



## Progression of Skills in Computing

	Year 1	Year 2	Year 3/4	Year 4/5	Year 5/6
Text and multimedia	<ul style="list-style-type: none"> <li>* Work with others and with support to contribute to a digital class resource which includes text, graphic and sound.</li> </ul>	<ul style="list-style-type: none"> <li>* Generate their own work, (with help where appropriate with multimedia) combining text, graphics and sound. Save and retrieve and edit their work.</li> </ul>	<ul style="list-style-type: none"> <li>* Record and present information integrating a range of appropriate media combining text and graphics in printable form and sound and video for on-screen presentations which include hyperlinks.</li> <li>* Begin to show an awareness of the intended audience and seek feed-back.</li> </ul>	<ul style="list-style-type: none"> <li>* Use advanced tools in word processing / DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience.</li> </ul>	<ul style="list-style-type: none"> <li>* Multimedia work shows restrained use of effects that help to convey meaning rather than impress.</li> </ul>
Digital images (photos, paint, animation)	<ul style="list-style-type: none"> <li>* Use a range of simple tools in a paint package / image manipulation software to create / modify a picture.</li> </ul>	<ul style="list-style-type: none"> <li>* Use a range of tools in a paint package / image manipulation software to create / modify a picture to communicate an idea.</li> <li>* Create a simple animation to tell a story.</li> </ul>	<ul style="list-style-type: none"> <li>* Manipulate digital images using a range of tools in appropriate software to convey a specific mood or idea.</li> </ul>	<ul style="list-style-type: none"> <li>* Make a short film / animation from images (still and / or moving) that they have sourced, captured or created.</li> </ul>	<ul style="list-style-type: none"> <li>* Use images that they have sourced / captured / manipulated as part of a bigger project (eg presentation or document).</li> </ul>
Sound and music (including sound recorders)	<ul style="list-style-type: none"> <li>* Chose suitable sounds from a bank to express their ideas.</li> <li>* Record short speech.</li> </ul>	<ul style="list-style-type: none"> <li>* Compose music from icons.</li> <li>* Produce a simple presentation incorporating sounds the children have captured, or created.</li> </ul>	<ul style="list-style-type: none"> <li>* Create a simple podcast, selecting and importing already existing music and sound effects as well as recording their own.</li> </ul>	<ul style="list-style-type: none"> <li>* Create multiple track compositions that contain a variety of sounds.</li> </ul>	<ul style="list-style-type: none"> <li>* Create and share more sophisticated podcasts and consider the effect that their podcasts will have on the audience.</li> </ul>
Electronic Communication	<ul style="list-style-type: none"> <li>* Contribute ideas to a class email to another class / school etc.</li> </ul>	<ul style="list-style-type: none"> <li>* Work collaboratively by email to share and request information of another class or story character.</li> </ul>	<ul style="list-style-type: none"> <li>* Begin to understand the need to abide by school e-safety rules.</li> </ul>	<ul style="list-style-type: none"> <li>* Share ICT work they have done electronically by email, VLE, or uploading to authorised sites.</li> <li>* Where possible seek and respond to feedback.</li> </ul>	<ul style="list-style-type: none"> <li>* Abide by school rules for e-safety.</li> </ul>



