Computing Curriculum Map

Cycle B	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
• Year 1/2	Bee-Bots • To explore a new device • To create a demonstration video • To plan and follow a set of instructions precisely • To program a device • To create a program	Creating digital imagery • To understand and create a sequence of pictures • To take clear photos • To edit photos • To search for and import images • To create a photo collage	Data handling: introduction to data • To represent data in different ways • To use technology to represent data in different ways • To collect and record data • To sort data • To design an invention to gather data	Programming: Scatch Jr • To explore a new application • To create an animation • To use characters as buttons • To follow an algorithm • To plan and use code to create an algorithm	Stop-motion animation • To understand what animation is • To understand what stop motion animation is • To create a stop motion animation • To plan my stop motion animation • To create my stop motion animation	International space station • To understand how computers can help humans survive in space • To create a digital drawing of essential items for life in space • To understand the role of sensors on the ISS • To create an algorithm for growing a plant in space • To interpret data
• Year 3/4	Networks and the internet • To understand what a network is and understand our school network • To understand how information moves around a network and begin to recognise real world networks • To understand how the Internet works and explain a website's journey • To explore the role of routers • To understand the role of packets	Comparison cards • To understand the terminology around databases • To compare paper and computerised databases • To sort, filter and interpret data • To represent data in different ways • To sort data for a purpose	Journey inside a computer • To recognise basic inputs and outputs • To decompose a laptop • To understand the purpose of computer parts • To understand the purpose of computer parts • To decompose a tablet computer	Collaborative learning • To understand that software can be used collaboratively online to work as a team • To understand how to contribute to someone else's work effectively • To understand how to create effective presentations • To understand how to create and share Google Forms • To understand how to use a shared	Investigating weather • To log data taken from online sources within a spreadsheet • To design a weather station • To design an automated machine to respond to sensor data • To understand how weather forecasts are made • To use tablets or digital cameras to present a weather forecast	HTML • To understand and identify examples of HTML tags • To change HTML code for a specific purpose • To change the HTML and CSS to alter the appearance of an object on the web • To understand and explore more complex components of a web page • To alter key elements on a webpage including text and images

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				spreadsheet to explore data		
• Year 5/6	Programming:Music • To tinker with Scratch music elements • To create a program that plays themed music • To plan a soundtrack program • To program a soundtrack • To program music for a specific purpose	Stop motion animation • To understand what animation is • To understand what stop motion animation is • To plan my stop motion video, thinking about the characters I want to use • To create a stop motion animation • To edit and assess my stop motion animation	Search engines • To understand what a search engine is and how to use is • To be aware that not everything online is true • To search effectively • To create an informative poster • To understand how search engines work	Big data 1 • To identify how barcodes and QR codes work • To recognise the uses of RFID • To input and analyse real-world data • To analyse and evaluate data	Big data 2 • To explain how data can be safely transferred • To investigate the data usage of online activities • To identify how data analysis can improve city life • To design a system for turning a school into a smart school • To present ideas for turning a school into a smart school	Introduction to Python • To tinker with a new piece of software • To understand nested loops • To understand basic Python commands • To use loops when programming • To understand the use of random numbers

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Cycle A	• Autumn 1	• Autumn 2	• Spring 1	• Spring 2	• Summer 1	• Summer 2
• Y1-2	Improving mouse skills • To log into a computer and access a website • To develop mouse skills • To use mouse skills to draw and edit shapes • To draw a scene from a story using digital tools • To create a self-portrait using digital techniques	Algorithms unplugged • To understand what an algorithm is • To follow instructions precisely to carry out an action • To understand that computers and devices around us use inputs and outputs • To understand and be able to explain what decomposition is • To know how to debug an algorithm	Rocket to the Moon • To recognise that digital content can be represented in many forms • To design a rocket • To sequence a set of instructions • To build a rocket • To add data to a table or spreadsheet	What is a computer? • To recognise the parts of a computer • To recognise how technology is controlled • To recognise technology • To create a design for an invention • To understand the role of computers	Algorithms and debugging • To decompose a game to predict the algorithms that are used • To understand that computers can use algorithms to make predictions (machine learning) • To plan algorithms that will solve problems • To understand what abstraction is • To understand what debugging is	Word processing skills • To begin to learn to touch type • To understand how to use a word processor • To understand how to add images to a text document • To create a poetry book using sources from the internet • To understand what happens to information posted online
• Y3-4	Emailing • To understand what email is used for and to send an email • To edit email content and add an attachment	Programming Scratch • To explore a programming application	Video trailers • To plan a book trailer • To take photos or videos to tell a story	Website design • To explore the features of Google Sites to learn how to create content for a web page	Further coding with Scratch • To recall the key features of Scratch • To understand how a Scratch game works	Computational thinking • To understand that computational thinking is made up

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	• To understand the importance of being kind online and what this looks like • To understand that cyberbullying involves being unkind online • To understand that not all emails are genuine	• To use repetition (a loop) in a program • To program an animation • To program a story • To program a game	• To edit a video • To add text and transitions to a video • To evaluate video editing	• To plan content for a web page as a collaborative online piece of work • To create a web page as part of a collaborative class website • To plan and create a website • To create a website and evaluate its success	by using decomposition to identify key features • To understand what a variable is and how to make one • To understand how to make a variable in Scratch • To use knowledge of how variables work to create a quiz	of four key strands • To understand what decomposition is and how to apply it to solve problems • To understand what pattern recognition and abstraction mean • To understand how to create an algorithm and what it can be used for • To combine computational thinking skills to solve a problem
• Y 5/6	Micro:bit • To tinker with a new piece of software • To program an animation • To recognise coding structures • To create a program • To create a program	Mars Rover 1 • To identify how and why data is collected from space • To read and calculate numbers using binary code • To identify the computer architecture of the Mars Rovers • To use simple operations to calculate bit patterns	Mars Rover 2 • To understand how bit patterns represent images as pixels • To explain how the data for digital images can be compressed • To identify and explain the 'fetch, decode, execute' cycle	Bletchley Park • To understand that there are lots of different types of secret codes • To understand the importance of having a secure password • To understand the importance of Bletchley Park to the World War II war effort • To understand about some of the historical	History of computers • To record, edit and add sound effects to a radio play • To understand how computers have changed and the impact this has had on the modern world • To research one of the computers that changed the world and present	Inventing a product To design an electronic product • To code and debug a program • To create a website • To create and edit a video • To understand the techniques used in advertising a product

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		• To represent binary as text	• To create a safe online profile and tinker with 3D design software • To modify the design of a 3D object using CAD software	figures that contributed to technological advances in computing • To research and present information about historical figures in computing	information about it to the class • To design a computer of the future	