on a computer To identify that digital 3D objects can be modified To recognise that objects can be combined in a 3D model To create a 3D model for a given purpose To plan my own 3D model To create my own digital 3D model
SUMMER 2	**Programming B – Programming Animations** To choose a command for a given purpose To show that a series of commands can be joined together To identify the effect of changing a value To explain that each sprite has its own instructions To design the parts of a project To use my algorithm to create a program	**Programming B – Programming Quizzes** To explain that a sequence of commands has a start To explain that a sequence of commands has an outcome To create a program using a given design To change a given design To create a program using my own design To decide how my project can be improved	**Programming B** – Events and Actions in Programs To explain how a sprite moves in an existing project To create a program to move a sprite in four directions To adapt a program to a new context To develop my program by adding features To identify and fix bugs in a program To design and create a maze-based challenge	**Programming B – Repetition in Games** To develop the use of count-controlled loops in a different programming environment To explain that in programming there are infinite loops and count controlled loops To develop a design that includes two or more loops which run at the same time To modify an infinite loop in a given program To design a project that includes repetition To create a project that includes repetition	**Programming B – Selection in Quizzes** To explain how selection is used in computer programs To relate that a conditional statement connects a condition to an outcome To explain how selection directs the flow of a program To design a program which uses selection To create a program which uses selection To evaluate my program	**Programming B – Sensing Movement** To create a program to run on a controllable device To explain that selection can control the flow of a program To update a variable with a user input To use a conditional statement to compare a variable to a value To design a project that uses inputs and outputs on a controllable device To develop a program to use inputs and outputs on a controllable device