

Computing Curriculum Knowledge Progression

Factual Knowledge <i>'The basic elements/facts, pupils must know'</i>	Conceptual Knowledge <i>'The interrelationship amongst basic elements'</i>	Procedural Knowledge <i>'How to do something'</i>
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	Basic Skills	Research & E-awareness	Online & Collaborative Learning	Evaluation
EYFS	<ul style="list-style-type: none"> I can turn on and shut down a device. 	<ul style="list-style-type: none"> I can navigate around a given website (e.g. online learning games, chosen by the teacher) 	<ul style="list-style-type: none"> I can log into a password protected website with the help of an adult. 	<ul style="list-style-type: none"> I can talk about what happens when I use ICT.
Year 1	<ul style="list-style-type: none"> I can use a tablet computer. I can log on and off independently. I know some of the basic features of a keyboard. (e.g. shift, caps lock, enter, space bar, back space) I can save my work, with help. 	<ul style="list-style-type: none"> I can use the Internet to help me learn. I can use a safe search engine. (e.g. Kiddle, Kidrex) I know who to tell if I come across something I don't like on the Internet. 	<ul style="list-style-type: none"> I can log into a password protected website independently. 	<ul style="list-style-type: none"> I can describe how I use ICT.
Year 2	<ul style="list-style-type: none"> I can use the menu button (right click) on the mousepad. I can use the keyboard on my device to add, delete and space text for others to read. I know how to use basic font formatting tools. I know how to add an image to a document from a given source. I can resize an image in a document. I can save my work into a class folder. I can find my own work (with help). 	<ul style="list-style-type: none"> I can access a website from a given URL. I can use the Internet to find and save information. I know that my password is private and know that I must not give out personal information over the Internet. I know why it is important to be kind and polite online and in real life. 	<ul style="list-style-type: none"> I can login into my Office365 account independently. I know what an email is and why they are used. I can open an email. I can create an email. I can send a new email that contains a subject line and text. I can open an email and reply. 	<ul style="list-style-type: none"> I can describe how I use ICT and how it is used in the real world.
Year 3	<ul style="list-style-type: none"> I can select an object and use Ctrl+C to copy. I can paste an object using Ctrl+V to paste. I can use a range of formatting tools (e.g. table tools, draw toolbar, page layout) I know how to use the headphones. I can choose the printer and print my work. I know how to adjust the volume. I can use two hands to type the letters on the keyboard. I can save files using appropriate file names. I can use two hands to type the letters on the keyboard. 	<ul style="list-style-type: none"> I can use a search engine independently to produce a list of results and can follow a link from the results page to obtain information. I understand the need to challenge the accuracy of information when researching the Internet. I can check results of a search against others and explain why they might be different. I can copy and paste from the Internet. I know what makes a secure password and why they are important. I can post positive comments online. 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> I can evaluate my work and improve its effectiveness. I can explain why we use technology to create digital content. I can recognise why we use different types of media to convey information. e.g. text, image, audio, video I know about the features of a good piece of digital content.
Year 4	<ul style="list-style-type: none"> I can deploy basic troubleshooting strategies in order to solve IT problems. I can name the different parts of a desktop computer. I know what the function of the different parts of a computer is. I can make new folders as required in order to organise my files. I can use a keyboard confidently and make use of a spellchecker to write and review my work. 	<ul style="list-style-type: none"> I know that anything I post online can be seen by others. I can talk about why I need to ask a trusted adult before downloading files from the Internet. I can explain about malware and how it can disrupt, damage and gain access to my device. I know that security symbols such as a padlock protect my identity online. I can explain what a digital footprint is. I know what plagiarism is and the difference between using information and copying it. 	<ul style="list-style-type: none"> I can use an appropriate tool to share my work and collaborate online. 	<ul style="list-style-type: none"> I can discuss my use of ICT and my observations of its use outside school. I can give constructive feedback to my friends to help them improve their work and refine my own work
Year 5	<ul style="list-style-type: none"> I can plug in and use external devices to a laptop (e.g. projector, camera, video camera) I can retrieve my work and move files between folders in order to keep my work organised. I can use some advanced features of art software to edit photos and create art work. 	<ul style="list-style-type: none"> I protect my password and other personal information. I know that anything I post online can be seen, used and may affect others. I can explain the importance of communicating kindly and respectfully. I can explain why I need to protect my device from harm. I know that there are several search engines and they may produce different results. I can use a search engine effectively to find information and images. 	<ul style="list-style-type: none"> I can send an email to more than 1 person simultaneously. I can open an attachment in an email. I can open an attachment, download it and save it in an appropriate place. I can use a range of Office365 apps appropriately and effectively. I use information technology effectively to collaborate with others. 	<ul style="list-style-type: none"> I can assess the use of ICT in my work and am able to reflect critically in order to make improvements to it. I can review and improve my work and support others to improve their work.
Year 6	<ul style="list-style-type: none"> I know the difference between the World Wide Web and the internet. I know about Tim Berners-Lee. I know about some of the major changes in technology which have taken place during their lifetime and the lifetime of their teacher/another adult. I can manage my own online file storage space effectively and efficiently. 	<ul style="list-style-type: none"> I can explain the consequences of sharing too much information about myself online. I support my friends to protect themselves and make good choices online, including reporting concerns to an adult. I can explain the consequences of spending too much time online or on a game. 	<ul style="list-style-type: none"> I use information technology effectively to collaborate with others 	<ul style="list-style-type: none"> I can be digitally discerning when evaluating the effectiveness of my work and the work of others. I can tell you why I select a particular online tool for a specific purpose. I can assess which software to use in order to solve problems using ICT (e.g. to create a leaflet or a database of information).

