

Skills Progression - Computing

Computer Science						
Problem Solving						
Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>The child can understand that goals can be achieved by following a sequence of steps in everyday contexts.</p> <p>The child can program Beebots using sequences of instructions to implement an algorithm.</p>	<p>The child can understand algorithms as sequences of instructions or sets of rules in everyday contexts.</p> <p>The child can program on screen using sequences of instructions to implement an algorithm.</p>	<p>The child can design and write a program using a block language, without user interaction.</p> <p>The child can explore simulations of physical systems on screen.</p> <p>The child can plan a project.</p>	<p>The child can design and write a program using a block language to a given brief, including simple interaction.</p> <p>The child can develop their own simulation of a simple physical system on screen.</p> <p>The child can work with others to plan a project</p>	<p>The child can design, write and debug a program using a block language based on their own ideas.</p> <p>The child can experiment with computer control applications.</p> <p>The child can plan a solution to a problem using decomposition.</p>	<p>The child can design, write and debug a program using a second programming language based on their own ideas.</p> <p>The child can design, write and debug their own computer control application.</p> <p>The child can solve problems using decomposition, tackling each part separately.</p>

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Programming						
Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	The child can give a sequence of instructions to a Beebot.	The child can create a simple program on screen, correcting any errors.	The child can use sequence in programs. The child can write a program to produce output on screen.	The child can use sequence and repetition in programs. The child can write a program that accepts keyboard or mouse input and produces on-screen output.	The child can use sequence, selection and repetition in programs. The child can write a program that accepts keyboard and mouse input and produces output on screen and through speakers.	The child can use sequence, selection, repetition and variables in programs. The child can write a program that accepts inputs other than keyboard and mouse and produces outputs on screen and through speakers.

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Logical Thinking						
Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>The child can give explanations for what they think a program will do.</p>	<p>The child can give logical explanations for what they think a program will do.</p>	<p>The child can explain a simple, sequence-based algorithm in their own words.</p> <p>The child can use logical reasoning to detect errors in programs.</p> <p>The child can understand that computer networks transmit information in a digital (binary) format.</p> <p>The child can understand that email and videoconferencing are made possible through the internet.</p>	<p>The child can explain an algorithm using sequence and repetition in their own words.</p> <p>The child can use logical reasoning to detect and correct errors in programs.</p> <p>The child can understand that the internet transmits information as packets of data.</p> <p>The child can understand how the internet makes the web possible.</p>	<p>The child can explain a rule-based algorithm in their own words.</p> <p>The child can use logical reasoning to detect errors in algorithms.</p> <p>The child can understand how data routing works on the internet.</p> <p>The child can understand how web pages are created and transmitted.</p>	<p>The child can give clear and precise logical explanations of a number of algorithms.</p> <p>The child can use logical reasoning to detect and correct errors in algorithms (and programs).</p> <p>The child can understand how mobile phone or other networks operate.</p> <p>The child can understand how domain names are converted into IP addresses on the internet.</p>

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Information Technology						
Creating Content						
Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>The child can use digital technology to store and retrieve content.</p> <p>The child can create original content using digital technology.</p>	<p>The child can store, organise and retrieve content on digital devices for a given purpose.</p> <p>The child can create and edit original content for a given purpose using digital technology.</p>	<p>The child can use a range of programs on a computer.</p> <p>The child can design and create content on a computer.</p>	<p>The child can use and combine a range of programs on a computer.</p> <p>The child can design and create content on a computer in response to a given goal.</p>	<p>The child can use and combine a range of programs on multiple devices.</p> <p>The child can design and create programs on a computer in response to a given goal.</p>	<p>The child can select, use and combine a range of programs on multiple devices.</p> <p>The child can design and create systems in response to a given goal.</p>

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Searching						
Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			<p>The child can collect and present information.</p> <p>The child can search for information within a single site.</p> <p>The child can understand that search engines select pages according to keywords found in the content.</p>	<p>The child can collect and present data.</p> <p>The child can use a standard search engine to find information.</p> <p>The child can understand that search engines rank pages according to relevance.</p>	<p>The child can analyse and evaluate information.</p> <p>The child can use filters to make more effective use of a standard search engine.</p> <p>The child can understand that search engines use a cached copy of the crawled web to select and rank results.</p>	<p>The child can analyse and evaluate data.</p> <p>The child can make use of a range of search engines appropriate to finding information that is required.</p> <p>The child can appreciate that search engines rank pages based on the number and quality of in-bound links.</p>

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Digital Literacy						
E-Safety						
Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>The child can keep themselves safe while using digital technology.</p> <p>The child can understand that information on the internet can be seen by others.</p> <p>The child can understand what to do if they see disturbing content online at home or at school.</p>	<p>The child can keep safe and show respect to others while using digital technology.</p> <p>The child can understand that they should not share personal information online.</p> <p>The child can understand what to do if they have concerns about content or contact online.</p>	<p>The child can use digital technology safely and show respect for others when working online.</p> <p>The child can recognise unacceptable behaviour when using digital technology.</p> <p>The child knows who to talk to about concerns and inappropriate behaviour in school.</p> <p>The child can decide whether a web page is relevant for a given purpose or question.</p> <p>The child can use email and videoconferencing in class.</p>	<p>The child can demonstrate that they can act responsibly when using computers.</p> <p>The child can understand the difference between acceptable and unacceptable behaviours when using digital technology.</p> <p>The child knows who to talk to about concerns and inappropriate behaviour at home or in school.</p> <p>The child can decide whether digital content is relevant for a given purpose or question.</p> <p>The child can work collaboratively with classmates on a stop-motion animation</p>	<p>The child can demonstrate that they can act responsibly when using the internet.</p> <p>The child can discuss the consequences of particular behaviours when using digital technology.</p> <p>The child knows how to report concerns and inappropriate behaviour in a range of contexts.</p> <p>The child can decide whether digital content is reliable and unbiased.</p> <p>The child can work collaboratively with classmates on a class website.</p>	<p>The child can show that they can think through the consequences of their actions when using digital technology.</p> <p>The child can identify principles underpinning acceptable use of digital technologies.</p> <p>Know a range of ways to report concerns and inappropriate behaviour in a variety of contexts.</p> <p>The child can form an opinion about the effectiveness of digital content.</p> <p>The child can use online tools to plan and carry out a collaborative project.</p>

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Using IT beyond school						
Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	The child can show an awareness of how IT is used for communication beyond school.	The child can show an awareness of how IT is used for a range of purposes beyond school.				