



## Computing Curriculum Progression of Skills

|  | Nursery                 | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|--|-------------------------|-----------|--------|--------|--------|--------|--------|--------|
|  | <b>Digital literacy</b> |           |        |        |        |        |        |        |



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| <b>E-safety</b> | <p>I know what a password is.</p> <p>I can ask for permission to use a device</p> | <p>I know why we need passwords.</p> <p>I know my name, age, address and where I go to school is personal information.</p> <p>I can tell an adult before I go online.</p> <p>I can show an adult the websites I am using to check they are appropriate.</p> <p>I know that games and files can be downloaded using the internet.</p> <p>I know that everyone can put their information online.</p> | <p>I can keep my password private.</p> <p>I can tell you what personal information is.</p> <p>I can tell an adult when I see something unexpected or worrying online.</p> <p>I can recognise an age appropriate website.</p> <p>I know that not all downloadable games and files on the internet are safe</p> <p>I know that not everyone is who they say they are on the internet.</p> <p>I know that anyone and everyone can</p> | <p>I can explain why I need to keep my password private.</p> <p>I can explain why it's important to keep my personal information private.</p> <p>I know what to do when I see something inappropriate online e.g. use the report button</p> <p>I can describe the things that happen online that I must tell an adult about.</p> <p>I can explain why not all downloadable games and files are not safe.</p> | <p>I can talk about what makes a secure password and why they are important.</p> <p>I can protect my personal information when I do different things online.</p> <p>I can use the safety features of websites as well as reporting concerns to an adult.</p> <p>I can recognise websites and games appropriate for my age.</p> <p>I can ask an adult before downloading files and games from the internet.</p> | <p>I can choose a secure password for online tools/sites</p> <p>I can talk about the ways I can protect myself and my friends from harm online.</p> <p>I can use the safety features online (e.g. apps, games, devices) as well as reporting concerns to an adult.</p> <p>I can choose websites and games that are appropriate for my age.</p> <p>I can talk about why I need to ask a trusted adult before downloading files and games from the internet.</p> <p>I can question</p> | <p>I can protect my password and other personal information.</p> <p>I can explain why I need to protect myself and my friends and the best ways to do this, including reporting concerns to an adult.</p> <p>I can explain why I need to protect my computer or device from harm.</p> <p>I can discuss the importance of choosing an age-appropriate website or game.</p> <p>I know which resources on the internet I can download and use.</p> <p>I know not to open messages and emails from</p> | <p>I can use my privacy settings to keep my personal information safe</p> <p>I can explain the consequences of sharing too much information about myself online and support my friends to protect themselves</p> <p>I can protect my computer or device from harm on the internet.</p> <p>I can identify age appropriate websites, apps and games online.</p> <p>I can explain why it is important to check resources found on the</p> |
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|  |  | I know that anyone can access information online. | post anything online | I understand that people can pretend to be someone they are not online<br><br>I can explain how everyone can post anything online | I understand how easy it is for people to make a fake profile<br><br>I know that anything I post online can be seen by others. | the validity of profiles online.<br><br>I understand the consequences of posting something online | unknown people/profiles<br><br>I know that anything I post online can be seen, used and may affect others. | internet before downloading them.<br><br>I understand why it is important not open messages and emails from unknown people/profiles<br><br>I can explain the positive and negative impact of anything that is posted online. |
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| <b>E Safety and E-sense</b> | <p>I can recognise that a range of technology is used in places such as homes and school</p> <p>I can be kind and respectful online</p> | <p>I can recognise common uses of information technology beyond school</p> <p>I can talk about why it's important to be kind and polite.</p> | <p>I can talk about why I should go online for a short amount of time.</p> <p>I know that any messages or personal images I use online leave a trail</p> | <p>I can make good choices about how long I spend online.</p> <p>I can post positive comments and sensible personal images online.</p> <p>I know to ask permission to post a photo of someone else online</p> | <p>I can use strategies to manage the time I spend online or playing a game.</p> <p>I can post and comment positively and respectfully online.</p> <p>I understand why I need to ask permission to post a photo of someone else online</p> | <p>I can talk about the dangers of spending too long online or playing a game.</p> <p>I can explain the importance of communicating kindly and respectfully.</p> <p>I know that posting other people's photos without permission can have consequences</p> | <p>I can explain the consequences of spending too much time online or on a game.</p> <p>I can explain the consequences to myself and others of not communicating kindly and respectfully.</p> <p>I can explain the impact of posting another person's photo online without permission</p> |  |
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|                                   | Nursery   | Reception  | Year 1  | Year 2   | Year 3   | Year 4   | Year 5  | Year 6   |
|-----------------------------------|---|--|---|--|--|--|---|--|
| <b>Programming and algorithms</b> | <b>Computer science</b>   |  |   |  |  |  |   |  |
|                                   | <p>I can show an interest in technological toys with buttons, knobs or pulleys, such as cameras or mobile phones (through role play activities)</p> <p>I know how to operate simple equipment, e.g. turns on CD player and use remote controls.</p> | <p>I can understand that pushing a button on a toy will give it an instruction</p> <p>I can predict what will happen when I push a button.</p> | <p>I can understand that an algorithm is a set of instructions used to solve a problem or achieve an objective</p> <p>I can work out what is wrong with a simple algorithm when the steps are out of order</p> <p>I can read code one line at a time and make a good attempt to predict the overall effect of the program</p> | <p>I can show an awareness of the need for algorithms to be precise</p> <p>I can create a simple program that achieves a specific purpose</p> <p>I can identify and correct some errors and show an awareness of the need for logical, programmable steps</p> <p>I can identify the parts of a program that respond to specific events and initiate specific actions</p> | <p>I can create an algorithm for a program by deconstructing it</p> <p>I can create a design that shows the thinking of the desired task and how it translates into code</p> <p>I can identify an error within created program and make an attempt to fix it.</p> <p>I can use simple sequences to design and code a program</p> | <p>I can create an algorithm by using coding structures for selection and repetition</p> <p>I can make more intuitive attempts to debug their own programs</p> <p>I can use timers to achieve repetition effects that are becoming more logical and are integrated into my program designs</p> <p>I can attempt to combine different coding structures</p> | <p>I can test and debug programs as I go and can use logical methods to identify the approximate cause of any bug and identifying the specific line of code</p> <p>I can translate algorithms that include sequence, selection and repetition into code with increased ease to create my own programs</p> | <p>I can identify the important aspects of a task (abstraction) and then decompose them in a logical way using my knowledge of possible coding structures.</p> <p>I can test and debug my programs as I go and use logical methods to identify the cause of bugs to try and identify a particular line of code causing a program.</p> <p>I can nest coding structures within each other;</p> |



