

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. I can use a tablet computer. I can use the mousepad on a laptop. I can take a photo on a device (e.g. use the Draw and Tell app) 	<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 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’

	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 computer. 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.