

Progress	Computer Science	Information Technology	Digital Literacy (incl. eSafety)
Reception 	<ul style="list-style-type: none"> follow and give simple instructions with help (algorithms) make a programmable toy move but not always as planned (programming) use a limited set of software and tools to make something happen on screen but not always according to those planned identify simple repeating patterns sort a small set of objects according to criteria, sometimes with support organise data into simple charts and graphs with support answer questions using data with support 	<ul style="list-style-type: none"> use a keyboard sometimes with support use a mouse or touch to make choices with help have created simple digital content with support have explored a limited range technology, digital content and tools be able to relate some computer models to real life with support explore simple computer models 	<ul style="list-style-type: none"> create basic shapes using digital tools with support understand that we can get information from pictures and video as well as words record basic sounds (audio) with support interact with multimedia software to make something happen on screen explore, access and make choices with digital content
	<ul style="list-style-type: none"> give and follow simple instructions in order (algorithms) create a short sequence of instructions (algorithms) change instructions to create a different outcome (algorithms) make a programmable toy move (programming) use simple software and tools to make something planned happen make choices on-screen about buttons and icons to select create, recreate and continue patterns sort a set of objects according to criteria construct simple pictograms know that pictures on a pictogram represent numerical values 	<ul style="list-style-type: none"> use a keyboard to make choices use the mouse or touch to select icons and items move onscreen objects talk about the technology used at home and in school operate digital equipment use technology and digital content to play and learn begin to understand that computers can be used to represent real life and imaginary situations explore simple computer models and talk about what happens if... 	<ul style="list-style-type: none"> have created shapes and text using digital tools used technology to show learning talk about different kinds of information such as pictures, words, video and sound create simple compositions and record/playback audio begin to understand that software and tools can be used to communicate through text, images and sound find information using a basic search
	<ul style="list-style-type: none"> read a set of instructions and predict the outcome (algorithms) write/draw a set of simple instructions in order (algorithms) make changes to instructions and predict how the outcome will change (algorithms) plan a set of instructions for a programmable toy and make it move (programming) correct mistakes if instructions are incorrect (debugging) talk about how their instructions could be improved describe patterns and relationships sort objects into sets according to one or more criteria compare data using simple charts and graphs suggest different ways data could be organised or displayed use graphs to answer a range of questions create own questions that could be answered by interpreting data on a graph make comparisons between data on a graph 	<ul style="list-style-type: none"> use a mouse or touch to select, tap/click and drag objects around a screen enter simple words using a keyboard and made choices have created and saved their work have printed work experienced a wider range of technology and tools to play and learn explore a variety of computer models understand that a computer can be used to represent real life and imaginary situations 	<ul style="list-style-type: none"> understand that they should get permission from an adult before going online understand that they should not talk to anyone they do not know online understand the need to be careful using computers and devices but can sometimes be careless share computers and devices with others but not always fairly
Year 1 	Units iAlgorithm iProgram <ul style="list-style-type: none"> read a set of instructions and sometimes predict the correct outcome produce instructions but sequence them incorrectly or make assumptions understands that humans and computers follow instructions 	Units iModel iData <ul style="list-style-type: none"> have entered words using a keyboard use a mouse to point, click and drag objects around a screen with help. have created digital content using IT tools have saved a file with support have explored a limited range of tools access a website using desktop shortcuts navigate simple websites with support 	Units iWrite iSafe <ul style="list-style-type: none"> obtain simple information from the world wide web use digital drawing tools to express something use IT to create sentences that communicate meaning
	<ul style="list-style-type: none"> read a set of instructions and usually predict the correct outcome produce a set of instructions that others can usually follow understands that computers follow instructions given in a precise way 	<ul style="list-style-type: none"> enter simple sentences using a keyboard use a mouse to point, click and drag objects around a screen use the mouse to select icons and items print work save work with assistance navigate a website using buttons and image links 	<ul style="list-style-type: none"> know that some information is personal (Eg. name & address) identify some characteristics of trustworthy/untrustworthy people but give inappropriate justification (eg. trustworthy because they are being nice) understand that personal information should only be given to trusted people but the trust can be misplaced (see above)
