

Computer Science	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Problem solving</b>	<p>The child can understand that goals can be achieved by following a sequence of steps in everyday contexts.</p> <ul style="list-style-type: none"> <li><b>We are treasure hunters: Coding caterpillar</b></li> </ul>	<p>The child can understand algorithms as sequences of instructions or sets of rules in everyday contexts.</p> <ul style="list-style-type: none"> <li><b>We are astronauts: programming with Hopscotch</b></li> <li><b>We are game testers: predicting coding linked to teacher game</b></li> </ul>	<p>The child can design and write a program using a block language, without user interaction.</p> <ul style="list-style-type: none"> <li><b>We are programmers: Create a Scratch animation.</b></li> <li><b>We are bug fixers: Find and correct problems in Scratch coding.</b></li> </ul>	<p>The child can design and write a program using a block language to a given brief, including simple interaction.</p> <ul style="list-style-type: none"> <li><b>We are software developers: Develop an educational game on scratch.</b></li> </ul>	<p>The child can design, write and debug a program using a block language based on their own ideas.</p> <ul style="list-style-type: none"> <li><b>We are game developers: Develop and interactive game.</b></li> </ul>	<p>The child can design, write and debug a program using a second programming language based on their own ideas.</p> <ul style="list-style-type: none"> <li><b>We are adventure gamers: Make a text-based adventure game on Scratch.</b></li> </ul>
	<p>The child can program floor turtles using sequences of instructions to implement an algorithm.</p> <ul style="list-style-type: none"> <li><b>We are treasure hunters: Coding caterpillar</b></li> </ul>	<p>The child can program on screen using sequences of instructions to implement an algorithm.</p> <ul style="list-style-type: none"> <li><b>We are game testers: predicting coding linked to teacher game</b></li> </ul>	<p>The child can explore simulations of physical systems on screen.</p> <ul style="list-style-type: none"> <li><b>We are programmers: Create a Scratch animation</b></li> <li><b>We are bug fixers: Find and correct problems in Scratch coding.</b></li> </ul>	<p>The child can develop their own simulation of a simple physical system on screen.</p> <ul style="list-style-type: none"> <li><b>We are software developers: Develop an educational game on scratch.</b></li> </ul>	<p>The child can experiment with computer control applications.</p> <ul style="list-style-type: none"> <li><b>We are game developers: Develop and interactive game.</b></li> </ul>	<p>The child can design, write and debug their own computer control application.</p> <ul style="list-style-type: none"> <li><b>We are computational thinkers: mastering algorithms using Micro-bit.</b></li> </ul>
			<p>The child can plan a project.</p> <ul style="list-style-type: none"> <li><b>We are programmers: Create a Scratch animation.</b></li> <li><b>We are bug fixers: Find and correct problems in Scratch coding.</b></li> </ul>	<p>The child can work with others to plan a project.</p> <ul style="list-style-type: none"> <li><b>We are toy designers: prototyping an interactive toy using Raspberry Pi</b></li> </ul>	<p>The child can plan a solution to a problem using decomposition.</p> <ul style="list-style-type: none"> <li><b>We are cryptographers: cracking codes using The Black Chamber.</b></li> </ul>	<p>The child can solve problems using decomposition, tackling each part separately.</p> <ul style="list-style-type: none"> <li><b>We are computational thinkers: mastering algorithms using Micro-bit.</b></li> </ul>
<b>Programming</b>	<p>The child can give a sequence of instructions to a coding caterpillar.</p> <ul style="list-style-type: none"> <li><b>We are treasure hunters: Coding caterpillar</b></li> </ul>	<p>The child can create a simple program on screen, correcting any errors.</p> <ul style="list-style-type: none"> <li><b>We are astronauts: programming with Hopscotch</b></li> </ul>	<p>The child can use sequence in programs.</p> <ul style="list-style-type: none"> <li><b>We are programmers: Create a Scratch animation.</b></li> </ul>	<p>The child can use sequence and repetition in programs.</p> <ul style="list-style-type: none"> <li><b>We are musicians: create and develop a musical composition on GarageBand</b></li> </ul>	<p>The child can use sequence, selection and repetition in programs.</p> <ul style="list-style-type: none"> <li><b>We are game developers: Develop and interactive game.</b></li> </ul>	<p>The child can use sequence, selection, repetition and variables in programs.</p> <ul style="list-style-type: none"> <li><b>We are computational thinkers: mastering algorithms using Micro-bit.</b></li> </ul>
