



Computing Progression at Weeton St Michael's Primary School



CURRICULUM SUBJECT:	Computing	SUBJECT LEADS:	Luke Smith
What are the Y6 end of school end goals?	<p>Programming Skills: Pupils should be able to write, adapt, and debug Python code to solve problems, demonstrating their understanding of key programming concepts such as loops, conditionals, and variables.</p> <p>Digital Literacy: Pupils should confidently use technology to create and evaluate content. This includes proficiency in producing digital media projects, such as animations or presentations, while understanding the ethical use of resources.</p> <p>Data Handling: Pupils should be able to collect, analyse, and interpret large data sets (e.g., through "Big Data" projects), effectively using tools to display and draw conclusions from data.</p> <p>Computing Systems and Networks: Pupils should understand the role and functioning of computing systems and networks, including concepts like search engines and artificial intelligence. They should appreciate how technology impacts society historically and presently (e.g., through learning about Bletchley Park).</p> <p>Online Safety and Responsibility: Pupils should be equipped to navigate the digital world responsibly. They should understand risks, know how to protect personal information, and demonstrate digital citizenship by making ethical and secure choices online.</p>		
How is the curriculum at Weeton St Michael's Primary School sequenced towards these end points?			
EYFS			
All about instructions	<p>Lesson 1: Following instructions The class follow instructions as part of practical activities and games.</p> <p>Lesson 2: Giving simple instructions Learning to give simple instructions.</p> <p>Lesson 3: Dressing up instructions The children follow instructions as part of a dressing up game and learn to give simple instructions.</p> <p>Lesson 4: Debugging instructions (washing hands) The children follow instructions as part of a dressing up game and learn to give simple instructions.</p> <p>Lesson 5: Predictions Pupils learn that an algorithm is a set of instructions to carry out a task, in a specific order. They use logical reasoning to read simple instructions and predict the outcome.</p>	Programming Bee-Bots	<p>Lesson 1: Understanding arrows Children learn the meaning of directional arrows and follow a simple sequence of instructions.</p> <p>Lesson 2: Introducing the Bee-Bot Children experiment with programming a Bee-Bot/Blue-Bot and tinker with hardware to develop familiarity and introduce relevant vocabulary.</p> <p>Lesson 3: Simple Bee-Bot programming Children experiment with programming a Bee-bot/Blue-bot and to learn how to give simple commands.</p> <p>Lesson 4: Understanding algorithms Children follow an algorithm as part of an unplugged game and learn to debug instructions when things go wrong.</p> <p>Lesson 5: Programming a Bee-Bot Experimenting with programming a Bee-Bot/Blue-Bot and learning how to give simple commands. Understanding how to debug instructions, with the help of an adult, when things go wrong</p>
Exploring hardware (Cameras)	<p>Lesson 1: Exploring hardware tinker tray Pupils explore and tinker with different hardware and are introduced to the relevant vocabulary.</p> <p>Lesson 2: Real world tinker tray Children explore and tinker with hardware and identify where technology is used in places that they are familiar with, such as homes and school.</p> <p>Lesson 3: Pictures of play Children learn to operate a basic camera to take photographs of their independent play.</p> <p>Lesson 4: Picture walk</p>	Introduction to Data	<p>Lesson 1: Loose parts play Children sort and categorise objects.</p> <p>Lesson 2: Sorting ourselves Children sort themselves into groups based upon given categories and then independently.</p> <p>Lesson 3: Yes or no? Children respond to yes/no questions as an introduction to branching databases.</p> <p>Lesson 4: Creating a branching database Children learn branching databases through physical sorting and categorising.</p> <p>Lesson 5: Exploring pictograms Children learn to interpret a basic pictogram</p>