	<ul style="list-style-type: none"> read a set of instructions and predict the correct outcome produce an accurate set of instructions using agreed language that others can follow understands that computers have no intelligence 	<ul style="list-style-type: none"> have created and saved different versions of their work be able to compare creating their work using IT with manual methods be able to explain why a particular tool has been chosen and its effect access a website by typing a simple url navigate a website using hyperlinks, buttons and image links 	<ul style="list-style-type: none"> find answers to simple questions using a website use drawing and text tools to impart information talk about how they have used the computer to create things understand that various information is personal (Eg. hobbies) usually identify characteristics of trustworthy people know that personal information should only be given to trusted people
Year 2 	Units iProgram iSearch <ul style="list-style-type: none"> know that programming applications can be given commands to produce specific effects on screen produce a sequence of blocks that achieves a simple effect (eg. move a sprite around the screen) plan and give direct instructions to make things happen (e.g. playing robots) 	Units iDo Mail iPub iAnimate <ul style="list-style-type: none"> navigate a document using arrow keys and a mouse use the backspace button and the delete button to remove text use tools to create simple presentations that communicate meaning make choices about applications and tools to use for a particular purpose locate, edit and save different versions of their work navigate around a website using hyperlinks and the back button type web addresses into a web browser create internet favourites 	Units iPub iBlog iSafe <ul style="list-style-type: none"> choose a website based on how useful it is for a specific purpose demonstrate how they found specific information in a website be discerning about the information collected from websites select appropriate applications to help them achieve a specific task can identify suitable information to present
	<ul style="list-style-type: none"> produce a sequence of instructions that result in planned outcomes. program a short a sequence of commands that results in a planned effect program and test a simple program create algorithms to solve simple problems 	<ul style="list-style-type: none"> combine graphics with text use appropriate effects and re-size graphics copy text from an internet page to a document copy images from an internet page save, print and retrieve work use software, computers and devices to make simple presentations and create things enter a URL for a website with support identify some links within web content and navigate with purpose 	<ul style="list-style-type: none"> identify some ways they can keep themselves safe when using ICT use ICT to communicate, identify some of the risks and act to minimise them
	<ul style="list-style-type: none"> design and develop basic computer programs combine sequences of commands into procedures (blocks of code) that are repeated test and correct simple programs evaluate their own work and comment on improvements 	<ul style="list-style-type: none"> combine graphics with text use bold, italic and underline. know how to undo and redo. align text left, right, centre and justify and know to use them insert images and to manipulate them assign desktop shortcuts to applications and work 	<ul style="list-style-type: none"> begin to use a range of applications on computers and devices independently talk about how useful particular websites and/or applications have been to their work create digital content that communicates meaning
Year 3 	Units iAlgorithm iProgram <ul style="list-style-type: none"> write an algorithm to produce a given effect using repetition accurately predict the outcome of a range of algorithms and programs test, debug and refine algorithms and programs use sequence and basic selection and repetition in computer programs explain how a programmed effect has been achieved talk about improvements that could be made to programs 	Units iSimulate iData <ul style="list-style-type: none"> use the more advanced features of applications (Eg. word processing or presentation software) to help them match their work to their audience send an email. reply to an email use the search facility in a database to find the answer to questions carry out searches involving more than one condition to find answers to a variety of questions, sometimes with help confidently enter URLs into an address bar of a browser 	Units iConnect iSafe <ul style="list-style-type: none"> understand that a wider range of information is personal (Eg. regular attendance at a specific place) identify some of the ways to use computers safely know the need for passwords and that they should be kept safe. follow e-safety guidelines
	<ul style="list-style-type: none"> design and develop basic computer programs combine sequences of commands into procedures (blocks of code) that are repeated test and correct simple programs evaluate their own work and comment on improvements 	<ul style="list-style-type: none"> combine graphics with text use bold, italic and underline. know how to undo and redo. align text left, right, centre and justify and know to use them insert images and to manipulate them assign desktop shortcuts to applications and work 	<ul style="list-style-type: none"> know that people can communicate and collaborate online use search technology to find things out uses a range of tools to communicate and express ideas cross check information found on one website against another source carefully select information from a range of websites recognise what is acceptable/unacceptable behaviour when using technology and online know that some information available online may be misleading or inaccurate and that it needs to be checked