			<p>The child can write a program to produce output on screen.</p> <ul style="list-style-type: none"> <li><b>We are programmers: Create a Scratch animation.</b></li> </ul>	<p>The child can write a program that accepts keyboard input and produces on-screen output.</p> <ul style="list-style-type: none"> <li><b>We are software developers: Develop an educational game on scratch.</b></li> <li><b>We are toy designers: prototyping an interactive toy using Raspberry Pi</b></li> </ul>	<p>The child can write a program that accepts keyboard and mouse input and produces output on screen and through speakers.</p> <ul style="list-style-type: none"> <li><b>We are game developers: Develop and interactive game using Scratch.</b></li> </ul>	<p>The child can write a program that accepts inputs other than keyboard and mouse and produces outputs other than screen or speakers.</p> <ul style="list-style-type: none"> <li><b>We are computational thinkers: mastering algorithms using Micro-bit.</b></li> </ul>
<b>Logical Thinking</b>	<p>The child can give explanations for what they think a program will do.</p> <ul style="list-style-type: none"> <li><b>We are treasure hunters: Coding caterpillar</b></li> </ul>	<p>The child can give logical explanations for what they think a program will do.</p> <ul style="list-style-type: none"> <li><b>We are astronauts: Programming on Hopscotch</b></li> </ul>	<p>The child can explain a simple, sequence-based algorithm in their own words.</p> <ul style="list-style-type: none"> <li><b>We are programmers: Create a Scratch animation.</b></li> </ul>	<p>The child can explain an algorithm using sequence and repetition in their own words.</p> <ul style="list-style-type: none"> <li><b>We are software developers: Develop an educational game on scratch.</b></li> <li><b>We are toy designers: prototyping an interactive toy using Raspberry Pi</b></li> </ul>	<p>The child can explain a rule-based algorithm in their own words.</p> <ul style="list-style-type: none"> <li><b>We are game developers: Develop and interactive game.</b></li> <li><b>We are cryptographers: cracking codes using The Black Chamber.</b></li> </ul>	<p>The child can give clear and precise logical explanations of a number of algorithms.</p> <ul style="list-style-type: none"> <li><b>We are computational thinkers: mastering algorithms using Micro-bit.</b></li> </ul>

			<p>The child can use logical reasoning to detect errors in programs.</p> <ul style="list-style-type: none"> <li>• <b>We are bug fixers: Find and correct problems in Scratch coding.</b></li> </ul>	<p>The child can use logical reasoning to detect and correct errors in programs.</p> <ul style="list-style-type: none"> <li>• <b>We are software developers: Develop an educational game on scratch.</b></li> <li>• <b>We are toy designers: prototyping an interactive toy using Raspberry Pi</b></li> </ul>	<p>The child can use logical reasoning to detect errors in algorithms.</p> <ul style="list-style-type: none"> <li>• <b>We are game developers: Develop and interactive game.</b></li> </ul>	<p>The child can use logical reasoning to detect and correct errors in algorithms (and programs).</p> <ul style="list-style-type: none"> <li>• <b>We are computational thinkers: mastering algorithms using Micro-bit.</b></li> <li>• <b>We are adventure gamers: Make a text-based adventure game on Scratch.</b></li> </ul>
			<p>The child can understand that computer networks transmit information in a digital (binary) format.</p> <ul style="list-style-type: none"> <li>• <b>We are communicators: send email via nsix.</b></li> </ul>	<p>The child can understand that the internet transmits information as packets of data</p> <ul style="list-style-type: none"> <li>• <b>We are HTML editors: Using hyperlinks to connect ideas and sources.</b></li> </ul>	<p>The child can understand how data routing works on the internet.</p> <ul style="list-style-type: none"> <li>• <b>We are web developers: Creating a website about cyber safety.</b></li> </ul>	<p>The child can understand how mobile phone or other networks operate.</p> <ul style="list-style-type: none"> <li>• <b>We are travel writers – using media and mapping to document a trip.</b></li> </ul>