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	Children further develop their photography skills, taking photographs of their discoveries on a walk around the school grounds. Lesson 5: Class photo album Working with an adult, children take selfie photographs to create a class gallery.		
Year 1/2 Cycle A		Year 1/2 Cycle B	
Online Safety: Year 1 Autumn 1	<ol style="list-style-type: none"> To know that the internet is many devices connected to one another. To know what to do if you feel unsafe or worried online – tell a trusted adult. To know that people you do not know on the internet (online) are strangers and are not always who they say they are. To know that to stay safe online it is important to keep personal information safe. To know that ‘sharing’ online means giving something specific to someone else via the internet and ‘posting’ online means placing information on the internet. 	Bee-Bots Autumn 1	<ol style="list-style-type: none"> To know the basic functions of a Bee-Bot. To know that you can use a camera/tablet to make simple videos. To know that algorithms move a Bee-Bot accurately to a chosen destination.
Algorithms: Unplugged Autumn 2	<ol style="list-style-type: none"> To know that an algorithm is when instructions are put in an exact order. To know that decomposition means breaking a problem into manageable chunks, which is important in computing. To know that errors in an algorithm are called bugs and fixing these is called debugging. 	Digital Imagery Autumn 2	<ol style="list-style-type: none"> To know that holding a camera or device still and considering angles and light are important to taking good pictures. To know that photographs can be edited, cropped and filtered. To know how to search safely for images online.
Rocket to the Moon Spring 1	<ol style="list-style-type: none"> To know that when we create something on a computer it can be more easily saved and shared than a paper version. To know that some of the simple graphic design features of a piece of online software. To know that a spreadsheet is an electronic table for sorting data. 	Online Safety Year 2 Spring 1	<ol style="list-style-type: none"> To understand the difference between online and offline. To understand what information I should not post online. To know how to create a strong password. To know that you should ask permission from others before sharing about them online and that they have the right to say ‘no.’ To understand that not everything I see or read online is true.
What is a Computer? Spring 2	<ol style="list-style-type: none"> To know the difference between a desktop and a laptop computer. People control technology. Some input devices that give a computer an instruction about what to do (output). Computers often work together. 	Introduction to Data Spring 2	<ol style="list-style-type: none"> Charts and pictograms can be created using a computer. A branching database is a way of classifying a group of objects. Computers understand different types of input.
Algorithms and Debugging Summer 1	<ol style="list-style-type: none"> To understand what machine learning is and how it enables computers to make predictions. 	Stop Motion Summer 1	<ol style="list-style-type: none"> To understand that an animation is made up of a sequence of photographs.



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	<ol style="list-style-type: none"> 2. To know that loops in programming are where you set a certain instruction (or instructions) to be repeated multiple times. 3. To know that abstraction is the removing of unnecessary detail to help solve a problem. 		<ol style="list-style-type: none"> 2. To know that small changes in my frames will create a smoother looking animation. 3. To understand what software creates simple animations and some of its features e.g. onion skinning.
Word Processing Summer 2	<ol style="list-style-type: none"> 1. To know that touch typing is the fastest way to type. 2. To know that I can make text a different style, size and colour. 3. To know that "copy and paste" is a quick way of duplicating text 	International Space Station Summer 2	<ol style="list-style-type: none"> 1. To know that simple data can be entered into a spreadsheet. 2. To know what steps are needed to take to create an algorithm. 3. To know what data to use to answer certain questions. 4. To know that computers can be used to monitor supplies.
Year 3/4 Cycle A		Year 3/4 Cycle B	
Online Safety: Year 3 Autumn 1	<ol style="list-style-type: none"> 1. To know that not everything on the internet is true: people share facts, beliefs and opinions online. 2. To know the internet can affect people's moods and feelings. 3. To know that privacy settings limit who can access important personal information, such as names, ages, gender etc. 4. To know what social media is and that age restrictions apply. 	Networks and the internet Autumn 1	<ol style="list-style-type: none"> 1. To understand that a network is a group of interconnected devices. 2. To know the components that make up a network (Wireless access point/WAP, Network switch, Router, Server and devices). 3. To know that a server is central to a network and responds to requests made. 4. To know that the internet connects all the networks around the world. 5. To know that a router connects us to the internet. 6. To know what a packet is and why it is important for website data transfer.
Programming: Scratch Autumn 2	<ol style="list-style-type: none"> 1. To know that scratch is a programming language and some of its basic functions. 2. To know how to use loops to improve programming. 3. To know how decomposition is used in programming. 4. To know that you can remix and adapt existing code. 	Comparison cards database Autumn 2	<ol style="list-style-type: none"> 1. To know that a database is a collection of data stored in a logical, structured and orderly manner. 2. To know that computer databases can be useful for sorting and filtering data. 3. To know that different visual representations of data can be made on a computer.
Video trailers using iPads Spring 1	<ol style="list-style-type: none"> 1. To know that different types of camera shots can make my photos or videos look more effective. 2. To know that I can edit photos and videos using film editing software. 3. To understand that I can add transitions and text to my video. 	Online Safety Year 4 Spring 1	<ol style="list-style-type: none"> 1. To know some of the methods used to encourage people to buy things online. 2. To know that technology can be designed to act like or impersonate living things. 3. To know that technology can be a distraction and identify when someone might need to limit the amount of time spent using technology. 4. To know what behaviours are appropriate to stay safe and be respectful online.
Website Design on Google Spring 2	<ol style="list-style-type: none"> 1. To know that a website is a collection of pages that are all connected. 2. To know that websites usually have a homepage and subpages as well as clickable links to new pages, called hyperlinks. 	Google Emailing Spring 2	<ol style="list-style-type: none"> 1. To understand that email stands for 'electronic mail.' 2. To know that an attachment is an extra file added to an email. 3. To understand that emails should contain appropriate and respectful content.



