



# St. Bega's Computing Progression of Skills



		EYFS		Year 1		Year 2		
Computer Science	<p><u>NURSERY</u></p> <ul style="list-style-type: none"> <li>use control toys such as remote-control cars and Beebots</li> <li>presses buttons on a floor robot and talks about the movements</li> <li>begin to use simple apps on iPad</li> <li>begin to use simple software to make things happen</li> </ul> <p><u>RECEPTION</u></p> <ul style="list-style-type: none"> <li>use a range of control toys and devices</li> <li>use a range of age-appropriate programs</li> <li>use a range of age-appropriate apps on iPads</li> <li>use simple software to make things happen</li> <li>inputs a set of simple instructions to make a floor robot move</li> </ul>		<ul style="list-style-type: none"> <li>understand that an algorithm is a set of instructions used to solve a problem or achieve an objective.</li> <li>know that an algorithm written for a computer is called a program.</li> <li>work out what is wrong with a simple algorithm when the steps are out of order.</li> <li>write their own simple algorithm.</li> <li>know that an unexpected outcome is due to the code they have created</li> <li>make logical attempts to fix the code.</li> <li>read code one line at a time.</li> <li>interpret where the turtle in 2Go challenges will end up at the end of the program.</li> </ul>		<ul style="list-style-type: none"> <li>explain that an algorithm is a set of instructions to complete a task.</li> <li>show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code.</li> <li>create a simple program that achieves a specific purpose.</li> <li>identify and correct some errors.</li> <li>display a growing awareness of the need for logical, programmable steps.</li> <li>identify the parts of a program that respond to specific events. initiate specific actions.</li> </ul>			
	<b>Year 3</b>		<b>Year 4</b>		<b>Year 5</b>		<b>Year 6</b>	
	<ul style="list-style-type: none"> <li>turn a simple real-life situation into an algorithm for a program.</li> <li>identify an error within their program.</li> <li>fix the algorithm.</li> <li>demonstrate the ability to design and code a</li> </ul>		<ul style="list-style-type: none"> <li>turn real-life situations into an algorithm.</li> <li>make more intuitive attempts to debug their own programs.</li> <li>use of timers to achieve repetition effects.</li> <li>understand 'if statements' for selection and attempt</li> </ul>		<ul style="list-style-type: none"> <li>attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts.</li> <li>test and debug their programs as they go</li> </ul>		<ul style="list-style-type: none"> <li>turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction).</li> <li>decomposing aspects of the task in a logical way using their knowledge of possible coding structures and applying skills from previous programs.</li> </ul>	



