

Skill	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science	<p>Learning how to operate a camera.</p> <p>Learning how to explore and tinker with hardware to find out how it works.</p> <p>Understanding that computers and devices around us use inputs and outputs, identifying some of these.</p> <p>Learning where keys are located on the keyboard.</p> <p>Understanding what the internet is.</p> <p>Using decomposition to solve unplugged challenges.</p> <p>Using logical reasoning to predict the behaviour of simple programs.</p> <p>Learning that an algorithm is a set</p>	<p>Understanding what a computer is and that it's made up of different components.</p> <p>Recognising that buttons cause effects and that technology follows instructions.</p> <p>Learning how we know that technology is doing what we want it to do via its output.</p> <p>Using greater control when taking photos with tablets or computers.</p> <p>Developing confidence with the keyboard and the basics of touch typing.</p> <p>Decomposing a game to predict the algorithms used to create it.</p> <p>Learning what abstraction is.</p> <p>Following an algorithm.</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.</p> <p>Learning what a server does.</p> <p>Learning what a network is and its purpose</p> <p>Identifying the key components within a network, including whether they are wired or wireless</p> <p>Recognising links between networks and the internet</p> <p>Learning how data is transferred</p> <p>Using decomposition to explain the parts of a laptop computer.</p>	<p>Learning about the purpose of routers.</p> <p>Consolidating understanding of the key components of a network.</p> <p>Understanding that websites & videos are files that are shared from one computer to another.</p> <p>Learning about the role of packets.</p> <p>Understanding that computer networks provide multiple services, such as the World Wide Web, and opportunities for communication and collaboration.</p> <p>Using decomposition to understand the purpose of a script of code.</p> <p>Using decomposition to help solve problems.</p> <p>Using abstraction to identify the important parts when completing</p>	<p>Learning that external devices can be programmed by a separate computer.</p> <p>Learning the difference between ROM and RAM.</p> <p>Recognising how the size of RAM affects the processing of data.</p> <p>Understanding the fetch, decode, execute cycle.</p> <p>Learning the vocabulary associated with data: data and transmit.</p> <p>Learning how the data for digital images can be compressed.</p> <p>Recognising that computers transfer data in binary and understanding simple binary addition.</p> <p>Relating binary signals (Boolean) to the simple character-based language, ASCII.</p> <p>Learning that messages can be sent by binary</p>	<p>Learning about the history of computers and how they have evolved over time.</p> <p>Using the understanding of historic computers to design a computer of the future.</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>Acknowledging that corruption can happen within data during transfer (for example when downloading, installing, copying and updating files).</p> <p>Understanding that computer networks provide multiple services.</p> <p>Decomposing a program into an algorithm.</p> <p>Writing increasingly complex algorithms for a purpose.</p> <p>Programming using the language Python.</p> <p>Altering a website's code to create changes.</p>