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	<ol style="list-style-type: none"> To know that websites should be informative and interactive. 		<ol style="list-style-type: none"> To know that cyberbullying is bullying using electronics such as a computer or phone.
Further coding with Scratch Summer 1	<ol style="list-style-type: none"> To know that a variable is a value that can change (depending on conditions) and know that you can create them in Scratch. To know what a conditional statement is in programming. To know that using variables can help you to create a quiz on Scratch. 	Investigating Weather Summer 1	<ol style="list-style-type: none"> To know that computers can use different forms of input to sense the world around them so that they can record and respond to data ('sensor data'). To know that a weather machine is an automated machine that respond to sensor data. To understand that weather forecasters use specific language, expression and pre-prepared scripts to help create weather forecast films.
Computational thinking Summer 2	<ol style="list-style-type: none"> To know that combining computational thinking skills can help solve a problem. To know that pattern recognition means identifying patterns to help them work out how the code works. To know that algorithms can be used for several purposes, e.g. animation, game design, etc 	HTML Summer 2	<ol style="list-style-type: none"> To know and identify examples of HTML tags. What changing the HTML does to alter the appearance of an object on the web. Copyright means that those images are protected and to understand that people should use a 'Creative Commons' image search if they wish to use images from the internet. What fake news is and ways to spot websites that carry this type of misinformation. What the inspect tool is and ways of using it to explore and alter text and images.
Year 5/6 Cycle A		Year 5/6 Cycle B	
Microbit Autumn 1	<ol style="list-style-type: none"> To know that a Micro:bit is a programmable device. To know that Micro:bit uses a block coding language similar to Scratch. To understand and recognise coding structures including variables. To know what techniques to use to create a program for a specific purpose (including decomposition). 	Programming 1: Music Autumn 1	<ol style="list-style-type: none"> To know that a soundtrack is music for a film/video and that one way of composing these is on programming software. To know that loops can make the process of writing music simpler and more effective. To know how to adapt their music while performing.
Mars Rover 1 Autumn 2	<ol style="list-style-type: none"> To now that Mars Rover is a motor vehicle that collects data from space by taking photos and examining rock samples. To know what numbers using binary code look like and be able to identify how messages can be sent in this format. To know that RAM is Random Access Memory and acts as the computer's working memory. To know what simple operations can be used to calculate bit patterns. 	Stop Motion Animation Autumn 2	<ol style="list-style-type: none"> Decomposition of an idea is important when creating stop-motion animations. Stop-motion animation is filmed one frame at a time using models and with tiny changes between each photograph. Editing is an important feature of making and improving a stop-motion animation.
Online Safety Year 5 Spring 1	<ol style="list-style-type: none"> To know the ossible dangers online and how to stay safe. To know the pros and cons of online communication. To know that information on the internet might not be true or correct and ways of checking validity. 	Search Engines Spring 1	<ol style="list-style-type: none"> To know how search engines work. To know anyone can create a website; therefore, people should take steps to check the validity of websites.



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	<ol style="list-style-type: none"> 4. To know what to do if they experience bullying online. 5. To know how to use an online community safely. 		<ol style="list-style-type: none"> 3. To know that web crawlers are computer programs that crawl through the internet. 4. To know what copyright is.
Bletchley Park Spring 2	<ol style="list-style-type: none"> 1. To know the importance of having a secure password and what brute force hacking is. 2. To know the first computers were created at Bletchley Park to crack the Enigma code to help the war effort in World War 2. 3. To know about some of the historical figures that contributed to technological advances in computing. 4. To know what techniques are required to create a presentation using appropriate software. 5. To know that sound clips can be recorded using sound recording software and can be edited and trimmed. 	Online Safety: Year 6 Spring 2	<ol style="list-style-type: none"> 1. To know that a digital footprint means the information that exists on the internet as a result of a person's online activity. 2. To know what steps are required to capture bullying content as evidence. 3. To know it is important to manage personal passwords effectively. 4. To know what it means to have a positive online reputation. 5. To know some common online scams.
Exploring AI Summer 1	<ol style="list-style-type: none"> 1. To know that AI is artificial intelligence and is used in everyday life. 2. To know that AI is trained on data to recognise patterns and generate outputs. 3. To know that AI can be used to generate written content. 4. To know that AI can be used to create visual content like pictures. 5. To know that AI can help generate basic HTML code to create the structure and layout of a website. 6. To know there are ethical issues surrounding AI, including data privacy, bias and responsible use. 	Big Data 1 Summer 1	<ol style="list-style-type: none"> 1. To know data contained within barcodes and QR codes can be used by computers. 2. To know infrared waves are a way of transmitting data. 3. To know radio Frequency Identification (RFID) is a more private way of transmitting data. 4. To know data is often encrypted so that even if it is stolen it is not useful to the thief.
Inventing Products Summer 2	<ol style="list-style-type: none"> 1. To know what designing an electronic product involves. 2. To know which programming software/language is best to achieve a purpose. 3. To know the building blocks of computational thinking, for example, sequence, selection, repetition, variables and inputs and outputs. 	Introduction to Python Summer 2	<ol style="list-style-type: none"> 1. To know that there are text-based programming languages such as Logo and Python. 2. To know that nested loops are loops inside of loops. 3. To understand the use of random numbers and remix Python code.