



# Curriculum overview for parents and carers

## Computing

Summary of key Computing learning for Reception to Year 6.

EYFS: Reception

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<b>Autumn 1</b>	<b>Computing through continuous provision</b> Exploring different forms of technology in the children's daily classroom play.	<b>Autumn 2</b>	<b>Computing systems and networks</b>
			<b>Using a computer</b> Discovering the main parts of a computer and how to use the keyboard and mouse. Learning how to log in and out.
	<b>Programming 1</b>		<b>Computing systems and networks</b>
<b>Spring 1</b>	<b>All about instructions</b> Receiving and giving instructions and understanding the importance of precise instructions.	<b>Spring 2</b>	<b>Exploring hardware</b> Tinkering and exploring with different computer hardware and learning to operate a camera.
	<b>Programming 2</b>		<b>Data handling</b>
<b>Summer 1</b>	<b>Programming Bee-Bots</b> Learning about directions, experimenting with programming a Bee-Bot/Blue-Bot and tinkering with hardware.	<b>Summer 2</b>	<b>Introduction to data</b> Sorting and categorising data and introducing branching databases and pictograms.

		Year 1	
<b>Autumn 1</b>	<b>Computing systems and networks</b>	<b>Autumn 2</b>	<b>Programming 1</b>
	<p><b>Improving mouse skills</b> Learning how to login and navigate around a computer; developing mouse skills; learning how to drag, drop, click and control a cursor to create works of art</p>		<p><b>Algorithms unplugged</b> Identifying where algorithms, decomposition and debugging can be found in relatable, familiar contexts. Following directions, learning why instructions need to be specific.</p>
<b>Spring 1</b>	<b>Skills showcase</b>	<b>Spring 2</b>	<b>Programming 2</b>
	<p><b>Rocket to the moon</b> Developing keyboard and mouse skills through designing, building and testing. Creating a digital list of materials, using drawing software and recording data.</p>		<p><b>Programming Bee-Bots</b> Introducing programming through the use of a robot (Bee-Bot) and exploring its functions.</p>
<b>Summer 1</b>	<b>Creating media</b>	<b>Summer 2</b>	<b>Data handling</b>
	<p><b>Digital imagery</b> Taking and editing photos, searching for and adding images to a project.</p>		<p><b>Introduction to data</b> Learning what data is and the different ways it can be represented. Learning why data is useful and the ways it can be gathered and recorded.</p>
<b>Online safety</b>	<b>Online safety</b>		
	<p><b>Online safety Y1 (5 lessons)</b> Learning how to stay safe online and how to manage feelings and emotions when someone or something has upset us.</p>		

		Year 2	
Autumn 1	Computing systems and networks	Autumn 2	Programming 1
	<p><b>What is a computer?</b> Exploring what a computer is by identifying how inputs and outputs work and how computers are used in the wider world. Designing a computerised invention.</p>		<p><b>Algorithms and debugging</b> Developing an understanding of; what algorithms are, how to program them and how they can be developed to be more efficient including the introduction of loops.</p>
Spring 1	Computing systems and networks	Spring 2	Programming 2
	<p><b>Word processing</b> Developing touch typing skills, learning keyboard shortcuts and simple editing tools.</p>		<p><b>ScratchJr</b> Exploring what 'blocks' do' by carrying out an informative cycle of predict &gt; test &gt; review. Programming a familiar story and make a musical instrument.</p>
Summer 1	Creating media	Summer 2	Data handling
	<p><b>Stop Motion</b> Learning how to create simple animations from storyboarding creative ideas.</p>		<p><b>International Space Station</b> Learning how data is collected, used and displayed and the scientific learning of the conditions needed for plants and humans, to survive.</p>
Online safety	Online safety		
	<p><b>Online safety Y2</b> Learning: how to keep information safe and private online; who we should ask before sharing things online and how to give, or deny permission online.</p>		

Year 3			
<b>Autumn 1</b>	<b>Computing systems and networks</b>	<b>Autumn 2</b>	<b>Programming</b>
	<p><b>Networks</b> Learning what a network is and how devices communicate and share information.</p>		<p><b>Scratch</b> Exploring the programme Scratch, following the predict &gt; test &gt; review cycle. Using 'loops' and programming an animation, story and game.</p>
<b>Spring 1</b>	<b>Computing systems and networks</b>	<b>Spring 2</b>	<b>Computing systems and networks</b>
	<p><b>Emailing</b> Sending emails with attachments and understanding what cyberbullying is.</p>		<p><b>Journey inside a computer</b> Assuming the role of computer parts and creating paper versions of computers to consolidate understanding of how a computer works.</p>
<b>Summer 1</b>	<b>Creating media</b>	<b>Summer 2</b>	<b>Data handling</b>
	<p><b>Video trailers</b> Developing digital video skills to create trailers, with special effects and transitions.</p>		<p><b>Comparison cards databases</b> Learning about records, fields and data and sorting and filtering data.</p>
<b>Online safety</b>	<b>Online safety</b>		
	<p><b>Online safety Y3</b> Learning the difference between fact, opinion and belief and how to deal with upsetting online content. Knowing how to protect personal information online.</p>		

