



Computing Progression of Skills 2020-21

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science	<p><i>To understand what algorithms are; how they are implemented on digital devices; and that programs execute by following precise and unambiguous instructions.</i></p> <p>To understand algorithms as a sequence of instructions in everyday context (e.g. recipe).</p> <p>To plan a sequence of steps to achieve a desired outcome (e.g. to make a sandwich/move a Bee Bot).</p> <p>To program a Bee Bot with single instructions.</p>	<p><i>To understand what algorithms are; how they are implemented on digital devices; and that programs execute by following precise and unambiguous instructions.</i></p> <p>To plan a sequence of steps to achieve a desired outcome.</p> <p>To program a Bee Bot using a complete algorithm to move the Bee Bot to a desired location.</p>	<p><i>To design, write and debug programs that accomplish specific goals.</i></p> <p>To design a program using block language.</p> <p>To program a simple animation making a sprite move and talk.</p> <p>To understand that sometimes a program will have to be debugged.</p>	<p><i>To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</i></p> <p>To design a program using block language in which the user has to provide some input (e.g. maths quiz).</p> <p>To be able to debug their code thoroughly.</p>	<p><i>To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</i></p> <p>To design, write and debug a program, using block language, to achieve a desired outcome (e.g. creation of geometric shapes).</p>	<p><i>To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</i></p> <p>To design, write and debug a program based on their own ideas for a target audience.</p>

	<p><i>To create and debug simple programs</i></p> <p>To create a program for a Bee Bot by entering instructions one at a time.</p>	<p><i>To create and debug simple programs.</i></p> <p>To program a Bee Bot using a sequence of instructions.</p> <p>To create, run and debug a simple program using a screen Bot.</p>	<p><i>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</i></p> <p>To recognise common forms of input (keyboard/mouse/touch screen) and output (screen/speakers).</p> <p>To create a program that produces and output on the screen.</p> <p>To use sequence in programs in an appropriate order (e.g. to program a sprite).</p>	<p><i>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</i></p> <p>To use a sequence of commands in a computer program.</p> <p>To include repetition by using repeat ...until... within a program.</p> <p>To use selection by using if...then... within a program.</p> <p>To write code that includes keyboard input and produces an onscreen output.</p>	<p><i>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</i></p> <p>To use sequence, selection and repetition in a computer program.</p> <p>To write a program that has a keyboard and mouse input and a screen and speakers output.</p>	<p><i>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</i></p> <p>To use sequence, selection, repetition and variables in a computer program.</p> <p>To write a program that accepts a number of different inputs and produces a number of different outputs.</p>
	<p><i>Use logical reasoning to predict the behaviour of simple programs.</i></p> <p>To predict what a program will do.</p>	<p><i>Use logical reasoning to predict the behaviour of simple programs.</i></p> <p>To explain what a particular program will do.</p>	<p><i>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</i></p>	<p><i>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</i></p>	<p><i>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</i></p>	<p><i>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</i></p>

			<p>To predict and explain what a program will do based on the code.</p> <p>To identify errors in the program code.</p>	<p>To explain an of what the algorithm will do.</p> <p>To identify and debug errors in code.</p>	<p>To identify errors in code to create geometric shapes and patterns.</p> <p>To debug examples and own code.</p>	<p>To give clear and precise logical explanations of code.</p> <p>To detect and correct errors in code.</p>
			<p><i>To use controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</i></p> <p>To understand what a computer simulation is.</p> <p>To explore a variety of computer simulations and explain why they can be useful.</p>	<p><i>To use controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</i></p> <p>To develop a simple computer simulation (e.g. traffic lights).</p>	<p><i>To use controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</i></p> <p>To use decomposition to discover how a game/shape was made in order to design and create their own.</p>	<p><i>To use controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</i></p> <p>To use decomposition to discover how a game/app was made in order to design and create their own.</p>
	<p><i>Recognise common uses of information technology beyond school.</i></p> <p>To understand what a computer is and how it works.</p>	<p><i>Recognise common uses of information technology beyond school.</i></p> <p>To name different input and output systems of computer systems.</p>	<p><i>Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.</i></p> <p>To understand how a computer stores data.</p>	<p><i>Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.</i></p> <p>To learn how the Internet works, including how it is structured</p>	<p><i>Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.</i></p> <p>To describe the impact of technology on society,</p>	<p><i>Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.</i></p> <p>To understand how binary numbers work.</p>

			<p>To understand what a computer network is.</p> <p>To identify uses of technology beyond school and why they are helpful (e.g. robots & simulations)</p> <p>To understand how email works over the internet.</p>	and how data travels along it.	including on people's: spiritual, moral, social and cultural development.	To understand the importance of the computers code breaking during WWII.
--	--	--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------	---------------------------------------------------------------------------	--------------------------------------------------------------------------

