Progression map showing key skills to be taught over the curriculum cycle

Area of learning	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computing systems and networks	Observe technology around us	I know what a computer is and can complete basic operations	I know how computers and information technology can be used	I know how computer networks work and can identify the main components	I know what the internet and World Wide Web are and how they are created	I know what search engines do and how they operate	I know how to compare and evaluate methods of online communication
Creating media	Know how to operate simple equipment and show skill in this.	I know how to use tools on a computer to create an image I know how to use tools on a computer to edit text	I know how to take and make changes to a digital image I know how to use ICT to create a musical pattern	I know how to create a simple animation using stop motion technology I know how to use a desktop publishing tool to create content	I know how to create and edit audio I know how to manipulate digital images for a purpose	I know how to create, edit and evaluate video content I know how to create digital images using vector graphics	I know how to create and edit and web page I can create and analyse 3D models on a computer or tablet
Programming	Complete a simple program on a computer	I know how to program a simple robot to move in a desired manner I know how to use commands to create a simple program on a computer or tablet	I know how to construct and debug a sequence of commands I know how to create a program for a specific purpose	I know how to use common programming tools to create animation I know how to create and debug programs with multiple commands	I know how to use the repeat command effectively in programs I know how to create and use count controlled and infinite loops in programs	I know how to create a computer program using loops that controls a physical object I know how create a computer program using selection based on conditions	I know how to use variables in computer programs I know how to create a program using inputs and outputs on a controllable device

Data and information	Use an app and a website appropriately	I know how to group data based on properties	I know how to present data effectively using a computer	I know how to use branching databases to organise data	I know how to use information technology to collect and analyse data	I know how to sort data and present findings from a database	I know how to use formulas to perform calculations
E safety	Smartie the Penguin Know that you should ask for help, not everything on the internet is true and that you should talk to an adult if you are worried	Use passwords to access online resources and keep them private Show awareness that information online can be seen by others Know there are rules to keep them safe when accessing content online Know there are rules concerning staying safe online Begin to understand they need to	Be aware of the school rules for accessing the internet Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies Use passwords to access resources and know why they need to keep them private Know the school e-safety rules and know how to respond to inappropriate content Show an awareness that information including images online can be shared at home, school and worldwide Know private information should never be given out on the internet	Know what to do when inappropriate material appears on the screen Explain that passwords are used to log in to resources on the web and why these should be kept private Understand there is an accepted behaviour when communicating in the real or virtual world Be knowledgeable about the school e-safety rules Understand that images can	Know what to do when inappropriate material appears on the screen and think about the implications at home Demonstrate an understanding of the rules and possible implications of e-safety when collaborating on projects Consolidate the school's e-safety rules Discuss privacy in terms of using and sharing digital images Know that personal data is	Use technology safely, respectfully and responsibly Be knowledgeable about the school's e-safety policy and reflect on its relevance to access to home and mobile devices Understand ways of preventing and responding to cyberbullying Understand the importance of privacy when online and that certain information should not be	Use technology safely, respectfully and responsibly Understand the responsibility of publishing on the Internet in terms of personal safety, appropriateness and relevance of content Follow the schools e-safety policy and help younger pupils to do so. Be aware of the e-safety rules when working from home and on mobile devices Understand the need for a positive online profile in order to be a responsible member of a connected community Be confident in all aspects of the school's e-safety rules

		use a password to access different things on the computer, tablet or online	Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies Know why there are e-safety rules and that these apply to all connected devices Be familiar with the school's e-safety rules Understand they might use different passwords to access different systems (school network, home computer, online resources) and they should keep them private	be shared and viewed online and consider the privacy of themselves and others Know data is collected and used in the world around them, and understand the need for keeping personal data safe	stored on systems; understand the need to be accurate and keep it private	publicly available Know that there are risks when accessing resources on the Internet Understand their responsibility towards copyright issues Understand that personal data is collected by others for a variety of purposes and it needs to be accurate and secure	

Medium term plan showing objectives taught in each year group

Year A	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Class 2	• 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	• 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 recognise that photos can be changed	• 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 the programming projects can have code and artwork • To design an algorithm • To create and debug a program I have written	• 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	• To say how music can make us feel • To identify there are patterns in music • To experiment with sounds using computer • To use a computer to create a musical pattern • To create music for a purpose • To review and refine out computer work	• 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

	information technology					
Class 3	• 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 • To describe how content can be added and accessed on the World Wide Web • To recognise how the content of the WWW is created by people • To evaluate the consequences of unreliable content	• 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	• 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	• 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 use analyse data • To identify the data need to answer questions • To use data from sensors to answer questions	• To explain that that 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 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

Class 4	• To explain the importance on 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	• 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	• 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 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	• 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	• 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

Year B	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Class 2	• 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 describe what different freehand tools do • To use the shape and line tool • 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 picture • To compare a picture on a computer and on paper	• 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 simple program • To find more than one solution to a problem	• To label objects • To identify objects that 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	• 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 the tools I chose • To compare typing on a computer to writing on paper	• 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
Class 3	• To explain how digital devices function • To identify input and output devices • To recognise how digital	• To explain that animation is a sequence of drawings or photographs • To relate animated movement with	• To explore a new programming environment • To identify that commands have an outcome	• To create questions with yes/no answers • To identify the attributes needed to collect data about an object	• To recognise how text and images convey information • To recognise that text and layout can be edited	• To explain how a sprite moves in an existing project • To create a program to move a sprite in four directions

	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 system	a sequence of images • To plan an animation • To identify the need to works consistently and carefully • To review and improve an animation • To evaluate the impact of adding other media to an animation	• 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 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 an identification tool	• To choose appropriate page settings • To add content to a desktop publishing publication • To consider how different layouts and suit different purposes • To consider the benefits of desktop publishing	• To adapt a program to a new contect • To develop my program by adding features • To identify and fix bugs in a program • To design and create a maze-based challenge
Class 4	• 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 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	• 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	• 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	• 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 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 explain how search results are ranked • To recognise why the order of results is important, and to whom	reshooting and editing • To consider the impact of the choices made when making and sharing a video	a condition has been met • To design a physical project the includes selection • To create a program that controls a physical computing project	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 groups objects to make them easier to work with • To apply what I've learned about vector drawings	• To design a program which uses selection • To create a program which uses selection • To evaluate my program