			<p>The child can understand that email and videoconferencing are made possible through the internet.</p> <ul style="list-style-type: none"> <li>• <b>We are communicators: send email via nsix.</b></li> </ul>	<p>The child can understand how the internet makes the web possible.</p> <ul style="list-style-type: none"> <li>• <b>We are HTML editors: Using hyperlinks to connect ideas and sources.</b></li> </ul>	<p>The child can understand how web pages are created and transmitted.</p> <ul style="list-style-type: none"> <li>• <b>We are web developers: Creating a website about cyber safety.</b></li> </ul>	<p>The child can understand how domain names are converted into IP addresses on the internet.</p> <ul style="list-style-type: none"> <li>• <b>We are network technicians – explore computer networks including the internet.</b></li> </ul>
<b>Information Technology</b>						
<b>Creating Content</b>						
	<p>The child can use digital technology to store and retrieve content.</p> <ul style="list-style-type: none"> <li>• <b>We are TV chefs: Filming/Pictures of Recipe for instruction text</b></li> <li>• <b>We are story tellers: Book Creator – Talking Book</b></li> <li>• <b>We are painters: Illustrating an e-book - Book creator</b></li> <li>• <b>We are collectors: Finding images online and group using powerpoint</b></li> </ul>	<p>The child can store, organise and retrieve content on digital devices for a given purpose.</p> <ul style="list-style-type: none"> <li>• <b>We are zoologists: Data collection linked to excel</b></li> <li>• <b>We are researchers: Creating PowerPoint</b></li> </ul>	<p>The child can use a range of programs on a computer.</p> <ul style="list-style-type: none"> <li>• <b>We are vloggers:</b></li> <li>• <b>We are presenters: make and share a short iMovie presentation.</b></li> </ul>	<p>The child can use and combine a range of programs on a computer.</p> <ul style="list-style-type: none"> <li>• <b>We are co-authors: producing a wiki page.</b></li> <li>• <b>We are HTML editors: Using hyperlinks to connect ideas and sources.</b></li> <li>• <b>We are bloggers: sharing experiences using</b></li> </ul>	<p>The child can use and combine a range of programs on multiple devices.</p> <ul style="list-style-type: none"> <li>• <b>We are web developers: Creating a website about cyber safety.</b></li> <li>• <b>We are bloggers: sharing experiences and opinions using Blogger.</b></li> </ul>	<p>The child can select, use and combine a range of programs on multiple devices.</p> <ul style="list-style-type: none"> <li>• <b>We are travel writers – using media and mapping to document a trip.</b></li> <li>• <b>We are publishers: Creating a magazine or flyer using publisher.</b></li> <li>• <b>We are advertisers: create a television advert using Imovie.</b></li> </ul>
	<p>The child can create original content using digital technology.</p> <ul style="list-style-type: none"> <li>• <b>We are TV chefs: Filming/Pictures of Recipe for instruction text</b></li> <li>• <b>We are story tellers: Book Creator – Talking Book</b></li> <li>• <b>We are painters: Illustrating an e-book - Book creator</b></li> </ul>	<p>The child can create and edit original content for a given purpose using digital technology.</p> <ul style="list-style-type: none"> <li>• <b>We are photographers: Picture Editing using Picasso or Pixlr</b></li> </ul>	<p>The child can design and create content on a computer.</p> <ul style="list-style-type: none"> <li>• <b>We are presenters: make and share a short iMovie presentation.</b></li> <li>• <b>We are vloggers: Children to create presentation on notebook using screen cast to narrate.</b></li> </ul>	<p>The child can design and create content on a computer in response to a given goal.</p> <ul style="list-style-type: none"> <li>• <b>We are co-authors: producing a wiki page.</b></li> <li>• <b>We are artists: Fusing geometry and art using paint/notebook/pixlr.</b></li> </ul>	<p>The child can design and create programs on a computer in response to a given goal.</p> <ul style="list-style-type: none"> <li>• <b>We are architects: Creating a virtual space using Google SketchUp</b></li> </ul>	<p>The child can design and create systems in response to a given goal.</p> <ul style="list-style-type: none"> <li>• <b>We are computational thinkers: mastering algorithms using Micro-bit.</b></li> </ul>
<b>Searching</b>						
			<p>The child can collect and present information.</p>	<p>The child can collect and present data.</p>	<p>The child can analyse and evaluate information.</p>	<p>The child can analyse and evaluate data.</p>