Information Technology

			<p><i>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</i></p> <p>To understand that search engines select pages according to keywords.</p> <p>To search for information within a single site.</p>	<p><i>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</i></p> <p>To use a search engine to find information.</p> <p>To understand search engines rank pages according to relevance.</p>	<p><i>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</i></p> <p>To use filters to make search engines more effective.</p>	<p><i>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</i></p> <p>To know there are a range of search engines. (Google, Bing, Yahoo etc.)</p> <p>To understand there are also site specific search engines. (App store, Google play etc.)</p>
	<p><i>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</i></p> <p>To use computers, I-pads and cameras.</p> <p>To be able to log in, open and save work.</p> <p>To create a picture.</p>	<p><i>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</i></p> <p>To use computers, I-pads, audio recorders and cameras.</p> <p>To be able to log in, open, edit, print and save work.</p> <p>To combine text and images.</p>	<p><i>Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</i></p> <p>To send an e-mail.</p> <p>To collect data and create a simple spreadsheet and</p>	<p><i>Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</i></p> <p>To search a data base.</p> <p>To add records to a database.</p>	<p><i>Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</i></p> <p>To create a 3-fold leaflet.</p> <p>To design and create a simple touch screen game.</p>	<p><i>Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</i></p> <p>To use a range of media to create a pitch presentation.</p> <p>To create advertising campaign for</p>

	To type their own text.	<p>To create a simple presentation.</p> <p>To create a pictogram or graph.</p> <p>To create an e-book.</p>	<p>chart using Google Sheets.</p> <p>To use green screen to create a video.</p> <p>To create a poster editing text and pictures.</p> <p>To use Google Docs to publish a story or poem.</p> <p>To create a simple animation with picture and audio (e.g. Puppet-Pals)</p> <p>To compose a piece of music.</p>	<p>To use Google Forms to collect information.</p> <p>To present information in a range of ways including tables, charts and graphs.</p> <p>To create a presentation in Google Slides using transitions and inserting audio/video/ hyperlinks.</p> <p>To create a newspaper article using columns and editing text.</p>	<p>To a create spreadsheet and analyse and evaluate the information.</p> <p>To create a stop-motion animation.</p> <p>To choose software to share information with others – poster, leaflet, presentation, video etc.</p>	<p>their app or game.</p> <p>To conduct market research and analyse data collected.</p> <p>To design and create a house using Google Sketch-Up.</p> <p>To create a web page.</p>
Digital Literacy	<p><i>Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</i></p> <p>To know that you need to</p>	<p><i>Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</i></p> <p>To understand that not</p>	<p><i>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.</i></p> <p>To know and understand the</p>	<p><i>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.</i></p> <p>To recognise the key values</p>	<p><i>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.</i></p>	<p><i>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.</i></p> <p>To explain what is meant by a</p>

	<p>keep yourself safe on-line.</p> <p>To close the lid & tell an adult if they see something they shouldn't or feel unsafe.</p> <p>To know what personal information is and that it should be kept private.</p> <p>To not copy or share someone else's work without asking.</p>	<p>everyone one line is honest.</p> <p>To understand the idea of a trusted adult.</p> <p>To know how your online activities can affect others.</p> <p>To be able to identify the positives and negatives of using technology.</p> <p>To recognise kind and unkind comments.</p> <p>To know the risks of sharing images without permission.</p> <p>To understand the types of images that you should or shouldn't post online.</p>	<p>meaning of SMART rules.</p> <p>To know how to report a concern to a member of staff.</p> <p>To understand that emails and attachments can contain computer viruses.</p> <p>To understand the importance of not sharing passwords.</p> <p>To be able to identify possible dangers and consequences of talking to strangers online.</p> <p>To know how to stay safe in online chatrooms.</p> <p>To be able to name the positives and</p>	<p>that are important in positive online relationships.</p> <p>To identify the feelings and emotions that arise from online bullying.</p> <p>To develop strategies to use if we or someone we know is being bullied online.</p> <p>To know how to stay safe when using the internet.</p> <p>To understand the reason for age ratings.</p> <p>To identify how and who to ask for help.</p> <p>To consider what is appropriate</p>	<p>To develop an understanding of a 'digital footprint'</p> <p>To know how to keep social media settings private.</p> <p><i>To identify rules for sharing images online.</i></p> <p><i>To describe the positive and negative consequences of sharing images online.</i></p> <p><i>To recognise the possible influences and pressures to share images online.</i></p>	<p>'digital footprint'</p> <p><i>To list key applications that we may use now and in the future.</i></p> <p><i>To know why there are age ratings/restrictions for social media, apps and games.</i></p> <p><i>To identify ways to keep yourself and others safe online and offline.</i></p> <p><i>To recognise that people may not always be who they say they are online.</i></p> <p>To have an understanding of what constitutes a</p>
--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

			<p>negatives of using technology.</p> <p>To understand the difference between safe and risky choices on line.</p>	<p>language and behaviour when on line.</p>		<p>'good digital citizen'</p> <p>To develop understanding of copyright.</p>
--	--	--	-------------------------------------------------------------------------------------------------------------------	---------------------------------------------	--	-----------------------------------------------------------------------------