

Progression of Skills: Computing



Cohort	Autumn	Spring	Summer
EYFS	<p><b><u>E-safety and Digital Literacy</u></b> Beginning to understand how to use a device safely Click clever click safe</p> <p><b><u>Information Technology</u></b>  Recognising and identifying familiar letters and numbers on a keyboard.  Developing basic mouse skills such as moving and clicking.</p> <p><b><u>Computer Science</u></b> Beginning to follow basic instructions in order</p>	<p><b><u>E-safety and Digital Literacy</u></b>  Understanding how to take pictures safely</p> <p><b><u>Information Technology</u></b>  Learning how to operate a camera to take photographs of meaningful creations or moments.  Learning how to explore and tinker with hardware to develop familiarity and introduce relevant vocabulary</p> <p><b><u>Computer Science</u></b>  Learning how to follow more complex instructions  Learning how to give simple instructions  Beginning to understand how to predict the outcome of basic instructions</p>	<p><b><u>E-Safety and Digital Literacy</u></b> Learning how to use programming hardware safely  Learning how information that needs to be kept safe when asked questions</p> <p><b><u>Information Technology</u></b> Representing data through sorting and categorising objects in unplugged scenarios.  Representing data through physical pictograms.  Exploring branch databases through physical games.</p> <p><b><u>Computer Science</u></b> Experimenting with programming a Bee-bot/Blue- bot and learning how to give simple commands.  Learning to debug instructions, with the help of an adult, when things go wrong.</p>
Year 1	<p><b><u>E-Safety and Digital Literacy</u></b>  Identifying the rules of 'Click clever Click Safe'</p>	<p><b><u>E-Safety and Digital Literacy</u></b> Identify the purpose of passwords</p>	<p><b><u>E-Safety and Digital Literacy</u></b> Safely saving content in a trusted place</p>

Progression of Skills: Computing



	<p>To explain what persona &amp; private information is</p> <p>To identify the risks associated with the internet</p> <p>Learning to explain if something makes them feel uncomfortable online</p> <p>Zip it, block it, flag it</p> <p style="text-align: center;"><b><u>Information Technology</u></b></p> <p>Learning what it means to log in and log out</p> <p>Learning how to click out of programmes when I feel unsafe</p> <p style="text-align: center;"><b><u>Computer Science</u></b></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>Understand why a password needs to be kept safe and a secret from untrusted adults</p> <p style="text-align: center;"><b><u>Information Technology</u></b></p> <p>To understand that holding the camera still and considering angles and light are important to take good pictures.</p> <p>To know that you can edit, crop and filter photographs.</p> <p>To learn how to take photos using a device</p> <p style="text-align: center;"><b><u>Computer Science</u></b></p> <p>Programming a Floor robot to follow a planned route. Using programming language to explain how a floor robot works.</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>Logging on safely with known username and password</p> <p>Learning how not following instructions could be dangerous online</p> <p>Learning to log in and log out</p> <p style="text-align: center;"><b><u>Information Technology</u></b></p> <p>Learning ways to remember usernames and passwords to log in more efficiently</p> <p>Learning to show how data can be represented in many ways such as charts, pictograms and tables</p> <p style="text-align: center;"><b><u>Computer Science</u></b></p> <p>Learning how to follow instructions when inputting data.</p> <p>Beginning to recognise ways of identifying incorrect data input</p>
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<p>Year 2</p>	<p><b><u>E-Safety and Digital Literacy</u></b></p> <p>Recognise the dangers associated with losing private information</p> <p>Explain the importance of a good online reputation</p> <p>Research an online safeguarding company (Childline)</p> <p><b><u>Information Technology</u></b></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>Developing control of the mouse through dragging, clicking and resizing of images to create different effects.</p> <p><b><u>Computer Science</u></b></p> <p>To understand that to upload a media file you have to follow a specific set of instructions.</p>	<p><b><u>E-Safety and Digital Literacy</u></b></p> <p>Understand how animations can effect mood</p> <p>Recognising that pending too much watching animations can effect health</p> <p>Recognising the importance of storing digital information in a safe place.</p> <p><b><u>Information Technology</u></b></p> <p>Developing understanding of different software tools.</p> <p>Using software (and unplugged means) to create story animations.</p> <p>Creating and labelling images</p> <p>Learning how to create a flip book animation</p> <p>Learning how create a stop motion with small in changes in between.</p> <p><b><u>Computer Science</u></b></p> <p>Learning how to decompose a story into smaller parts to plan a stop motion animation</p>	<p><b><u>E-Safety and Digital Literacy</u></b></p> <p>Understand that some algorithms can be addictive- such as video games</p> <p>Learn how to handle data and not share personal information of others(family)</p> <p><b><u>Information Technology</u></b></p> <p>To explain how to create a range of databases</p> <p>To analyse data created</p> <p>Learning how to create a branching database</p> <p><b><u>Computer Science</u></b></p> <p>Predicting the movements of turtle/sprite</p> <p>Learning how to explore a new app safely</p> <p>To learn how to use a range of blocks on scratch jr</p> <p>To use a code to create an animation of an animal moving.</p>
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Progression of Skills: Computing



