



Computing Overview

	<i>Aut 1</i>	<i>Aut 2</i>	<i>Spr 1</i>	<i>Spr 2</i>	<i>Sum 1</i>	<i>Sum 2</i>
EYFS		Computing systems and networks	Programming 1 – all about instructions	Computing systems and networks – exploring hardware	Programming bee-bots	Introduction to data
		Investigating the main parts of a computer and learning how the keyboard and mouse are used to control it. Pupils also practise how to log in, log out and navigate simple digital tasks independently.	Developing an understanding of how to receive and give instructions while learning why instructions need to be clear and precise.	Investigating different computer hardware parts and learning how to operate a camera.	Exploring simple programming by experimenting with a Bee-Bot or Blue-Bot and investigating how hardware responds to commands.	Learning how to sort and categorise data and an introduction to branching databases and pictograms.
1	Computing systems and networks	Algorithms unplugged	Skills showcase	Programming 2	Data handling	Creating media
	Developing an understanding of how to log in and navigate around a computer while building mouse control skills, including clicking, dragging and dropping. Pupils apply these skills to create digital artwork inspired by Kandinsky and produce their own self-portraits.	Investigating algorithms, decomposition and debugging through unplugged activities linked to familiar contexts such as dressing up and making a sandwich. Pupils apply their understanding by creating and correcting precise instructions to achieve specific outcomes.	Developing keyboard and mouse skills through designing, building and testing digital projects using a range of software tools. Pupils create a digital list of materials, use drawing software to produce designs and record data to support and evaluate their work.	Exploring programming through the use of a Bee-Bot, including its functions and how commands can be used to control movement. Pupils apply their understanding by creating a world for a Bee-Bot to explore, producing a video about its capabilities and programming Bee-Bots to tell a story.	Exploring what data is, how it can be represented and why it is useful in everyday life and computing. Pupils investigate different ways data can be gathered and recorded by humans and computers before applying their understanding to organise and interpret information.	Developing creativity and imagination through planning a miniature adventure story and capturing it using photography techniques. Pupils enhance photographs using editing tools, combine images from different sources and apply their skills to create a high-quality photo collage showcase.
2	Computing systems and networks	Algorithms and debugging	Word processing	Programming – make code	Stop motion – using tablets	Data handling
	Exploring what a computer is by identifying different inputs and outputs and understanding how computers process information. Pupils investigate how computers are used in the wider world before designing their own computerised invention.	Developing an understanding of what algorithms are, how to program them and how they can be developed to be more efficient through a range of unplugged and plugged-in activities.	Developing word processing skills by learning touch typing, using keyboard shortcuts and exploring how to stay safe online. Pupils apply formatting and editing tools, including bold, italics and font colour, before importing images to	Exploring how to use 'MakeCode' by investigating what different programming blocks do and how they control outcomes. Pupils apply their understanding by planning, building and testing their own program.	Creating simple animations, storyboarding creative ideas and decomposing a story into small action steps.	Exploring how astronauts survive on the International Space Station, including how data is collected, used and displayed through sensor systems and monitoring equipment. Pupils also consider habitable planets, how people live and work in