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Research and E Safety	<ul style="list-style-type: none"> <li>* As a class exercise children explore information from a variety of sources (electronic, paper based, observations of the world around them, etc.).</li> <li>* They show an awareness of different forms of information</li> </ul>	<ul style="list-style-type: none"> <li>* Children use a search engine to find specific relevant information to use in a presentation for a topic.</li> <li>* They save and retrieve their work.</li> </ul>	<ul style="list-style-type: none"> <li>* Using another curriculum area as a starting point, children ask their own questions then use ICT sources to find answers, making use of search engines, an index, menu, hyperlinks as appropriate.</li> <li>* Children use the information or resources they have found.</li> <li>* Children talk about using ICT to find information / resources noting any frustrations and showing an emerging understanding of internet safety.</li> </ul>	<ul style="list-style-type: none"> <li>* Make use of copy and paste, beginning to understand the purpose of copyright regulations and the need to repurpose information for a particular audience.</li> <li>* They show an understanding that not all information on the internet is accurate.</li> <li>* Develop a growing awareness of how to stay safe when using the internet (in school and at home) and that they abide by the school's internet safety policy.</li> </ul>	<ul style="list-style-type: none"> <li>* Independently and with due regard for safety, search the internet using a variety of techniques to find a range of information and resources on a specific topic.</li> <li>* Use appropriate methods to validate information and check for bias and accuracy.</li> <li>* Repurpose and make appropriate use of selected resources for a given audiences, acknowledging material used where appropriate.</li> </ul>
Control (algorithms)	<ul style="list-style-type: none"> <li>* Control simple everyday devices to make them produce different outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>* Control a device, on and off screen, making predictions about the effect their programming will have.</li> <li>* Children can plan ahead.</li> </ul>	<ul style="list-style-type: none"> <li>* Children are able to type a short sequence of instructions and to plan ahead when programming devices on and off screen.</li> </ul>	<ul style="list-style-type: none"> <li>* Engage in Logo based problem solving activities that require children to write procedures etc. and to predict, test and modify.</li> <li>* Use control software to control devices (using output commands) or to simulate this on screen. Predict, test and refine their programming.</li> </ul>	<ul style="list-style-type: none"> <li>* Independently create sequences of commands to control devices in response to sensing (i.e. use inputs as well as outputs).</li> <li>* Design, build, test, evaluate and modify the system; ensuring that it is fit for purpose.</li> </ul>



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Handling information (databases and graphs)	<ul style="list-style-type: none"> <li>* As a class or individually with support, children use a simple pictogram or painting program to develop simple graphical awareness / one to one correspondence</li> </ul>	<ul style="list-style-type: none"> <li>* Use a graphing package to collect, organise and classify data, selecting appropriate tools to create a graph and answer questions.</li> <li>* Enter information into a simple branching database, database or word processor and use it to answer questions.</li> <li>* They save, retrieve and edit their work.</li> </ul>	<ul style="list-style-type: none"> <li>* Children use a simple database (the structure of which has been set up for them) to enter and save and save information on a given subject.</li> <li>* They follow straight forward lines of enquiry to search their data for their own purposes.</li> <li>* They talk about their experiences of using ICT to process data compared with other methods.</li> </ul>	<ul style="list-style-type: none"> <li>* Children work as a class or group to create a data collection sheet and use it to setup a straight forward database to answer questions.</li> <li>* Enter information and interrogate it ( by searching, sorting, graphing etc).</li> <li>* Begin to reflect on how useful the collected data and their interrogation was and whether or not their questions were answered.</li> </ul>	<ul style="list-style-type: none"> <li>* Independently solve a problem by planning and carrying out data collection, by organising and analysing data involving complex searches using a database, and by drawing conclusions and presenting findings.</li> <li>* The need for accuracy is demonstrated and strategies for spotting implausible data are evident.</li> <li>* Children should be able to talk about issues relating to data protection and the need for data security in the world at large (eg health, police databases).</li> </ul>
Modelling and simulations (spreadsheets, adventure games and simulations)	<ul style="list-style-type: none"> <li>* Make simple choices to control a simple simulation program.</li> </ul>	<ul style="list-style-type: none"> <li>* Children are able to play an adventure game and use a simple simulation, making choices and observing the results.</li> <li>* Their conversation shows they understand that computers are good at replicating real life events and allowing them to explore contexts that are otherwise not possible.</li> </ul>	<ul style="list-style-type: none"> <li>* Use models and simulations to find things out and solve problems. Recognise that simulations are useful in widening experience beyond the classroom.</li> <li>* Make simple use of a spreadsheet to store data and produce graphs.</li> </ul>	<ul style="list-style-type: none"> <li>* Set up and use a spreadsheet model to explore patterns and relationships. Make predictions.</li> <li>* Know how to enter simple formulae to assist this process.</li> </ul>	<ul style="list-style-type: none"> <li>* Set up and use their own spreadsheet, which contains formulae to investigate mathematical models. Ask "what if ..." questions and change variable in their model.</li> <li>* Understand the need for accuracy when creating formulae and check regularly for mistakes, by questioning results.</li> <li>* Relate their use of spreadsheets to model situations to the wider world.</li> </ul>