		<p>To learn how to include loops in animations</p> <p>To begin to write precise and clear algorithms</p> <p>To solve and debug algorithms</p>	
<p>Year 3</p>	<p><b><u>E-Safety and Digital Literacy</u></b></p> <p>To recognise acceptable and unacceptable online behaviour</p> <p>Understanding digital resilience</p> <p>Explaining what a digital footprint is</p> <p>Plan and create an online safety roleplay.</p> <p><b><u>Information Technology</u></b></p> <p>Understanding that computer networks provide multiple services, such as the World Wide Web, and opportunities for communication and collaboration.</p> <p>Understanding the role of the key components of a network.</p>	<p><b><u>E-Safety and Digital Literacy</u></b></p> <p>Develop an awareness of certain Hyperlinks. They are spam and created as ‘clickbait’</p> <p>To recognise when an email may be fake</p> <p><b><u>Information Technology</u></b></p> <p>Learning to log in and out of an email account. Writing an email including a subject, ‘to’ and ‘from.’ Sending an email with an attachment</p> <p>Replying to an email.</p> <p><b><u>Computer Science</u></b></p> <p>To create a storyboard for a trailer</p>	<p><b><u>E-Safety and Digital Literacy</u></b></p> <p>Save information in a safe place</p> <p>Think about how safer technology can be to save information over paper and vice versa</p> <p><b><u>Information Technology</u></b></p> <p>Using logical thinking to explore more complex software; predicting, testing and explaining what it does.</p> <p>Understanding the vocabulary associated with databases: field, record, data.</p> <p>Learning about the pros and cons of digital versus paper databases.</p> <p>Sorting and filtering databases to easily retrieve information.</p>

Progression of Skills: Computing



	<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. Learning about the role of packets.</p> <p>Understanding how networks work and their purpose. Recognising links between networks and the internet. Learning how data is transferred.</p> <p style="text-align: center;"><b><u>Computer Science</u></b></p> <p>Understanding what the different components of a computer do and how they work together.</p> <p>Drawing comparisons across different types of computers. Learning about the purpose of routers</p> <p>All web browsers use similar algorithms to search for information.</p>	<p>To take photos from a variety of camera angles for a range of purposes</p> <p>To use software to edit and enhance their video adding music, sounds and text on screen with transitions.</p> <p>To debug a pre-set programme</p> <p>To sequence a simple programme (motion)</p> <p>To apply 'repetition' to my programme.</p>	<p>Creating and interpreting charts and graphs to understand data.</p> <p style="text-align: center;"><b><u>Computer Science</u></b></p> <p>Using decomposition to explore the code behind an animation.</p> <p>Using repetition in programs.</p> <p>Using logical reasoning to explain how simple algorithms work.</p> <p>.</p> <p>Forming algorithms independently.</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>
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Progression of Skills: Computing