	<ul style="list-style-type: none"> write an algorithm to produce a given effect using repetition accurately predict the outcome of a range of algorithms and programs test, debug and refine algorithms and programs use sequence and basic selection and repetition in computer programs explain how a programmed effect has been achieved talk about improvements that could be made to programs 	<ul style="list-style-type: none"> use the more advanced features of applications (Eg. word processing or presentation software) to help them match their work to their audience send an email. reply to an email use the search facility in a database to find the answer to questions carry out searches involving more than one condition to find answers to a variety of questions, sometimes with help confidently enter URLs into an address bar of a browser 	<ul style="list-style-type: none"> Understand that a computer network means connected computers Understand that you can use the internet for activities other than web browsing know that not all information available online is reliable and needs to be checked Understand that you can use the internet for activities other than web browsing find information by navigating around a number of websites using hyperlinks and buttons know that not all information available online is reliable and it needs to be checked but does not always do so know that internet search engines give a list of websites based on search terms cross-check information provided on one website against that provided on another demonstrate the use of basic safety measures when using technology and working online (Eg. logging out) know the need to use secure passwords and keep them private use ICT to communicate and collaborate, identify some of the risks and act to minimise them know that not all information provided on the world wide web is correct and that it needs to be checked use appropriate search criteria to find relevant information and check its usefulness know the need to use secure passwords and keep them private
Year 4 	Units iProgram-1 iProgram-2 iProgram-3	Units iMail iData	Units iAnimate iSafe

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 Year 5	<p>explain how a programmed effect has been achieved</p> <p>Write and amend computer programs</p> <p>Use repetition, variables and conditional statements in computer programs</p> <p>test, debug and refine algorithms and programs</p> <p>identify some common internet services that use the internet (e.g. online gaming or voice over internet)</p> <p>know that a computer takes input, processes it and produces output</p> <p>identify a variety of computing devices and a number of inputs and outputs (e.g. touch, sound)</p> <p>know that computers store and manipulate data as a series of ones and zeros and that this is called binary</p>	<p>understand that information in the form of text, sound and pictures can be combined to create digital content and communicate with an audience</p> <p>recognise the audience when designing and creating digital content</p> <p>create digital content that incorporates text and image</p> <p>choose and use the appropriate advanced features of word processing or presentation software to increase their efficiency when matching their work to their audience</p> <p>carry out multi-conditioned searches in databases to find answers to a variety of questions with assistance</p> <p>use the sort facility of a database to answer questions</p> <p>create own questions to be answered by searching a database</p>	<p>know that a computer network consists of a number of computers and devices that are connected</p> <p>suggest a range of activities you can do using the internet, including web browsing</p> <p>find information by navigating around a number of websites using hyperlinks and buttons</p> <p>question the credibility of information given on websites</p> <p>know that internet search engines give a list of websites based on key words</p> <p>cross-check information provided on one website against that provided on another</p> <p>use search technology to find things out</p> <p>suggest a number of activities that you can use the internet for (e.g. online gaming, voice over internet, email etc.)</p> <p>cross-check information provided on one website against that provided on another</p> <p>create digital content for specific purposes</p> <p>demonstrate the use of basic safety measures when using technology and working online (Eg. logging out of devices after use)</p> <p>use appropriate search criteria to find relevant information and check its plausibility and usefulness</p> <p>check information provided on the world wide web for accuracy</p> <p>know that personal information should only be given to trusted sources</p> <p>know that some information on the internet may be misleading or inaccurate and that it needs to be checked</p> <p>use technology and online services to communicate and collaborate, identify some of the risks and act to minimise them</p>
