



## Morven Park Primary School

### Computing Progression Document

Year group	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Studies</b>		Improving mouse skills - Kapow  E-Safety - Kapow  Algorithms unplugged - Kapow  Programming Bee-bots (Option 1) - Kapow  Digital imagery - Kapow  Introduction to data - Kapow	E-Safety – Kapow  Creating digital art – Purple Mash  Programming & algorithms- Scratch Jr - Kapow  Stop Motion (Option 1) - Kapow  Word processing (Option 2) - Kapow  Data Handling – Kapow	Networks and the internet - Kapow  Scratch - Kapow  E-Safety - Kapow  Word processing - Twinkl  Physical Computing- Lego Wedo2 Glowing Snail, Cooling Fan, Moving Satellite, Spy Robot. Project: Volcanoes  Emailing (Option 2) - Kapow  Video Trailers – Kapow	Scratch - Kapow  Data handling: Investigating Weather –Rising Stars  Physical Computing- Lego Wedo2 Milo Part A, B, C & D Project: Flood defence  Word processing. - Twinkl  Website Design - Kapow  E-Safety - Kapow	E-Safety - Kapow  Scratch – Music (Option 1) - Kapow  Search Engines - Kapow  3D Modelling: Sketchup  Stop Motion Animation (Option 2) - Kapow  Physical Computing- Lego Wedo2 Projects: Pulling and Robust Structures	E-Safety - Kapow  Intro to Python - Kapow  Physical Computing- Lego Wedo2 Project: Drop and Rescue, Recycle  Big Data 1 – Barcodes & QR codes - Kapow  Computing systems and networks: Bletchley Park: Code breaking - Kapow  History of Computers – Kapow
<b>Progression of Skills</b>							
<b>Digital Literacy</b>	The use of technology during literacy lessons - Sound buttons and sound boxes for oral rehearsal (speaking: communication and language & writing: literacy).	Logging in and out and saving work on their own account. When using the internet to search for images, learning what to do if they come across something online that worries	Learning how to create a strong password.  Understanding how to stay safe when talking to people online and what to do if they see or hear something online that	Recognising that different information is shared online including facts, beliefs and opinions.  Learning how to identify reliable information when searching online.	Recognising that information on the internet might not be true or correct and that some sources are more trustworthy than others.  Learning to make judgements about the	Identifying possible dangers online and learning how to stay safe. Evaluating the pros and cons of online communication.  Recognising that information on the internet might not be true	Learning about the positive and negative impacts of sharing online.  Learning strategies to create a positive online reputation.

	<p>Self-register and snack time choice – using the interactive whiteboard for drag and drop (managing self: personal, social and emotional development &amp; literacy: reading).</p>	<p>them or makes them feel uncomfortable.</p> <p>Understanding how to interact safely with others online.</p> <p>Recognising how actions on the internet can affect others.</p> <p>Recognising what a digital footprint is and how to be careful about what we post.</p>	<p>makes them feel upset or uncomfortable.</p> <p>Identifying whether information is safe or unsafe to be shared online.</p> <p>Learning to be respectful of others when sharing online and ask for their permission before sharing content.</p> <p>Learning strategies for checking if something they read online is true.</p> <p>Developing confidence with the keyboard and the basics of touch typing.</p> <p>Developing word processing skills, including altering text, copying and pasting and using keyboard shortcuts.</p> <p>Using word processing software to type and reformat text.</p>	<p>Learning how to stay safe on social media.</p> <p>Considering the impact technology can have on mood.</p> <p>Learning about cyberbullying.</p> <p>Learning that not all emails are genuine, recognising when an email might be fake and what to do about it.</p>	<p>accuracy of online searches.</p> <p>Identifying forms of advertising online.</p> <p>Recognising what appropriate behaviour is when collaborating with others online.</p> <p>Reflecting on the positives and negatives of time spent online.</p> <p>Identifying respectful and disrespectful online behaviour.</p>	<p>or correct and learning ways of checking validity.</p> <p>Learning what to do if they experience bullying online.</p> <p>Learning to use an online community safely</p>	<p>Understanding the importance of secure passwords and how to create them.</p> <p>Learning strategies to capture evidence of online bullying in order to seek help.</p> <p>Using search engines safely and effectively.</p> <p>Recognising that updated software can help to prevent data corruption and hacking.</p>
<b>Information Technology</b>							
<b>Using software</b>	<p>Using Purple Mash/youtube (songs &amp; nursery rhymes/topic related images and</p>	<p>Using a basic range of tools within graphic editing software.</p>	<p>Developing word processing skills, including altering text, copying and</p>	<p>Use word processing skills, including altering text, changing case, aligning, bullet points and</p>	<p>Building a web page and creating content for it.</p>	<p>Using logical thinking to explore software more independently, making predictions based on their previous experience.</p>	<p>Using logical thinking to explore software independently, iterating ideas and testing continuously.</p>