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Data logging (science and maths)			<ul style="list-style-type: none"> <li>* Begin to use a data logger to sense physical data (sound, light, temperature).</li> </ul>	<ul style="list-style-type: none"> <li>* Use a data logger confidently, connected to the computer or remotely, to capture continuous or intermittent data readings.</li> <li>* Interpret the results and use these in their investigations.</li> <li>* Realise the advantages of using ICT to collect data that might otherwise be problematic.</li> </ul>	<ul style="list-style-type: none"> <li>* Children are able to identify their own opportunities for data logging and carry out their own experiments.</li> <li>* They check and question results and are able to spot trends in data and identify when problems may have occurred.</li> </ul>
Understanding technologies (individual technologies)	<ul style="list-style-type: none"> <li>* Show an awareness of the range of devices and tools they encounter in everyday life</li> </ul>	<ul style="list-style-type: none"> <li>* Show an awareness of a range of inputs to a computer (IWB, mouse touch screen, microphone, keyboard, etc)</li> </ul>	<ul style="list-style-type: none"> <li>* Begin to show discernment in their use of computing devices and tools for a particular purpose and explain why their choice was made.</li> </ul>	<ul style="list-style-type: none"> <li>* Make choices about the devices and tools they use for specific purposes and explain them in relation to the context.</li> <li>* Begin to show an awareness of specific tools used in working life.</li> </ul>	<ul style="list-style-type: none"> <li>* Evaluate the tools available to them including any that are unfamiliar or new and use them to solve problems.</li> <li>* Demonstrate an awareness of the appropriateness of outcomes depending on choices regarding tools and devices.</li> </ul>
Understanding technologies (networks)	<ul style="list-style-type: none"> <li>* Show an awareness that what they create on a computer or tablet device can be shown to others via another device (e.g. printer, projector, Apple TV)</li> </ul>	<ul style="list-style-type: none"> <li>* Begin to show an awareness that computers can be linked to share resources</li> </ul>	<ul style="list-style-type: none"> <li>* Show an understanding that their password is the key to accessing a personalised set of resources and files (e.g. My Documents).</li> <li>* Show an awareness of where passwords are critical in everyday use (e.g. parents accessing bank details)</li> </ul>	<ul style="list-style-type: none"> <li>* Show an understanding of the school network and how it links computers to resources in school and beyond.</li> <li>* Compare this with other networks they may encounter at home or in the wider world (e.g. banks)</li> </ul>	<ul style="list-style-type: none"> <li>* Show an understanding of how filtering and monitoring tools affect their use of the school network and Internet and compare this with their experience of access outside school.</li> </ul>
Understanding technologies (the internet)		<ul style="list-style-type: none"> <li>* Use websites and demonstrate an awareness of how to manage their journey around them (e.g. using the back/forward button, hyperlinks)</li> </ul>	<ul style="list-style-type: none"> <li>* Show an awareness that not all the resources/tools they use are resident on the device they are using.</li> <li>* Begin to show an understanding of URLs.</li> </ul>	<ul style="list-style-type: none"> <li>* Perform a search using different search engines and check the results against each other, explaining why they might be different.</li> <li>* Show an awareness of the need for accuracy in spelling and syntax to search effectively.</li> </ul>	<ul style="list-style-type: none"> <li>* Use collaborative tools and e-mail showing a sensitivity for this type of remote collaboration and communication</li> </ul>