			create and improve their own digital documents.			space and how space exploration can benefit life on Earth.
3	Computing systems and networks	Programming scratch	Computing systems and networks - emailing	Journey inside a computer	Video trailers – using iPads	Data handling
	Developing an understanding of computer networks by learning how devices communicate and share information. Pupils investigate network components and explore real-world examples to apply their understanding of how information is transferred between connected devices.	Investigating programming through Scratch by creating animations and learning key coding concepts. Pupils apply their understanding by testing, debugging and evaluating their work to improve and refine digital projects.	Learning how to send emails with attachments and understanding the importance of using them safely and responsibly. Pupils also reflect on the content of digital communications and recognise the importance of making responsible decisions as digital citizens.	Exploring how computers work by role-playing different computer parts and creating paper models of computer systems. Pupils also investigate similarities and differences between devices to develop their understanding of computer functions and components.	Developing digital video skills through creating trailers that use special effects, transitions and editing techniques. Pupils apply their understanding by planning, producing and refining video content for a book trailer.	Exploring the concepts of sorting and filtering by learning about records, fields and data. Pupils apply their understanding by sorting and filtering data to plan a holiday.
4	Computing systems and networks	Programming further coding with scratch	Creating media – website design	Skills showcase - HTML	Computational thinking	Data handling
	Developing collaborative working skills through using online software to create and share digital content. Pupils apply their understanding by contributing to shared documents, creating presentations and forms and using shared spreadsheets to organise and explore data.	Investigating programming through Scratch by creating animations and learning key coding concepts. Pupils apply their understanding by testing, debugging and evaluating their work to improve and refine digital projects.	Exploring the features of Google Sites and learning how websites are planned, created and organised for different audiences and purposes. Pupils collaborate to design web pages, create their own websites and evaluate how effectively their content communicates information.	Investigating how websites are created by exploring HTML and CSS code and learning how markup language controls the layout and appearance of web pages. Pupils edit text, images and page design before remixing and adapting a live website using their coding skills.	Developing computational thinking skills through decomposition, pattern recognition, abstraction and algorithm design to solve problems. Pupils apply these approaches by creating and evaluating a Scratch project, reflecting on how computational thinking improves digital solutions and programming outcomes.	Investigating how weather data is gathered, recorded and used to create forecasts through researching and using spreadsheets to organise information. Pupils design a weather station, collect and present data, and create their own weather forecast using tablets or digital cameras.
5	Computing systems and networks	Programming - music	Data handling – mars rover 1	Programming - BBC micro:bit	Stop motion animation	Skills showcase - mars rover 2
	Investigating how search engines work and developing effective searching skills to find relevant and accurate information online. Pupils evaluate the reliability of online content, explore how web crawlers organise information and apply their understanding by creating an informative poster.	Developing programming and music skills through creating digital sounds, beats and melodies using coding techniques. Pupils apply their understanding by using nested loops to create rhythms and compose a soundtrack with layered musical patterns.	Exploring how the Mars Rover collects, stores and transmits data back to Earth using binary code and computer systems. Pupils investigate computer architecture, learn how binary represents different types of data and apply their understanding to read and interpret binary numbers and text.	Investigating how to program the BBC micro:bit by creating interactive projects using sensors, variables and conditional statements. Pupils experiment with variables, apply conditional statements and develop an understanding of how coding brings digital devices to life.	Developing an understanding of animation by exploring stop-motion techniques and how moving images are created. Pupils plan, create and edit their own stop-motion project, applying digital skills to produce a finished animation.	Investigating how computers represent and process digital images through pixels, binary code and image compression. Pupils apply their understanding by creating pixel artwork, experimenting with 3D design tools and designing a functional Mars Rover tyre using Tinkercad.



6	Computing systems and networks – history of computers	Computing systems and networks- exploring AI	Programming – intro to python	Data handling 1 – big data 1	Data handling – big data 2	Skills showcase – inventing a product
	Investigating secret codes, secure passwords and the history of computers to understand how technology and cybersecurity have developed over time. Pupils research past computers before designing a computer of the future and creating an audio advert to present their ideas.	Exploring what AI is and how it generates text, images and code. Pupils learn about creating and refining prompts to improve AI responses while also considering the ethical implications of AI and its potential to replace human roles.	Exploring programming through Logo and Python while learning how loops, nested loops and random numbers control digital outcomes. Pupils experiment with coding techniques and apply their understanding to create algorithmic artwork inspired by Piet Mondrian.	Exploring how data is transmitted and used in everyday technology through barcodes, QR codes, infrared communication and RFID systems. Pupils investigate real-world applications of digital data before collecting, analysing and evaluating transport and tracking information.	Investigating how data is transferred, collected and used in connected technologies, including the Internet of Things and smart systems. Pupils explore how data can improve everyday life, then design and present ideas for transforming a school into a smart school.	Designing an electronic product using coding, debugging and computer-aided design to understand how digital technologies support product development. Pupils also create a website and video advert to present and promote their product ideas.