	<p>games) on the interactive whiteboards during choosing time (communication and language: speaking, Understanding the world)</p> <p>Using the Rising Stars E-books during choosing time. Modelled by the teacher in guided reading (literacy: reading)</p>	<p>Taking and editing photographs.</p> <p>Developing control of the mouse through dragging, clicking and resizing of images to create different effects.</p> <p>Developing understanding of different software tools.</p>	<p>pasting and using keyboard shortcuts.</p> <p>Using word processing software to type and reformat text.</p> <p>Using software (and unplugged means) to create story animations.</p> <p>Creating and labelling images.</p> <p>Recreate digital art using different art forms as inspiration and stimuli.</p>	<p>numbering, text boxes and keyboard shortcuts.</p> <p>Be able to open a new document, save and close correctly.</p>	<p>Designing and creating a webpage for a given purpose.</p> <p>Use online software for documents, presentations, forms and spreadsheets.</p> <p>Using software to work collaboratively with others.</p> <p>Use word processing skills, including format images, formatting tools, spellcheck, insert and format a table and change page layout.</p>	<p>Using software programme Scratch to create music.</p> <p>Using the video editing software to animate.</p> <p>Identify ways to improve and edit programs, videos, images etc.</p> <p>Independently learning how to use 3D design software package SketchUp.</p>	<p>Using search and word processing skills to create a presentation.</p> <p>Creating and editing sound recordings for a specific purpose.</p> <p>Creating and editing videos, adding multiple elements: music, voiceover, sound, text and transitions.</p>
<b>Using emails and internet searches</b>	<p>Modelling how to find an image on the internet on interactive whiteboard (understanding the world: past and present).</p>	<p>Recognising devices that are connected to the internet.</p> <p>Searching and downloading images from the internet safely.</p> <p>Understanding that we are connected to others when using the internet.</p>	<p>Searching for appropriate images to use in a document.</p> <p>Understanding what online information is.</p> <p>Understanding what online information is.</p>	<p>Learning to log in and out of an email account.</p> <p>Writing an email including a subject, 'to' and 'from.'</p> <p>Sending an email with an attachment.</p> <p>Replying to an email.</p>	<p>Understanding why some results come before others when searching.</p> <p>Using keywords to effectively search for information on the internet.</p> <p>Understanding that information found by searching the internet is not all grounded in fact.</p> <p>Searching the internet for data.</p>	<p>Developing searching skills to help find relevant information on the internet.</p> <p>Learning how to use search engines effectively to find information, focussing on keyword searches and evaluating search returns.</p>	<p>Understanding how search engines work.</p>
<b>Using data</b>	<p>Tally charts during Maths, using the interactive whiteboard and 'tally' directly onto the board (mathematics: numerical patterns).</p>	<p>Understanding that technology can be used to represent data in different ways: pictograms, tables, pie charts, bar charts, block graphs etc.</p>	<p>Collecting and inputting data into a spreadsheet.</p> <p>Interpreting data from a spreadsheet.</p>	<p>Understanding about the pros and cons of digital versus paper databases.</p>	<p>Understanding that data is used to forecast weather.</p> <p>Recording data in a spreadsheet independently.</p>	<p>Understanding how data is collected in remote or dangerous places.</p>	<p>Understanding how barcodes, QR codes and RFID work.</p> <p>Gathering and analysing data in real time.</p>