<p>Year 4</p>	<p><b><u>E-Safety and Digital Literacy</u></b></p> <p>Identifying the dangers of viruses To explain what malware and spyware are</p> <p>To explain Phishing</p> <p>Recognising what appropriate behaviour is when collaborating with others online.</p> <p><b><u>Information Technology</u></b></p> <p>Understanding that computer networks provide multiple services, such as the World Wide Web, and opportunities for communication and collaboration.</p> <p>Use online software for documents, presentations, forms and spreadsheets.</p> <p>Using software to work collaboratively with others.</p> <p>Understanding that software can be used collaboratively online to work as a team.</p> <p><b><u>Computer Science</u></b></p>	<p><b><u>E-Safety and Digital Literacy</u></b></p> <p>Recognising hyperlinks that are created to mislead you</p> <p>Understanding certain chats are actually gifs on a website and are used as clickbait.</p> <p><b><u>Information Technology</u></b></p> <p>Building a web page and creating content for it.</p> <p>Designing and creating a webpage for a given purpose.</p> <p>Using software to work collaboratively with others.</p> <p><b><u>Computer Science</u></b></p> <p>Using decomposition to solve a problem by finding out what code was used.</p> <p>Using decomposition to understand the purpose of a script of code.</p> <p>Creating algorithms for a specific purpose.</p> <p>Coding a simple game.</p>	<p><b><u>E-Safety and Digital Literacy</u></b></p> <p>Understand the dangers associated with blogging</p> <p>Understand how usernames of bloggers can be created to be deceptive Understanding that some bloggers receive online hate due to a range of reasons</p> <p>Understand how to report online abuse</p> <p><b><u>Information Technology</u></b></p> <p>Identifying the use of different tools on different programs</p> <p>Comparing tools on new programs with programmes studied previously</p> <p><b><u>Computer Science</u></b></p> <p>Using decomposition to solve a problem by finding out what code was used.</p> <p>Using decomposition to understand the purpose of a script of code.</p> <p>Identifying patterns through unplugged activities.</p>

Progression of Skills: Computing



	<p>Understanding that computer systems use algorithms to carry out functions</p>	<p>Incorporating variables to make code more efficient.</p> <p>Remixing existing code.</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>Creating algorithms for a specific purpose.</p> <p>Using abstraction and pattern recognition to modify code.</p>
<p>Year 5</p>	<p><b><u>E-Safety and Digital Literacy</u></b></p> <p>Identifying the components of cyber bullying</p> <p>Identifying the links between cyberbullying and mental health</p> <p>To debate topics surrounding mental health</p> <p><b><u>Information technology</u></b></p> <p>Decomposing animations into a series of images.</p> <p>Decomposing a story to be able to plan a program to tell a story.</p> <p>Using video editing software to animate.</p>	<p><b><u>E-Safety and Digital Literacy</u></b></p> <p>Understanding that programmes like Google Sketchup such as Minecraft can be hacked and your personal information can be stolen if passwords are not securely kept or changed between programmes</p> <p>Creating a strong password and explaining why it is strong</p> <p><b><u>Information technology</u></b></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><b><u>E-Safety and Digital Literacy</u></b></p> <p>To understand how media can be manipulated and does not always effect reality</p> <p>To be aware self-images can be enhanced and do not always represent true reality</p> <p><b><u>Information Technology</u></b></p> <p>Learning that external devices can be programmed by a separate computer.</p> <p>Recognising how the size of RAM affects the processing of data.</p> <p>Learning the vocabulary associated with data: data and transmit.</p> <p>Recognising that computers transfer data in binary and understanding simple binary addition.</p>



	<p><b><u>Computer Science</u></b></p> <p>To arrange frames in an order that moves the stop animation along smoothly.</p> <p>To fix any problems with the ordering frames through playing and editing the animation</p>	<p>Learn about different forms of communication that have developed with the use of technology.</p> <p>Recognising that information on the Internet might not be true or correct and learning ways of checking validity.</p> <p><b><u>Computer Science</u></b></p> <p>Predicting how software will work based on previous experience.</p> <p>Writing more complex algorithms for a purpose.</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>Using repetition within a program.</p> <p>Amending code within a live scenario.</p>	<p>Relating binary signals (Boolean) to the simple character-based language, ASCII.</p> <p>Learning that messages can be sent by binary code, reading binary up to eight characters and carrying out binary calculations.</p> <p>Understanding how data is collected in remote or dangerous places.</p> <p>Understanding how data might be used to tell us about a location.</p> <p>Learn about different forms of communication that have developed with the use of technology.</p> <p><b><u>Computer Science</u></b></p> <p>Decomposing a program without support.</p> <p>Predicting how software will work based on previous experience.</p> <p>Writing more complex algorithms for a purpose.</p> <p>Programming an animation.</p> <p>Iterating and developing their programming as they work.</p>
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Progression of Skills: Computing



