



## CURRICULUM PROGRESSION GRID: COMPUTING

### UPPER KEY STAGE 2

Computing Systems & Networks	Creating Media	Data and Information	Programming	Online Safety
<b>NC Link</b> <ul style="list-style-type: none"> <li>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;</li> </ul>	<b>NC Link</b> <ul style="list-style-type: none"> <li>use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content;</li> <li>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;</li> </ul>	<b>NC Link</b> <ul style="list-style-type: none"> <li>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;</li> </ul>	<b>NC Link</b> <ul style="list-style-type: none"> <li>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts;</li> <li>use sequence, selection, and repetition in programs; work with variables and various forms of input and output;</li> <li>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs;</li> </ul>	<b>NC Link</b> <ul style="list-style-type: none"> <li>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>
<b>Build on previous KS</b> <ul style="list-style-type: none"> <li>use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>recognise common uses of information technology beyond school</li> </ul>	<b>Build on previous KS</b> <ul style="list-style-type: none"> <li>use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>recognise common uses of information technology beyond school</li> </ul>	<b>Build on previous KS</b> <ul style="list-style-type: none"> <li>use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> </ul>	<b>Build on previous KS</b> <ul style="list-style-type: none"> <li>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>create and debug simple programs</li> <li>use logical reasoning to predict the behaviour of simple programs</li> </ul>	<b>Build on previous KS</b> <ul style="list-style-type: none"> <li>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.</li> </ul>

			<ul style="list-style-type: none"> <li>use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> </ul>	
<b>Intent</b> <ul style="list-style-type: none"> <li>To explain that computers can be connected together to form systems</li> <li>To recognise the role of computer systems in our lives</li> <li>To identify how to use a search engine</li> <li>To describe how search engines select results</li> <li>To explain how search results are ranked</li> <li>To recognise why the order of results is important, and to whom</li> <li>To explain the importance of internet addresses</li> <li>To recognise how data is transferred across the internet</li> <li>To explain how sharing information online can help</li> </ul>	<b>Intent</b> <ul style="list-style-type: none"> <li>To identify that drawing tools can be used to produce different outcomes</li> <li>To create a vector drawing by combining shapes</li> <li>To use tools to achieve a desired effect</li> <li>To recognise that vector drawings consist of layers</li> <li>To group objects to make them easier to work with</li> <li>To apply what I have learned about vector drawings</li> <li>To explain what makes a video effective</li> <li>To use a digital device to record video</li> <li>To capture video using a range of techniques</li> <li>To create a storyboard</li> <li>To identify that video can be improved through reshooting and editing</li> <li>To consider the impact of the choices made when</li> </ul>	<b>Intent</b> <ul style="list-style-type: none"> <li>To use a form to record information</li> <li>To compare paper and computer-based databases</li> <li>To outline how you can answer questions by grouping and then sorting data</li> <li>To explain that tools can be used to select specific data</li> <li>To explain that computer programs can be used to compare data visually</li> <li>To use a real-world database to answer questions</li> <li>To create a data set in a spreadsheet</li> <li>To build a data set in a spreadsheet</li> <li>To explain that formulas can be used to produce calculated data</li> <li>To apply formulas to data</li> </ul>	<b>Intent</b> <ul style="list-style-type: none"> <li>To control a simple circuit connected to a computer</li> <li>To write a program that includes count-controlled loops</li> <li>To explain that a loop can stop when a condition is met</li> <li>To explain that a loop can be used to repeatedly check whether a condition has been met</li> <li>To design a physical project that includes selection.</li> <li>To create a program that controls a physical computing project</li> <li>To explain how selection is used in computer programs</li> <li>To relate that a conditional statement connects a condition to an outcome</li> <li>To explain how selection directs the flow of a program</li> <li>To design a program that uses selection</li> <li>To create a program that uses selection</li> <li>To evaluate my program</li> <li>To define a 'variable' as something that is changeable</li> <li>To explain why a variable is used in a program</li> </ul>	<b>Intent</b> <ul style="list-style-type: none"> <li>I can describe ways people who have similar likes and interests can get together online.</li> <li>I can explain what is meant by 'trusting someone online', why this is different from 'liking someone online', and why it is important to be careful about who to trust online including what information and content they are trusted with.</li> <li>I can give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours.</li> <li>I can explain how anyone can get help if they are being bullied online and identify when to tell a trusted adult.</li> <li>I can explain how someone would report online bullying in different contexts.</li> </ul>