		Using representations to answer questions about data.  Using software to explore and create pictograms and branching databases.	Creating and interpreting charts and graphs to understand data.		Sorting data in a spreadsheet to compare using the 'sort by...' option.  Designing a device which gathers and records sensor data.		Creating formulas and sorting data within spreadsheets.
<b>Wider use of technology</b>	Areas set up in the environment for role play, for example, the home corner – microwave and torches in the reading den (understanding the world – people culture and communities).	Recognising common uses of information technology, including beyond school. Understanding some of the ways we can use the internet.	Learning how computers are used in the wider world.	Understanding the purpose of emails.  Recognising how social media platforms are used to interact.	Understanding that software can be used collaboratively online to work as a team.	Learn about different forms of communication that have developed with the use of technology.	Learning about the Internet of Things and how it has led to 'big data'.  Learning how 'big data' can be used to solve a problem or improve efficiency.
<b>Computer Science</b>							
<b>Hardware</b>	Self-register and snack time choice – using the interactive whiteboard for drag and drop (managing self: personal, social and emotional development & literacy: reading)  Use of digital toys for the alphabet and numbers (mathematics: number & literacy: reading).  Using props in pretend role play. E.g., till, computers, keyboards and mouse. (people, culture and communities: understanding the	Learning how to operate a camera or tablet to take photos and videos.  Learning how to explore and tinker with hardware to find out how it works.  Recognising that some devices are input devices and others are output devices.  Learning where keys are located on the keyboard.	Understanding what a computer is and that it's made up of different components.  Recognising that buttons cause effects, and that technology follows instructions.  Learning how we know that technology is doing what we want it to do via its output.  Using greater control when taking photos with cameras, tablets or computers.  Developing confidence with the keyboard and the	Understanding what the different components of a computer do and how they work together.  Learning about the purpose of routers.  Using Lego to follow simple instructions to construct and programme the Glowing Snail, Cooling Fan, Moving Satellite, Spy Robot.	Understanding that weather stations use sensors to gather and record data which predicts the weather.  Using Lego to follow instructions and using motion and tilt sensors.	Learning that external devices can be programmed by a separate computer.	Learning about the history of computers and how they have evolved over time.  Using the understanding of historic computers to design a computer of the future.  Understanding and identifying barcodes, QR codes and RFID.  Identifying devices and applications that can scan or read barcodes, QR codes and RFID.  Understanding how corruption can happen within data during transfer (for example when downloading,

	<p>world &amp; physical development: fine motor skills).</p> <p>The use of technology during literacy lessons - Sound buttons and sound boxes for oral rehearsal (literacy: reading &amp; writing)</p>		<p>basics of touch typing.</p>				<p>installing, copying and updating files).</p>
<p><b>Networks &amp; Data Representation</b></p>				<p>Understanding the role of the key components of a network.</p> <p>Identifying the key components within a network, including whether they are wired or wireless.</p> <p>Understanding that websites and videos are files that are shared from one computer to another.</p> <p>Learning about the role of packets.</p> <p>Understanding how networks work and their purpose.</p> <p>Recognising links between networks and the internet.</p> <p>Learning how data is transferred.</p>	<p>Understanding that computer networks provide multiple services, such as the World Wide Web, and opportunities for communication and collaboration.</p>	<p>Learning how the data for digital images can be compressed.</p> <p>Understanding how bit patterns represent images as pixels.</p>	<p>Understanding that computer networks provide multiple services.</p>
<p><b>Computational Thinking</b></p>		<p>Learning that decomposition means breaking a problem</p>	<p>Articulating what decomposition is.</p>	<p>Using decomposition to explore the code behind an animation.</p>	<p>Using decomposition to solve a problem by finding out what code was used.</p>	<p>Decomposing animations into a series of images.</p>	<p>Decomposing a program into an algorithm.</p>