Year 4			
	<b>Computing systems and networks</b>		<b>Programming</b>
<b>Autumn 1</b>	<p><b>Collaborative learning</b> Learning how to work collaboratively and exploring a range of collaborative tools.</p>	<b>Autumn 2</b>	<p><b>Further coding with Scratch</b> Revisiting the key features of the programme Scratch and beginning to use 'variables' in code scripts.</p>
	<b>Computing systems and networks</b>		<b>Computing systems and networks</b>
<b>Spring 1</b>	<p><b>Website design</b> Learning how web pages and sites are created and how to embed media and links.</p>	<b>Spring 2</b>	<p><b>HTML</b> Learning about the markup language behind a webpage; becoming familiar with HTML tags, changing HTML and CSS code to alter images and 'remixing' a live website.</p>
	<b>Creating media</b>		<b>Data handling</b>
<b>Summer 1</b>	<p><b>Computational thinking</b> Solving problems effectively using the four areas of abstraction, algorithm design, decomposition and pattern recognition.</p>	<b>Summer 2</b>	<p><b>Investigating weather</b> Researching and storing data on spreadsheets and designing a weather station.</p>
	<b>Online safety</b>		
<b>Online safety</b>	<p><b>Online safety Y4</b> Searching for information and making a judgement about the probable accuracy; recognising adverts and pop-ups; understanding that technology can be distracting.</p>		

Year 5			
<b>Autumn 1</b>	<b>Computing systems and networks</b>	<b>Autumn 2</b>	<b>Programming 1</b>
	<p><b>Search engines</b> Learning about how pagerank works and how to identify inaccurate information.</p>		<p><b>Programming music</b> Building-on programming and music skills to create different sounds, beats and melodies which are put to the test with a Battle of the Bands performance!</p>
<b>Spring 1</b>	<b>Data handling</b>	<b>Spring 2</b>	<b>Programming 2</b>
	<p><b>Mars Rover 1</b> Learning about the Mars Rover, exploring how and why it transfers data including instructions, and how messages can be sent using binary code.</p>		<p><b>Micro:bit</b> Creating algorithms and programs that are used in the real world. Using the 'predict, test and evaluate' cycle to create and debug programs with specific aims.</p>
<b>Summer 1</b>	<b>Creating media</b>	<b>Summer 2</b>	<b>Skills showcase</b>
	<p><b>Stop motion animation</b> Creating animations, storyboard ideas and decomposing a story into small parts before putting together to create the illusion of a moving image.</p>		<p><b>Mars Rover 2</b> Exploring how the Mars rover: moves, follows instructions, collects and sends data; understanding how computers work, what data is and how it is transferred.</p>
<b>Online safety</b>	<b>Online safety</b>		
	<p><b>Online safety Y5</b> Learning about app permissions; the positive and negative aspects of online communication; that online information is not always factual; how to deal with online bullying and managing our health and wellbeing.</p>		

Year 6			
<b>Autumn 1</b>	<b>Computing systems and networks</b>	<b>Autumn 2</b>	<b>Programming</b>
	<p><b>Bletchley Park</b> Discovering the history of Bletchley and learning about code breaking and password hacking. Demonstrating digital literacy skills by creating presentations.</p>		<p><b>Intro to Python</b> Using the programming language 'Python' to create designs and art. Learning how to create loops and nested loops to make their code more efficient.</p>
<b>Spring 1</b>	<b>Data handling</b>	<b>Spring 2</b>	<b>Creating media</b>
	<p><b>Big data 1</b> Identifying how barcodes and QR codes work. Learning how infrared waves are used for the transmission of data while recognising the uses of RFID.</p>		<p><b>History of Computers</b> Writing, recording and editing radio plays set during WWII, learning about how computers have evolved.</p>
<b>Summer 1</b>	<b>Data handling</b>	<b>Summer 2</b>	<b>Skills showcase</b>
	<p><b>Big data 2</b> Further developing understanding of how networks and the Internet are able to share information. Learning how big data can be used to design smart buildings.</p>		<p><b>Inventing a product</b> Designing a product, pupils: evaluate, adapt and debug code to make it suitable for their needs and designing products in CAD and creating a website and video.</p>
<b>Online safety</b>	<b>Online safety</b>		
	<p><b>Online safety Y6</b> Learning to deal with issues online; about the impact and consequences of sharing information online; how to develop a positive online reputation; combating and dealing with online bullying and protective passwords.</p>		