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	<p>program that follows a simple sequence.</p> <ul style="list-style-type: none"> <li>• experiment with timers to achieve repetition effects.</li> <li>• begin to understand the difference in the effect of using a timer command rather than a repeat command.</li> <li>• understand how variables can be used to store information while a program is executing.</li> <li>• show that they are thinking of the structure of a program in logical, achievable steps repetition and variables.</li> <li>• make good attempts to 'step through' more complex code to identify errors in algorithms and can correct this.</li> <li>• 'read' programs with several steps and predict the outcome accurately.</li> <li>• list a range of ways that the internet can be used to provide different methods of communication.</li> </ul>	<p>to combine these with other coding.</p> <ul style="list-style-type: none"> <li>• understanding how variables can be used to store information while a program is executing.</li> <li>• use and manipulate the value of variables</li> <li>• make use of user inputs and outputs such as 'print to screen'.</li> <li>• can trace code and use step-through methods to identify errors in code and make logical attempts to correct this.</li> <li>• 'read' programs with several steps and predict the outcome accurately</li> <li>• recognise the main component parts of hardware which allow computers to join and form a network.</li> <li>• understand the online safety implications associated with the ways the internet can be used to provide different methods of communication</li> </ul>	<ul style="list-style-type: none"> <li>• use logical methods to identify the approximate cause of any bug</li> <li>• translate algorithms that include sequence, selection and repetition into code with increasing ease.</li> <li>• combine sequence, selection and repetition with other coding structures to achieve their algorithm design.</li> <li>• beginning to think about their code structure in terms of the ability to debug and interpret the code later.</li> <li>• understand the value of computer networks but are also aware of the main dangers.</li> <li>• recognise what personal information is and can explain how this can be kept safe.</li> <li>• select the most appropriate form of online communications contingent on audience and digital content.</li> </ul>	<ul style="list-style-type: none"> <li>• test and debug their program as they go and use logical methods to identify the cause of bugs.</li> <li>• demonstrate a systematic approach to try to identify a particular line of code causing a problem.</li> <li>• translate algorithms that include sequence, selection, and repetition into code</li> <li>• show that they are thinking of how to accomplish the set task in code utilising such structures, including nesting structures within each other.</li> <li>• displays an improving understanding of variables in coding, outputs, and inputs from the user of the program.</li> <li>• interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole.</li> <li>• understand and can explain in some depth the difference between the internet and the World Wide Web.</li> <li>• know what a WAN and LAN</li> <li>• describe how they access the internet in school.</li> </ul>
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	<ul style="list-style-type: none"> <li>• use some methods of communication</li> <li>• open, respond to and attach files to emails</li> <li>• describe appropriate email conventions when communicating in this way.</li> </ul>			
	<b>EYFS</b>	<b>Year 1</b>	<b>Year 2</b>	
Information Technology	<u>NURSERY</u> <ul style="list-style-type: none"> <li>• use technology appropriately in role play activities</li> <li>• experiment with using cameras to catch still images, iPads, story phones and voice recorders.</li> <li>• use touch technology to move objects on an IWB or iPads.</li> <li>• begin to use a paint program to create pictures.</li> <li>• explore mark making programs and communicate their ideas</li> <li>• collect data and discuss as a class</li> </ul> <u>RECEPTION</u> <ul style="list-style-type: none"> <li>• select and use technology for a particular purpose</li> <li>• use cameras, to catch still and moving images, iPads, story phones and voice recorders.</li> <li>• access and use simple activities using touch technology with increasing control</li> <li>• use a paint program to create pictures</li> <li>• name and use a keypad with developing control</li> <li>• write name using a keyboard on an iPad and can use the caps lock for the initial sound in their name</li> <li>• collect their own data and discuss as a class</li> <li>• discuss pictograms as a class</li> </ul>	<ul style="list-style-type: none"> <li>• sort, collate, edit, and store simple digital content</li> <li>• name, save and retrieve their work</li> <li>• follow simple instructions to access online resources</li> </ul>	<ul style="list-style-type: none"> <li>• demonstrate an ability to organise data using, for example, a database</li> <li>• retrieve specific data for conducting simple searches.</li> <li>• edit more complex digital data such as music</li> <li>• confidently creating, naming, saving, and retrieving content.</li> <li>• use a range of media in their digital content including photos, text, and sound.</li> </ul>	
	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>
	<ul style="list-style-type: none"> <li>• carry out simple searches to retrieve digital content.</li> </ul>	<ul style="list-style-type: none"> <li>• understand the function, features, and layout of a search engine.</li> </ul>	<ul style="list-style-type: none"> <li>• search with greater complexity for digital content when using a search engine.</li> </ul>	<ul style="list-style-type: none"> <li>• apply filters when searching for digital content.</li> </ul>



## St. Bega's Computing Progression of Skills

	<ul style="list-style-type: none"><li>• understand that they are connecting to the internet when using search engines</li><li>• use a search engine</li><li>• collect, analyse, evaluate, and present data and information using a selection of software</li><li>• consider what software is most appropriate for a given task.</li><li>• create purposeful content to attach to emails</li></ul>	<ul style="list-style-type: none"><li>• appraise selected webpages for credibility and information at a basic level.</li><li>• make improvements to digital solutions based on feedback.</li><li>• make informed software choices when presenting information and data.</li><li>• create linked content using a range of software</li><li>• share digital content within their community</li></ul>	<ul style="list-style-type: none"><li>• explain in some detail how credible a webpage is and the information it contains.</li><li>• make appropriate improvements to digital solutions based on feedback received</li><li>• confidently comment on the success of the solution.</li><li>• objectively review solutions from others.</li><li>• collaboratively create content and solutions using digital features within software.</li><li>• use several ways of sharing digital content</li></ul>	<ul style="list-style-type: none"><li>• explain in detail how credible a webpage is and the information it contains.</li><li>• compare a range of digital content sources and are able to rate them in terms of content quality and accuracy.</li><li>• use critical thinking skills in everyday use of online communication</li><li>• make clear connections to the audience when designing and creating digital content.</li><li>• design and create their own blogs to become a content creator on the internet</li><li>• use criteria to evaluate the quality of digital solutions and</li><li>• identify improvements, making some refinements.</li></ul>
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# St. Bega's Computing Progression of Skills



