Year	Autumn 1 Programming A	Autumn 2 Computing systems and networks	Spring 1 Creating media	Spring 2 Data and information	Summer 1 Creating media	Summer 2 Programming B
	Moving a robot Writing short algorithms and programs for floor robots, and predicting program outcomes.	Technology around us Recognising technology in school and using it responsibly.	Digital painting Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally.	Grouping data Exploring object labels, then using them to sort and group objects by properties.	Digital writing Using a computer to create and format text, before comparing to writing non-digitally.	Programming animations Designing and programming the movement of a character on screen to tell stories.
	-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 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 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 picture -To compare painting a picture on a computer and on paper	-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	-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 that 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

Year	Autumn 1 Computing systems and networks	Autumn 2 Data and information	Spring 1 Programming A	Spring 2 Creating media	Summer 1 Creating media	Summer 2 Programming B
Year 2	Information technology around us Identifying IT and how its responsible use improves our world in school and beyond.	Pictograms Collecting data in tally charts and using attributes to organise and present data on a computer	Robot algorithms Creating and debugging programs, and using logical reasoning to make predictions	Digital Photography Capturing and changing digital photographs for different purposes.	Digital music Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.	Programming quizzes Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.
	-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 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 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	-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 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 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

Year	Autumn 1 Computing systems and networks	Autumn 2 Creating media	Spring 1 Programming A	Spring 2 Data and information	Summer 1 Creating media	Summer 2 Programming B
Year 3	Connecting computers Identifying that digital devices have inputs, processes and outputs, and how devices can be connected to make networks.	Desktop publishing Creating documents by modifying text, images and page layouts for a specified purpose	Sequencing sounds Creating sequences in a block-based programming language to make music	Branching databases Building and using branching databases to group objects using yes/no questions	Stop-frame animation Capturing and editing digital still images to produce a stop-frame animation that tells a story.	Events and actions in programs Writing algorithms and programs that use a range of events to trigger sequences of actions
	-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 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 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 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 an identification tool	-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 evaluate the impact of adding other media to an animation	-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

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	Audio Production Capturing and editing audio to produce a podcast, ensuring that copyright is considered	The internet Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.	Repetition in shapes Using a text-based programming language to explore count-controlled loops when drawing shapes	Photo-editing Manipulating digital images and reflecting on the impact of changes and whether the required purpose is fulfilled	Repetition in games Using a bloc-based programming language to explore count-controlled and infinite loops when creating a game	Datalogging Recognising how and why data is collected over time, before using data loggers to carry out an investigation
	-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 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 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 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 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 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 "

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Year 5	Computer systems and search engines Recognising IT systems in the world and how some can enable searching on the internet	Selection in Physical computing Exploring conditions and selection using a programmable microcontroller	Creating Media – Video production Planning, capturing and editing video for a short film	Selection in quizzes Exploring selection in programming to design and code an interactive quiz.	Flat-file databases Using a database to order data and create chars to answer questions	Introduction to vector graphics Creating images in a drawing program by using layers and groups of objects
	-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 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	-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	-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 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	-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

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Year 6	Communication and collaboration Exploring how data is transferred by working collaboratively online.	Introduction to spreadsheets Answering questions by suing spreadsheets to organise and calculate data	3D modelling Planning, developing and evaluating 3D models of physical objects	Variables in games Exploring variables when designing and coding a game	Webpage Creation Designing and creating webpages giving consideration to copyright, aesthetics and navigation	Sensing Movement Designing and coding a project that captures inputs from a physical devise.
	-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	-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 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 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 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

Online Safety

Online safety is taught through out the year through our PSHE curriculum. Additional sessions on online safety are taught in computing around the following themes.

Autumn 1	Media Balance and Well-Being
Autumn 2	Cyberbullying Anti-Bullying week
Spring 1	My Digital Footprint and Identity Safety Internet Day
Spring 2	Privacy and Security
Summer 1	News and Media Literacy
Summer 2	Relationships and Communication