		<p>down into smaller parts.</p> <p>Using decomposition to solve unplugged challenges.</p> <p>Using logical reasoning to predict the behaviour of simple programs.</p> <p>Developing the skills associated with sequencing in unplugged activities.</p> <p>Following a basic set of instructions.</p> <p>Assembling instructions into a simple algorithm.</p>	<p>Decomposing a game to predict the algorithms used to create it.</p> <p>Learning that there are different levels of abstraction.</p> <p>Explaining what an algorithm is.</p> <p>Following an algorithm.</p> <p>Creating a clear and precise algorithm.</p> <p>Learning that programs execute by following precise instructions.</p> <p>Incorporating loops within algorithms.</p>	<p>Using repetition in programs.</p> <p>Using logical reasoning to explain how simple algorithms work.</p> <p>Explaining the purpose of an algorithm.</p> <p>Forming algorithms independently.</p>	<p>Using decomposition to understand the purpose of a script of code.</p> <p>Identifying patterns through unplugged activities.</p> <p>Using past experiences to help solve new problems.</p> <p>Using abstraction to identify the important parts when completing both plugged and unplugged activities.</p>	<p>Decomposing a program without support.</p> <p>Decomposing a story to be able to plan a program to tell a story.</p> <p>Predicting how software will work based on previous experience.</p> <p>Writing more complex algorithms for a purpose.</p>	<p>Using past experiences to help solve new problems.</p> <p>Writing increasingly complex algorithms for a purpose.</p>
<p><b>Programming</b></p>	<p>Understanding how to use a bee bot through play (mathematics: finding patterns &amp; communication and language: speaking).</p>	<p>Programming a Floor robot to follow a planned route.</p> <p>Learning to debug instructions when things go wrong.</p> <p>Using programming language to explain how a floor robot works.</p> <p>Learning to debug an algorithm in an unplugged scenario.</p>	<p>Using logical thinking to explore software, predicting, testing and explaining what it does.</p> <p>Using an algorithm to write a basic computer program.</p> <p>Using loop blocks when programming to repeat an instruction more than once.</p>	<p>Using logical thinking to explore more complex software; predicting, testing and explaining what it does.</p> <p>Incorporating loops to make code more efficient.</p> <p>Continuing existing code.</p> <p>Making reasonable suggestions for how to debug their own and others' code.</p> <p>Create and program a device that will allow</p>	<p>Creating algorithms for a specific purpose.</p> <p>Coding a simple game.</p> <p>Using abstraction and pattern recognition to modify code.</p> <p>Incorporating variables to make code more efficient.</p> <p>Create and program a device that will allow you to defend against a flood.</p>	<p>Programming an animation.</p> <p>Iterating and developing their programming as they work.</p> <p>Confidently using loops in their programming.</p> <p>Using a more systematic approach to debugging code, justifying what is wrong and how it can be corrected.</p> <p>Writing code to create a desired effect.</p> <p>Using a range of programming commands.</p>	<p>Debugging quickly and effectively to make a program more efficient.</p> <p>Remixing existing code to explore a problem.</p> <p>Using and adapting nested loops.</p> <p>Programming using the language Python.</p> <p>Changing a program to personalise it.</p> <p>Evaluating code to understand its purpose.</p>

				you to predict a volcano eruption.		Using repetition within a program.  Amending code within a live scenario.  Create and program a device that will allow you to test building structures.	Predicting code and adapting it to a chosen purpose.  Create and program a device that will sort recyclables according to their size and shape.
<b>Online Safety</b>	<p>Conversations about how to stay safe when using games online (understanding the world: past and present).</p> <p>Who can help us if we have concerns about keeping ourselves safe (personal safety and on a game/online) (People who help us – Understanding the world).</p>	<p>To know that the internet is many devices connected to one another.</p> <p>To know that you should tell a trusted adult if you feel unsafe or worried online.</p> <p>To know that people you do not know on the internet (online) are strangers and are not always who they say they are.</p> <p>To know that to stay safe online it is important to keep personal information safe.</p> <p>To know that 'sharing online means giving something specific to someone else via the internet and 'posting' online means placing information.</p>	<p>To understand the difference between online and offline.</p> <p>To understand what information, I should not post online.</p> <p>To know what the techniques are for creating a strong password.</p> <p>To know that you should ask permission from others before sharing about them online and that they have the right to say 'no.'</p> <p>Identifying whether information is safe or unsafe to be shared online.</p> <p>To understand that not everything I see or read online is true.</p>	<p>To know that not everything on the internet is true: people share facts, beliefs and opinions online.</p> <p>To understand that the internet can affect your moods and feelings.</p> <p>To know that privacy settings limit who can access your important personal information - such as your name, age, gender etc.</p> <p>To know what social media is and that age restrictions apply.</p>	<p>To understand some of the methods used to encourage people to buy things online.</p> <p>To understand that technology can be designed to act like or impersonate living things.</p> <p>To understand that technology can be a distraction and identify when someone might need to limit the amount of time spent using technology.</p> <p>To understand what behaviours are appropriate in order to stay safe and respectful online.</p>	<p>To know different ways we can communicate online.</p> <p>To understand how online information can be used to form judgements.</p> <p>To understand some ways to deal with online bullying.</p> <p>To know that apps require permission to access private information and that you can alter the permissions.</p> <p>To know where I can go for support if I am being bullied online or feel that my health is being affected by time online.</p>	<p>To know that a 'digital footprint' means the information that exists on the internet as a result of a person's online activity.</p> <p>To know what steps are required to capture bullying content as evidence.</p> <p>To understand that it is important to manage personal passwords effectively.</p> <p>To understand what it means to have a positive online reputation.</p> <p>To know some common scams.</p>