<h1>Digital Literacy</h1>	EYFS		Year 1	Year 2
	<u>NURSERY</u> <ul style="list-style-type: none"> <li>• speak to an adult about what they have seen</li> <li>• say if something that they see on the internet makes them feel bad</li> <li>• recognise some technology that is used in places such as homes and schools</li> <li>• recognise some aspects of the programmed world that they live in</li> <li>• begin to recognise that they can use the internet to play and learn</li> </ul>		<ul style="list-style-type: none"> <li>• understand what is meant by technology</li> <li>• identify a variety of examples both in and out of school.</li> <li>• make a distinction between objects that use modern technology and those that do not</li> <li>• understand the importance of keeping information private</li> <li>• actively demonstrate this importance in lessons.</li> <li>• take ownership of their work and save this in their own private space.</li> </ul>	<ul style="list-style-type: none"> <li>• effectively retrieve relevant, purposeful digital content using a search engine.</li> <li>• apply their learning of effective searching beyond the classroom.</li> <li>• share this knowledge</li> <li>• make links between technology they see around them, coding and multimedia work they do in school</li> <li>• know the implications of inappropriate online searches.</li> <li>• begin to understand how things are shared electronically</li> <li>• develop an understanding of using email safely</li> <li>• know ways of reporting inappropriate behaviours and content to a trusted adult.</li> </ul>
	<u>RECEPTION</u> <ul style="list-style-type: none"> <li>• talk about what they are doing when working on a computer/iPad/laptop</li> <li>• say if something that they see on the internet makes them feel bad</li> <li>• understand the school's safer internet rules and how to use the internet safely.</li> <li>• recognise the purpose for using technology at home and in school</li> <li>• recognise more aspects of the programmed world they live in.</li> <li>• understand that the things they create belong to them and that they can also be shared with others.</li> <li>• understand that they can use the internet to play and learn</li> </ul>			
	Year 3	Year 4	Year 5	Year 6
	<ul style="list-style-type: none"> <li>• demonstrate the importance of having a secure password and not sharing this with anyone else</li> <li>• explain the negative implications of failure to</li> </ul>	<ul style="list-style-type: none"> <li>• explore key concepts relating to online safety using concept mapping</li> <li>• help others to understand the importance of online safety.</li> </ul>	<ul style="list-style-type: none"> <li>• have a secure knowledge of common online safety rules</li> <li>• apply this by demonstrating the safe and respectful use of a few different technologies and online services.</li> </ul>	<ul style="list-style-type: none"> <li>• demonstrate the safe and respectful use of a range of different technologies and online services.</li> <li>• identify more discreet inappropriate behaviours through developing critical thinking,</li> </ul>



## St. Bega's Computing Progression of Skills

	<p>keep passwords safe and secure.</p> <ul style="list-style-type: none"><li>• understand the importance of staying safe and the importance of their conduct when using familiar communication tools</li><li>• know more than one way to report unacceptable content and contact.</li></ul>	<ul style="list-style-type: none"><li>• know a range of ways of reporting inappropriate content and contact.</li></ul>	<ul style="list-style-type: none"><li>• implicitly relate appropriate online behaviour to their right to personal privacy and mental wellbeing of themselves and others.</li></ul>	<ul style="list-style-type: none"><li>• recognise the value in preserving their privacy when online for their own and other people's safety.</li></ul>
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