	<p>of step by step instructions used to carry out a task, in a specific order.</p> <p>Programming a Bee-bot/Virtual Bee-bot to follow a planned route.</p> <p>Learning to debug instructions when things go wrong.</p>	<p>Creating a clear and precise algorithm.</p> <p>Learning that computers use algorithms to make predictions</p> <p>Using logical thinking to explore software, predicting, testing and explaining what it does</p>	<p>Using decomposition to explore the code behind an animation</p> <p>Understanding that computers follow instructions.</p> <p>Using an algorithm to explain the roles of different parts of a computer</p> <p>Incorporating loops to make code more efficient.</p> <p>Remixing existing code</p> <p>Using a more systematic approach to debugging code, justifying what is wrong and how it can be corrected</p>	<p>both plugged and unplugged activities</p> <p>Creating algorithms for a specific purpose.</p> <p>Understanding that websites can be altered by exploring the code beneath the site</p> <p>Coding a simple game.</p>	<p>code, reading binary up to 8 characters and carrying out binary calculations.</p> <p>Understanding how bit patterns represent images as pixels.</p> <p>Decomposing animations into a series of images.</p> <p>Writing more complex algorithms for a purpose.</p> <p>Programming an animation.</p> <p>Debugging their own code.</p> <p>Writing code to create a desired effect.</p>	
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Information Technology	<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>Using word processing software to type and reformat text.</p> <p>Using software to create story animations.</p> <p>Understanding that personal information</p>	<p>Taking photographs and recording video to tell a story.</p> <p>Using software to edit and enhance their video adding music, sounds and text on screen with transitions.</p>	<p>Building a web page and creating content for it.</p> <p>Use Google online software for documents,</p>	<p>Using a software programme (Sonic Pi or Scratch) to create music.</p> <p>Using video editing software or animation software to animate.</p> <p>Independently learning how to use 3D design</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>Developing understanding of different software tools.</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>Introduction to spreadsheets.</p> <p>Representing data in tables, charts and pictograms.</p> <p>Recognising common uses of information technology, including beyond school.</p> <p>Understanding some of the ways we can use the internet.</p>	<p>should not be shared on the internet.</p> <p>Learning how to be respectful to others when sharing content online.</p> <p>Collecting and inputting data into a spreadsheet.</p> <p>Interpreting data.</p> <p>Learning how computers are used in the wider world.</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>Learning about the pros and cons of digital versus paper databases.</p> <p>Creating and interpreting charts and graphs to understand data.</p> <p>Understanding the purpose of emails.</p> <p>Learning what a search engine is.</p> <p>Recognising how social media platforms are used to interact.</p>	<p>presentations, forms and spreadsheets.</p> <p>Understanding why some results come before others when searching.</p> <p>Understanding that information on the internet is not all grounded in fact.</p> <p>Designing a weather station which gathers and records sensor data.</p> <p>Understanding that software can be used collaboratively online to work as a team.</p>	<p>software package TinkerCAD.</p> <p>Developing searching skills to help find relevant information on the internet.</p> <p>Understanding how apps can access our personal information and how to alter the permissions.</p> <p>Understanding how data is collected.</p> <p>Learn about different forms of communication that have developed with the use of technology.</p>	<p>Creating and editing videos, adding multiple elements: music, voiceover, sound, text and transitions to create a video advert.</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> <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 about the Internet of Things and how it has led to 'big data'.</p>
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Digital Literacy	Logging in and out and saving work on their own account.	Understanding that personal information should not be shared on the internet.	Learning to be a responsible digital citizen; understanding their responsibilities to	Recognising what appropriate behaviour is when collaborating with others online.	Learning about how permissions work and how to change them.	Understanding the importance of secure passwords and how to

	<p>Understand the importance of a password.</p> <p>When using the internet to search for images, learning what to do if they come across something online that worries them or makes them feel uncomfortable.</p> <p>Recognising when someone has been unkind online.</p> <p>Learning some top tips for staying safe online.</p> <p>Understanding how we 'share' information on the internet.</p>	<p>Learning how to be respectful to others when sharing content online.</p>	<p>treat others respectfully and recognising when digital behaviour is unkind.</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>Learning that not all information on the internet is factual.</p> <p>Understanding who personal information should/ should not be shared with.</p>	<p>Recognising that information on the Internet might not be true or correct and that some sources are more trustworthy than others.</p> <p>Learning about different forms of advertising on the internet.</p>	<p>Identifying possible issues with online communication.</p> <p>Considering the effects of screen-time on physical and mental wellbeing.</p> <p>Learning about online bullying and where to seek advice.</p>	<p>create them, along with two-step authentication.</p> <p>Using search engines safely and effectively.</p> <p>Recognising that updated software can help to prevent data corruption and hacking.</p> <p>Considering their digital footprint and online reputation and future implications they may have.</p> <p>Learning about how to collect evidence and report online bullying concerns.</p>
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