			<ul style="list-style-type: none"> <li><b>We are opinion pollsters: collect and analyse data using excel.</b></li> </ul>	<ul style="list-style-type: none"> <li><b>We are meteorologists: Present the weather using excel spreadsheets and analysis of data.</b></li> </ul>	<ul style="list-style-type: none"> <li><b>We are cryptographers: cracking codes using The Black Chamber.</b></li> </ul>	<ul style="list-style-type: none"> <li><b>We are computational thinkers</b></li> </ul>
			<p>The child can search for information within a single site.</p> <ul style="list-style-type: none"> <li><b>We are vloggers: Children to create presentation on notebook using screen cast to narrate.</b></li> </ul>	<p>The child can use a standard search engine to find information.</p> <ul style="list-style-type: none"> <li><b>We are co-authors: producing a wiki page.</b></li> <li><b>We are HTML editors: Using hyperlinks to connect ideas and sources.</b></li> </ul>	<p>The child can use filters to make more effective use of a standard search engine.</p> <ul style="list-style-type: none"> <li><b>We are web developers: Creating a website about cyber safety.</b></li> </ul>	<p>The child can make use of a range of search engines appropriate to finding information that is required.</p> <ul style="list-style-type: none"> <li><b>We are publishers: Creating a magazine or flyer using publisher.</b></li> </ul>
			<p>The child can understand that search engines select pages according to keywords found in the content.</p> <ul style="list-style-type: none"> <li><b>We are vloggers: Children to create presentation on notebook using screen cast to narrate.</b></li> </ul>	<p>The child can understand that search engines rank pages according to relevance.</p> <ul style="list-style-type: none"> <li><b>We are HTML editors: Using hyperlinks to connect ideas and sources.</b></li> </ul>	<p>The child can understand that search engines use a cached copy of the crawled web to select and rank results.</p> <ul style="list-style-type: none"> <li><b>We are web developers: Creating a website about cyber safety.</b></li> </ul>	<p>The child can appreciate that search engines rank pages based on the number and quality of in-bound links.</p> <ul style="list-style-type: none"> <li><b>We are network technicians</b></li> </ul>
<b>Digital Literacy</b>						
<b>E-Safety</b>	The child can keep themselves safe while using digital technology.	The child can keep safe and show respect to others while using digital technology.	The child can use digital technology safely and show respect for others when working online.	The child can demonstrate that they can act responsibly when using computers.	The child can demonstrate that they can act responsibly when using the internet.	C.6.7.3. The child can show that they can think through the consequences of their actions when using digital technology.
	The child can understand that information on the internet can be seen by others.	The child can understand that they should not share personal information online.	The child can recognise unacceptable behaviour when using digital technology.	The child can understand the difference between acceptable and unacceptable behaviours when using digital technology.	The child can discuss the consequences of particular behaviours when using digital technology.	C.6.7.3. The child can identify principles underpinning acceptable use of digital technologies.
	The child can understand what to do if they see disturbing content online at home or at school.	The child can understand what to do if they have concerns about content or contact online.	Know who to talk to about concerns and inappropriate behaviour in school.	Know who to talk to about concerns and inappropriate behaviour at home or in school.	Know how to report concerns and inappropriate behaviour in a range of contexts.	Know a range of ways to report concerns and inappropriate behaviour in a variety of contexts.
			The child can decide whether a web page is relevant for a given purpose or question.	The child can decide whether digital content is relevant for a given purpose or question.	The child can decide whether digital content is reliable and unbiased.	C.6.5.3. The child can form an opinion about the effectiveness of digital content.
			The child can use email and videoconferencing in class.	The child can work collaboratively with classmates on a shared wiki.	The child can work collaboratively with classmates on a class website or blog.	C.6.4.3. The child can use online tools to plan and carry out a collaborative project.
<b>Using IT beyond school</b>	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.				