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|  |  |  |  |  | <p>I can experiment with timers to achieve repetition effects in my program</p> <p>I can understand how variables can be used to store information while a program is executing</p> <p>I can begin to use and understand if statements, repetitions and variables</p> <p>I can make good attempts to debug more complex code</p> <p>I can read programs with several steps and predict the outcome accurately.</p> | <p>I can read programs with several steps and predict the outcome accurately</p> <p>I can recognise the main component parts of hardware which allow computers to join and form a network</p> | <p>I can begin to think about code structure in terms of ability to debug and interpret the code later e.g. the use of tabs to organise code and the naming of variables</p> <p>I can understand the value of computer networks but also be aware of the main dangers</p> <p>I can select the most appropriate form of online communication based on audience and digital content</p> | <p>I can demonstrate coding with an improving understanding of variables in coding, outputs such as sound and movement, inputs from the user of the program such as button clicks and the value of functions</p> <p>I can interpret a program in parts and make logical attempts to put the separate parts of the complex algorithm together to explain the program as a whole</p> |
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|  |  |  |  |  | I can list and use a range of ways that the internet can be used to provide different methods of communication |  |  |  |
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| <b>Literacy software</b> | <b>Information technology literacy</b>                          |  |  |  |   |   |   |  |
|                          | <p>I can use pictures or pens on an interactive whiteboard.</p> | <p>I can recognise a picture password and type my first name as a username</p> | <p>I can use a basic word processing package e.g. to write and illustrate a story.</p> <p>I can type simple sentences on a computer.</p> | <p>I can make simple presentations.</p> <p>I can contribute to collaborative writing e.g. a class blog or story.</p> <p>I can type sentences correctly using the spacebar.</p> | <p>I can use software to create an ebook, brochure or poster on a given topic.</p> <p>I can use simple software to communicate with others (e.g. email)</p> <p>I can type sentences using the spacebar and shift key.</p> | <p>I can write and deliver a presentation on a given subject.</p> <p>I can write a blog on a given topic.</p> <p>I can type paragraphs using the shift key and correct punctuation symbols.</p> | <p>I can use software to create an ebook, brochure or poster incorporating a range of media.</p> <p>I can use email to communicate with others using a variety of email functions e.g. attachments, CCing and signatures.</p> <p>I can begin to touch-type when typing on a computer.</p> | <p>I can write and deliver a presentation incorporating a range of media.</p> <p>I can independently write and edit their own blog, commenting on other people's blogs.</p> <p>I can touch-type and use shortcuts on the keyboard.</p> |







