KS2 Computing Progression of Knowledge and Skills

Unit	Year 3	Year 4	Year 5	Year 6
Programming	-To explore a new programming environment	-To identify that accuracy in programming is important	-To control a simple circuit connected to a computer	-To define a 'variable' as something that is changeable
	-To identify that commands have an outcome	-To create a program in a text-based language	-To write a program that includes count-controlled loops	-To explain why a variable is used in a program
	-To explain that a program has a start	-To explain what 'repeat' means	-To explain that a loop can stop when a condition is met	-To choose how to improve a game by using variables
	-To recognise that a sequence of commands can have an order	-To modify a count-controlled loop to produce a given outcome	-To explain that a loop can be used to repeatedly check whether a condition has been met	-To design a project that builds on a given example
	-To change the appearance of my project	-To decompose a task into small steps	-To design a physical project that includes selection	-To use my design to create a project
	-To create a project from a task description	-To create a program that uses count-controlled loops to produce a given outcome	-To create a program that controls a physical computing project	-To evaluate my project
	-To explain how a sprite moves in an existing project	-To develop the use of count-controlled loops in a different programming environment	-To explain how selection is used in computer programs	-To create a program to run on a controllable device
	-To create a program to move a sprite in four directions	-To explain that in programming there are infinite loops and count controlled loops	-To relate that a conditional statement connects a condition to an outcome	-To explain that selection can control the flow of a program

KS2 Computing Progression of Knowledge and Skills

	-To adapt a program to a new context	-To develop a design that includes two or more loops which run at the same time	-To explain how selection directs the flow of a program	-To update a variable with a user input
	-To develop my program by adding features	-To modify an infinite loop in a given program	-To design a program which uses selection	-To use a conditional statement to compare a variable to a value
	-To identify and fix bugs in a program	-To design a project that includes repetition	-To create a program which uses selection	-To design a project that uses inputs and outputs on a controllable device
	-To design and create a maze-based challenge	-To create a project that includes repetition	-To evaluate my program	-To develop a program to use inputs and outputs on a controllable device
Computing systems and networks	-To explain how digital devices function	-To describe how networks physically connect to other networks	-To explain that computers can be connected together to form systems	-To explain the importance of internet addresses
	-To identify input and output devices	-To recognise how networked devices make up the internet	-To recognise the role of computer systems in our lives	-To recognise how data is transferred across the internet
	-To recognise how digital devices can change the way we work	-To outline how websites can be shared via the World Wide Web (WWW)	-To experiment with search engines	-To explain how sharing information online can help people to work together
	-To explain how a computer network can be used to share information	-To describe how content can be added and accessed on the World Wide Web (WWW)	-To describe how search engines select results	-To evaluate different ways of working together online
	-To explore how digital devices can be connected	-To recognise how the content of the WWW is created by people	-To explain how search results are ranked	-To recognise how we communicate using technology

KS2 Computing Progression of Knowledge and Skills

	-To recognise the physical components of a network	-To evaluate the consequences of unreliable content	-To recognise why the order of results is important, and to whom	-To evaluate different methods of online communication
Creating media	-To explain that animation is a sequence of drawings or photographs	-To identify that sound can be recorded	-To explain what makes a video effective	-To review an existing website and consider its structure
	-To relate animated movement with a sequence of images	-To explain that audio recordings can be edited	-To identify digital devices that can record video	-To plan the features of a web page
	-To plan an animation	-To recognise the different parts of creating a podcast project	-To capture video using a range of techniques	-To consider the ownership and use of images (copyright)
	-To identify the need to work consistently and carefully	-To apply audio editing skills independently	-To create a storyboard	-To recognise the need to preview pages
	-To review and improve an animation	-To combine audio to enhance my podcast project	-To identify that video can be improved through reshooting and editing	-To outline the need for a navigation path
	-To evaluate the impact of adding other media to an animation	-To evaluate the effective use of audio	-To consider the impact of the choices made when making and sharing a video	-To recognise the implications of linking to content owned by other people
	-To recognise how text and images convey information	-To explain that the composition of digital images can be changed	-To identify that drawing tools can be used to produce different outcomes	-To recognise that you can work in three dimensions on a computer
	-To recognise that text and layout can be edited	-To explain that colours can be changed in digital images	-To create a vector drawing by combining shapes	-To identify that digital 3D objects can be modified

KS2 Computing Progression of Knowledge and Skills

	-To choose appropriate page settings	-To explain how cloning can be used in photo editing	-To use tools to achieve a desired effect	-To recognise that objects can be combined in a 3D model
	-To add content to a desktop publishing publication	-To explain that images can be combined	-To recognise that vector drawings consist of layers	-To create a 3D model for a given purpose
	-To consider how different layouts can suit different purposes	-To combine images for a purpose	-To group objects to make them easier to work with	-To plan my own 3D model
	-To consider the benefits of desktop publishing	-To evaluate how changes can improve an image	-To apply what I have learned about vector drawings	-To create my own digital 3D model
Data and information	-To create questions with yes/no answers	-To explain that data gathered over time can be used to answer questions	-To use a form to record information	-To create a data set in a spreadsheet
	-To identify the attributes needed to collect data about an object	-To use a digital device to collect data automatically	-To compare paper and computer-based databases	-To build a data set in a spreadsheet
	-To create a branching database	-To explain that a data logger collects 'data points' from sensors over time	-To outline how you can answer questions by grouping and then sorting data	-To explain that formulas can be used to produce calculated data
	-To explain why it is helpful for a database to be well structured	-To recognise how a computer can help us analyse data	-To explain that tools can be used to select specific data	-To apply formulas to data
	-To plan the structure of a branching database	-To identify the data needed to answer questions	-To explain that computer programs can be used to compare data visually	-To create a spreadsheet to plan an event

KS2 Computing Progression of Knowledge and Skills

	-To independently create an identification tool	-To use data from sensors to answer questions	-To use a real-world database to answer questions	-To choose suitable ways to present data