		<p>Using logical thinking to explore software more independently, making predictions based on their previous experience.</p> <p>Using a software programme (Scratch) to create music.</p> <p>Identify ways to improve and edit programs, videos, images etc.</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>Using repetition within a program.</p> <p>Using logical thinking to explore software more independently, making predictions based on their previous experience.</p> <p>Identify ways to improve and edit programs, videos, images etc.</p>
Year 6	<p><b><u>E-Safety and Digital Literacy</u></b></p> <p>To identify the dangers of social media apps/websites</p> <p>To analyse the impact of social media apps on mental health.</p> <p>To evaluate the appropriateness of internet apps (roblox)</p>	<p><b><u>E-Safety and Digital Literacy</u></b></p> <p>Understand and recognise how data can be manipulated to tell the story the editor wants to show</p> <p>To compare links to self-image and media manipulation of data</p> <p><b><u>Information Technology</u></b></p>	<p><b><u>E-Safety and Digital Literacy</u></b></p> <p>Understanding how corruption can happen within data during transfer (for example when downloading, installing, copying and updating files).</p> <p>Using search engines safely and guiding others to use them safely</p>

Progression of Skills: Computing



	<p>To evaluate the ethical issues surrounding different apps beyond school</p> <p>Using search engines safely and effectively</p> <p>Understanding the importance of secure passwords and how to create them.</p> <p style="text-align: center;"><b><u>Information technology</u></b></p> <p>Learning about the history of computers and how they have evolved over time.</p> <p>Using search and word processing skills to create a presentation.</p> <p>Understanding how search engines work.</p> <p style="text-align: center;"><b><u>Computer Science</u></b></p> <p>Predicting code and adapting it to a chosen purpose</p> <p>Writing increasingly complex algorithms for a purpose.</p>	<p>Understanding and identifying barcodes, QR codes and RFID.</p> <p>Identifying devices and applications that can scan or read barcodes, QR codes and RFID.</p> <p>Understanding how barcodes, QR codes and RFID work.</p> <p>Gathering and analysing data in real time.</p> <p>Creating formulas and sorting data within spreadsheets.</p> <p>Learning how 'big data' can be used to solve a problem or improve efficiency.</p> <p>Computer Science</p> <p>Changing a program to personalise it.</p> <p>Evaluating code to understand its purpose.</p> <p>Using logical thinking to explore software independently, iterating ideas and testing continuously.</p> <p>Decomposing a program into an algorithm.</p> <p>Writing increasingly complex algorithms for a purpose.</p>	<p style="text-align: center;"><b><u>Information Technology</u></b></p> <p>Understanding that computer networks provide multiple services.</p> <p>Using search and word processing skills to create a presentation.</p> <p>Creating formulas and sorting data within spreadsheets.</p> <p>Learning about the Internet of Things and how it has led to 'big data'.</p> <p>Learning how 'big data' can be used to solve a problem or improve efficiency.</p> <p style="text-align: center;"><b><u>Computer Science</u></b></p> <p>Using past experiences to help solve new problems.</p> <p>Writing increasingly complex algorithms for a purpose.</p> <p>Debugging quickly and effectively to make a program more efficient.</p> <p>Remixing existing code to explore a problem.</p>
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	<p>Debugging quickly and effectively to make a program more efficient.</p> <p>Remixing existing code to explore a problem.</p> <p>Changing a program to personalise it.</p> <p>Using past experiences to help solve new problems.</p> <p>Evaluating code to understand its purpose.</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>Changing a program to personalise it.</p> <p>Evaluating code to understand its purpose.</p> <p>Predicting code and adapting it to a chosen purpose.</p> <p>Using logical thinking to explore software independently, iterating ideas and testing continuously.</p> <p>Creating and editing videos, adding multiple elements: music, voiceover, sound, text and transitions.</p> <p>Using design software TinkerCAD to design a product.</p> <p>Creating a website with embedded links and multiple pages.</p> <p>Understanding how search engines work.</p>
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