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|                      |   |   |   |   |  |   | <p>I can support others to improve their work.</p>   | <p>I can evaluate the effectiveness of my own and other's work, considering the impact on the intended audience</p> <p>I can make improvements to my work and support others to improve theirs</p>  |
| <b>Data Handling</b> | <p>I show an interest in collecting real objects.</p> | <p>I can begin to sort, classify or group various objects progressing from practical activities to the use of ICT e.g. sorting fruit into colours, types or shapes, and then on screen.</p> <p>In can use ICT to sort and sequence objects on a screen or interactive board</p> | <p>I can use technology to collect information including photos, videos and sound.</p> <p>I can talk about different ways in which information can be shown.</p> <p>I can sort different kinds of information and present it to others.</p> | <p>I can talk about the different ways to use technology e.g. a camera, microphone or sound recorder.</p> <p>I can make and save a chart or graph using the data collected.</p> <p>I can talk about the data in mychart or graph.</p> | <p>I can talk about the different ways data can be organised.</p> <p>I can search a ready-made database to answer questions.</p> <p>I can collect data to help answer a question.</p> <p>I can add to a database e.g. j2data on LGfL</p> | <p>I can organise data in different ways.</p> <p>I can collect data and identify where it could be inaccurate.</p> <p>I can plan, create and search a database to answer questions.</p> <p>I can choose the best way to present data to others.</p> | <p>I can use a spreadsheet to collect and record data.</p> <p>I can choose an appropriate tool to help collect data. (e.g data logger, iPad, thermometer)</p> <p>I can present data in an appropriate way.</p> | <p>I can select the most effective tool to collect data for investigation.</p> <p>I can check the data collected for accuracy and plausibility.</p> <p>I can interpret the data collected.</p> <p>I can present the data collected in an appropriate way.</p> |



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|                           |   | I can create simple pictograms with support.  | I can add information to a pictogram, using digital software, and talk about what I have found out.  | I can create a simple branching database e.g. j2e on Igfl from given questions.  | I can make a branching database e.g. j2e on Igfl or 2question.<br><br>I can use a data logger to monitor changes and can talk about the information collected   | I can use a data logger to record and share their readings with others.  | I can search a database (eg. a library database, online grocery shopping) using different operators (e.g. and, or, not) to refine their search.<br><br>I can talk about mistakes in data and suggest how it could be checked. | I can use the skills I have developed to interrogate a database.  |
| <b>Using the internet</b> | I know that information can be retrieved from computers | I can identify which devices access the internet e.g. TV, mobile phones, tablets, PC, laptop, gaming devices. | I can make a distinction between modern technology that uses the internet and technology that does not.<br><br>I can show an awareness of how IT is used for communication beyond school | I can retrieve relevant information using a search engine<br><br>I can make links between technology I see around me and the learning I do in school | I can retrieve digital content using a search engine<br><br>I understand that search engines select pages according to keywords found in the content<br><br>I can search for information within a single site | I can understand that search engines rank pages according to relevance<br><br>I can decide whether digital content is relevant for a given purpose or question | I can use advanced search options to make more effective use of a search engine<br><br>I understand and can explain in some depth the difference between the Internet and the World Wide Web                                  | I can apply filters when searching for digital content<br><br>I can explain in detail how credible a webpage is and the information it contains.<br><br>I can compare content sources and rate them in terms of quality and accuracy. |



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|  |  |  |  |  |  | <p>I understand that the internet transmits information as packets of data</p> | <p>I know what a WAN and a LAN are and can describe how they access internet in school</p> <p>I understand that search engines use a cached copy of the crawled web to select and rank results</p> | <p>I can appreciate that search engines rank pages based on the number and quality of in-bound links</p> |
|--|--|--|--|--|--|--|--|--|