Computing Objectives by Strand

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computing systems and networks	-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 a computer -To use the keyboard to edit text -To create rules for using technology responsibly	-To recognise the uses and features of information technology -To identify the uses of information technology in the school -To identify information technology 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	-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	-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	-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	-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
Creating media	-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 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 to change an image	-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 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 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 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 use a computer on my own to paint a picture -To compare painting a picture on a computer and on paper -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 compare typing on a computer to writing on paper	-To recognise that photos can be changed -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	-To review and improve an animation -To evaluate the impact of adding other media to an animation -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 desktop publishing publication -To consider how different layouts can suit different purposes -To consider the benefits of desktop publishing	-To combine audio to enhance my podcast project -To evaluate the effective use of audio -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	-To consider the impact of the choices made when making and sharing a video -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	-To recognise the implications of linking to content owned by other people -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
Programming A	-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	-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 explore a new programming environment -To identify that commands have an outcome -To explain that a program has a start -To recognise that a sequence of commands can have an order -To change the appearance of my project -To create a project from a task description	-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-	-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 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

		-To create and debug a program that I have written		controlled loops to produce a given outcome	-To design a physical project that includes selection -To create a program that controls a physical computing project	
Programming B	-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	-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	-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	-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	-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	-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
Data and information	-To label objects -To identify that objects can be counted -To describe objects in different ways -To count objects with the same properties	-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 create questions with yes/no answers -To identify the attributes needed to collect data about an object -To create a branching database	-To explain that data gathered over time can be used to answer questions -To use a digital device to collect data automatically	-To use a form to record information -To compare paper and computer-based databases -To outline how you can answer questions by	-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 compare groups of objects -To answer questions about groups of objects	-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	-To explain why it is helpful for a database to be well structured -To plan the structure of a branching database -To independently create an identification tool	-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 "	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	-To apply formulas to data -To create a spreadsheet to plan an event -To choose suitable ways to present data