

## Computing Long Term Plan

*Ideally, computing will be taught termly with a session each time for internet safety. If this is not possible boxes which are shaded grey, show units which can be omitted, and the National curriculum will still be covered.*

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
EFYS		<b>Programming</b> <b>(1) All about instructions</b> The children learn to receive and give instructions and understand the importance of precise instructions.	<b>Programming</b> <b>(2) Programming Beebots</b> Children learn about directions, experiment with programming a Bee-bot/Blue-bot and tinker with hardware	<b>Data Handling</b> <b>Introduction to data</b> Children sort and categorise data and are introduced to branching databases and pictograms.	<b>Computer system &amp; Networks</b> <b>Exploring Hardware</b> Tinkering and exploring with different computer hardware and learning to operate a camera.	<b>Computer system &amp; Networks</b> <b>Using a computer</b> Learning about the main parts of a computer and how to use the keyboard and mouse. Learning how to log in and out.
Year 1	<b>Programming</b> <b>(1) Algorithms unplugged</b> Algorithms, decomposition and debugging are made relatable to familiar contexts, following directions, learning why instructions need to be specific.	<b>Programming</b> <b>(2) Programming Beebots</b> Introducing programming through the use of a Bee-Bot and exploring its functions.	<b>Computer system &amp; Networks</b> <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	<b>Creating Media</b> <b>Digital Imagery</b> Taking and editing photos, searching for and adding images to a project.	<b>Data Handling</b> <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.	<b>Skills Showcase</b> <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.
Year 2	<b>Computer system &amp; Networks</b> <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 to design their own computerised invention.	<b>Programming</b> <b>(1) Algorithms and debugging</b> Exploring what a computer is by identifying how inputs and outputs work and how computers are used in the wider world to design their own computerised invention.	<b>Computer system &amp; Networks</b> <b>Word Processing</b> Developing touch typing skills, learning keyboard shortcuts and simple editing tools.	<b>Programming</b> <b>(2) Scratch Jr</b> Exploring what 'blocks' do' by carrying out an informative cycle of predict > test > review. Programming a familiar story and make a musical instrument.	<b>Creating media</b> <b>Stop Motion</b> Learning how to create simple animations from storyboarding creative ideas.	<b>Data Handling</b> <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
Year 3	<b>Computer system &amp; Networks</b> <b>Networks and the internet</b> Learning what a network and how devices communicate and share information.	<b>Programming</b> <b>Scratch</b> Exploring the programme Scratch, following the: predict > test > review cycle. Learning about 'loops' and programming an animation, story and game.	<b>Computer system &amp; Networks</b> <b>Emailing</b> Sending emails with attachments and understanding what cyberbullying is	<b>Computer system &amp; Networks</b> <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.	<b>Creating Media</b> <b>Video Trailers</b> Developing digital video skills to create trailers, with special effects and transitions.	<b>Data Handling</b> <b>Comparison cards databases</b> Learning about records, fields and data and sorting and filtering data.
Year 4	<b>Computer system &amp; Networks</b> <b>Collaborative Learning</b> Learning how to work collaboratively and exploring a range of collaborative tools.	<b>Programming</b> <b>Further Coding with Scratch</b> Revisiting the key features and beginning to use 'variables' in code scripts.	<b>Creating Media</b> <b>Computational thinking</b> Solving problems effectively using the four areas of abstraction, algorithm design, decomposition and pattern recognition.	<b>Computer system &amp; Networks</b> <b>Website design</b> Learning how web pages and sites are created and how to embed media and links.		<b>Data Handling</b> <b>Investigating Weather</b> Researching and storing data on spreadsheets and designing a weather station.
Year 5	<b>Computer system &amp; Networks</b> <b>Search engines</b> Learning about how page rank works and how to identify inaccurate information	<b>Programming</b> <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!	<b>Data Handling</b> <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.	<b>Programming</b> <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.	<b>Creating Media</b> <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.	
Year 6	<b>Data Handling</b> <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.	<b>Programming</b> <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.	<b>Computer system &amp; Networks</b> <b>Bletchley Park</b> Discovering the history of Bletchley and learning about code breaking and password hacking. Demonstrating digital literacy skills by creating presentations.	<b>Creating Media</b> <b>History of Computers</b> Writing, recording and editing radio plays set during WWII, learning about how computers have evolved.		<b>Skills showcase</b> <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.