Factual Knowledge ‘The basic elements/facts, pupils must know’	Conceptual Knowledge ‘The interrelationship amongst basic elements’	Procedural Knowledge ‘How to do something’
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	Computer Science	Digital Literacy	
		Handling Data (i.e. organising data)	Multimedia (i.e. creating and presenting data)
EYFS	<ul style="list-style-type: none"> I can use simple software on a device. I can control everyday items. (e.g. use a TV remote control, use a remote control toy) I can give and follow an instruction. 	<ul style="list-style-type: none"> I can recognise that a range of technology is used in places such as homes and schools. 	<ul style="list-style-type: none"> I can select and use technology for particular purposes. I can use a range of hardware and software to support my learning. (e.g. Numbots, Beebots, Mini Mash)
Year 1	<ul style="list-style-type: none"> I can give instructions to my friend and follow their instructions to move around. (e.g. forward 2 steps; turn right etc.) I know that algorithms are sets of instructions for computers. I can predict the outcome of an algorithm. I can create simple lists of instructions for an on-screen sprite. I can begin to debug simple programmes. 	<ul style="list-style-type: none"> I can talk about the different ways in which information can be shown. I can use technology to collect and sort information, including photos, videos and sound. 	<ul style="list-style-type: none"> I can be creative with different technology tools. I can use technology to create and present my ideas.
Year 2	<ul style="list-style-type: none"> I can create and debug simple programmes. I can predict what will happen when a programme is run. I can begin to use software apps to create movement and patterns on a screen. I can use the word ‘debug’ when I correct mistakes. I know that instructions need to be clear and unambiguous. I can plan out a programme by creating an algorithm and evaluate its success. 	<ul style="list-style-type: none"> I can talk about the different ways I use technology to collect information. e.g. using a camera and a sound recorder. I can add and modify information to a pictograph and talk about the key features. I can make and save a chart or graph. I am starting to understand a branching database. I can tell you what kind of information I can use to investigate a question. 	<ul style="list-style-type: none"> I can use technology to organise and present my ideas in different ways. I can tell you about an online tool that will help me to share my ideas with other people.
Year 3	<ul style="list-style-type: none"> I can use programming software to make objects move. I can watch a programme, execute and spot where it goes wrong, so that I can debug it. I can use sequence and repetition in programs. (e.g. count controlled loops) 	<ul style="list-style-type: none"> I can talk about the different ways data can be organised. I can search and sort a ready-made database to answer questions. I can collect data to help me answer a question. I can name the key parts of a database. E.g. record, field, search, sort I can plan, create and search a database to answer questions. 	<ul style="list-style-type: none"> I can create different effects with different technology tools. I can combine a mixture of text and graphics to share my ideas and learning. I can design, edit, improve and create digital content for a purpose/audience
Year 4	<ul style="list-style-type: none"> I can use logical reasoning to explain how some simple algorithms work. I know I need to keep testing my programme while I am putting it together. I can use procedures to improve my algorithm. I can recognise that an algorithm will help me sequence more complex programmes. I can begin to use sequence and selection in programs and work with variables 	<ul style="list-style-type: none"> I can organise, collect data in different ways and identify where it could be inaccurate. I can choose the best way to present data. I can use a data-logger to record and share my readings. I can use a data-logger to monitor changes and can talk about the information collected. 	<ul style="list-style-type: none"> I can use photos, video and sound to create an atmosphere when presenting to different audiences. I am confident to explore new media to extend what I can achieve. I can change the appearance of text to increase its effectiveness. I can create, modify and present documents for a particular purpose.
Year 5	<ul style="list-style-type: none"> I can deconstruct a problem into smaller steps, recognising similarities to solutions used before. I can design, write and debug programs that accomplish specific goals. I can use sequence, selection and repetition in programs; work with variables and various forms of input and output. I can describe some of the elements that make a successful game. I can construct a simple computer game by selecting appropriate options to maximise the playability. I can evaluate my own and peers’ games to help improve design for the future. 	<ul style="list-style-type: none"> I can search a database using different operators to refine my search. I can talk about mistakes in data and suggest how it could be checked. 	<ul style="list-style-type: none"> I can use text, photo, sound and video editing tools to refine my work. I can use the skills I have already developed to create content using unfamiliar technology. I can select, use and combine the appropriate technology tools to create effects that will have an impact on others.
Year 6	<ul style="list-style-type: none"> I can use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. I can use different inputs (including sensors) to control a device or on-screen action and predict what will happen. I can name a range of sensors in physical systems I can predict what will happen in a programme or algorithm when the input changes (e.g. sensor, data or event) 	<ul style="list-style-type: none"> I can select the most effective tool to collect data for my investigation. I can check the data I collect for accuracy and plausibility. I can interpret the data that I collect in appropriate ways. I use the skills that I have developed to interrogate a database. 	<ul style="list-style-type: none"> I can talk about audience, atmosphere and structure when planning a particular outcome. I can confidently identify the potential of unfamiliar technology to increase my creativity. I can combine a range of media, recognising the contribution of each to achieve a particular outcome.