	<p>Write and amend more complex programs to create a variety of outcomes</p> <p>Program algorithms that achieve a range of specified outcomes</p> <p>create efficient programs by designing solutions using abstraction (Eg. using procedures in the form of 'My blocks' and/or broadcasts in Scratch)</p> <p>Test, debug and refine computer programs</p>	<p>understand that digital content needs to be planned to take account of the intended audience, the content and the layout of information</p> <p>discuss the rationale behind their digital creations including content, media used and layout</p> <p>develop and refine digital content for a specified audience</p>	<p>can discuss opportunities for communication and collaboration online</p> <p>can use internet services other than web browsing (e.g. voice over internet or email)</p> <p>improve their work based on feedback and can comment on the success of their work</p> <p>create digital content for specific purposes by combining software applications and internet services to communicate with an audience (e.g. creating webpages)</p> <p>identify a range ways they can keep themselves safe using technology and online services and know how to report any concerns</p> <p>communicate effectively and safely online</p> <p>use search criteria efficiently find information online and check it for accuracy and reliability</p>
 Year 6	<p>write or amend computer programs to produce specific actions</p> <p>understand that the same 'problem' can be solved in different ways</p> <p>know that commands can be given in shorter form</p> <p>use iteration (repeats and loops) in algorithms and programs</p>	<p>understand that information in the form of text, sound and pictures can be combined to create digital content</p> <p>create digital content (e.g. a webpage) that incorporates text, images and sound</p>	<p>use internet services other than web browsing (e.g. voice over internet or email)</p> <p>discuss opportunities for communication and collaboration online</p> <p>find relevant information online and make some checks for accuracy and reliability</p> <p>understand that internet search engines find information and list search results in order of popularity</p> <p>remix simple web content, sometimes with support</p> <p>recognises an audience when creating digital content</p> <p>identify a range ways they can keep themselves safe using technology and online services and know how to report any concerns</p> <p>communicate effectively and safely online</p> <p>use search criteria efficiently to find information online and check it for accuracy and reliability</p>
	<p>Write and amend more complex computer programs to create a variety of outcomes</p> <p>decompose 'problems' by splitting them into smaller 'problems' and designing solutions for each part</p> <p>Use iteration(repeats and loops), variables and conditional statements (if..then) in computer programs</p> <p>Test computer programs and correct most errors</p> <p>Create & use efficient methods of iteration, & nested conditional statements (if..then..else..if etc.)</p> <p>Systematically test computer programs for bugs and make them work as expected</p> <p>Critically analyse algorithms and programs and suggest more elegant solutions - e.g. by using abstraction to suggest single solution that could be used to solve a number of problems (i.e. procedures)</p> <p>Create procedures that call on other procedures (e.g. by using 'My blocks' and/or broadcasting blocks)</p>	<p>plan, design and create digital content that incorporates text, images and sound and communicates with an audience</p> <p>be able to discuss the rationale behind their designs</p> <p>develop and refine digital content</p> <p>create digital content that incorporates images, sounds and text and is organised into pages that matches the needs of a specified audience</p> <p>critically analyse digital content and makes judgements about its suitability for a specific audience</p>	<p>communicate and collaborate using technology and online services</p> <p>create simple web content using basic HTML</p> <p>know that internet search engines use algorithms to find web content (e.g. web crawling)</p> <p>know that search results are organised in order of popularity</p> <p>use search technology and clear search terms to view web pages and obtain data</p> <p>use a number of internet services (e.g. voice over internet, email etc.)</p> <p>create digital content for specific purposes and audiences</p> <p>use feedback to improve digital content</p> <p>use digital tools to communicate and collaborate effectively online</p> <p>identify some of the risks associated with work and leisure in a digital society and act to minimise them</p> <p>find information online and check it for accuracy and reliability</p> <p>understand how internet search results are ranked</p> <p>understand that computers on networks (incl. the internet) have unique addresses (IP addresses) and that data is transmitted as packets</p> <p>design and create webpages using HTML and CSS</p> <p>design criteria for evaluating digital content</p> <p>identify improvements and refine their own and other's work</p> <p>use a variety of technologies and online tools to communicate and collaborate safely</p> <p>demonstrate responsible use of technology and online tools</p> <p>know a number of risks associated with work and leisure in a digital society and act to minimise them</p> <p>find relevant information online and critically evaluate its plausibility and usefulness</p>



This Quick-Look Computing Progression Skills grid is intended to be used alongside end-of-unit guidance, our detailed progression guides for:

- Computer Science
- Information Technology
- Digital Literacy
- eSafety

And our pupil progress tracking spreadsheets.

The colourways from pink onwards are mapped to Computing At Schools Progression Pathways colour bands but are presented here in greater depth, allowing progress within colours to be monitored.