<p>people to work together</p> <ul style="list-style-type: none"> <li>• To evaluate different ways of working together online</li> <li>• To recognise how we communicate using technology</li> <li>• To evaluate different methods of online communication</li> </ul>	<p>making and sharing a video</p> <ul style="list-style-type: none"> <li>• To recognise that you can work in three dimensions on a computer</li> <li>• To identify that digital 3D objects can be modified</li> <li>• To recognise that objects can be combined in a 3D model</li> <li>• To create a 3D model for a given purpose</li> <li>• To plan my own 3D model</li> <li>• To create my own digital 3D model</li> <li>• To review an existing website and consider its structure</li> <li>• To plan the features of a web page</li> <li>• To consider the ownership and use of images (copyright)</li> <li>• To recognise the need to preview pages</li> <li>• To outline the need for a navigation path</li> </ul>	<ul style="list-style-type: none"> <li>• To create a spreadsheet to plan an event</li> <li>• To choose suitable ways to present data</li> </ul>	<ul style="list-style-type: none"> <li>• To choose how to improve a game by using variables</li> <li>• To design a project that builds on a given example</li> <li>• To use my design to create a project</li> <li>• To evaluate my project</li> <li>• To create a program to run on a controllable device</li> <li>• To explain that selection can control the flow of a program</li> <li>• To update a variable with a user input</li> <li>• To use an conditional statement to compare a variable to a value</li> <li>• To design a project that uses inputs and outputs on a controllable device</li> <li>• To develop a program to use inputs and outputs on a controllable device</li> </ul>	<ul style="list-style-type: none"> <li>• I can assess and justify when it is acceptable to use the work of others</li> <li>• I can describe strategies for keeping personal information private, depending on context.</li> <li>• I can describe how fake news may affect someone's emotions and behaviour, and explain why this may be harmful.</li> <li>• I can describe how some online information can be opinion and can offer examples.</li> <li>• I can demonstrate how to make responsible choices about having an online identity, depending on context.</li> <li>• I can explain how and why some apps and games may request or take payment for additional content</li> <li>• I can explain strategies anyone can use to protect their 'digital personality' and online reputation, including degrees of anonymity.</li> </ul>
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<b>NCCE Unit Links</b> Autumn 1 – Sharing information, Communication	<b>NCCE Unit Links</b> Autumn 2 – Vector drawing, 3D modelling Summer 1 – Video editing, Webpage creation	<b>NCCE Unit Links</b> Spring 2 – Fact-file databases, Spreadsheets	<b>NCCE Unit Links</b> Spring 1 – Selection in physical computing, Variables in games Summer 2 – Selection in quizzes, Sensing	<b>Project Evolve Links</b> <b>Cycle A</b> Online Relationships Online Bullying Copyright & Ownership Privacy and Security <b>Cycle B</b> Managing Online information Health, Well-being and Lifestyle Self-Image and Identity Online Reputation
<b>Implementation</b> See NCCE lesson plans	<b>Implementation</b> See NCCE lesson plans	<b>Implementation</b> See NCCE lesson plans	<b>Implementation</b> See NCCE lesson plans	<b>Implementation</b> See Project Evolve lesson plans
<b>Vocabulary:</b> move, screen, close, click, drag, log on, log off, keyboards, keys, mouse, click, button, double click, drag, present, commands, add sound.	<b>Vocabulary:</b> Website, media, html, media, layout, copyright, content, format, digital device, record, video	<b>Vocabulary:</b> Data, database, sort, group, chart, spreadsheet	<b>Vocabulary:</b> algorithm, instruction, order, debug, program, turn, left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink	<b>Vocabulary:</b> Interests, online, trust, share, bullying, abuse, permitted, acknowledge, source trusted, private, personal, consent, stereotype, hoax, facts, opinion, belief, identity, content, reputation,