



Computing Progression in Skills
Lower Key Stage Two

<i>Skills</i>	<i>Children needing support to achieve key skills</i>	<i>Children surpassing key skills</i>
<p>Year 3: Understanding Algorithms (programming, coding and control)</p> <ul style="list-style-type: none"> • Solve open ended problems with a floor robot, screen turtle and other programmable devices • Design, write and run executable programs using a programming language (e.g. that used for a floor robot, Scratch, Kodu or Espresso Coding) • Be able to debug an algorithm and correct errors • Use repetition in programs to make them more efficient 		
<p>Year 3: Information Handling</p> <ul style="list-style-type: none"> • Collect appropriate data, enter it into a database and use the database to answer simple questions and provide information • Raise questions of the data and translate them into search criteria • Change the contents of cells in a spreadsheet to explore ‘what if’ questions • Use a spreadsheet to record data and produce graphs 		
<p>Year 3: Text Processing and Multimedia</p> <ul style="list-style-type: none"> • Use different font sizes, colour and effects to communicate meaning for a given audience • Use layout, format, graphics and illustrations for different purposes or audiences • Insert and edit simple tables • Use ‘page set-up’ to select different page sizes and orientations • Use cut, copy and paste to refine and reorder content 		
<p>Year 3: Digital Image (art programs, animation and video)</p> <ul style="list-style-type: none"> • Acquire, store and retrieve images from cameras, scanners and the internet and begin to use paint packages or photo- 		

<p>manipulation software to change an image (e.g. apply different effects)</p> <ul style="list-style-type: none"> • Select specific areas of a painting, copy and paste to make repeating patterns, Resize elements, investigate symmetry and reflection tools • Begin to independently capture, store, retrieve and edit a digital image • Develop greater control over the digital stills video camera and use the enhanced tools (Macro, Landscape, Zoom) • Discuss and evaluate the quality of their own and others' captured images and make decisions (e.g. keep, delete and change) 		
<p>Year 3: Sound and Music (sound capture and editing, podcasts and music composition)</p> <ul style="list-style-type: none"> • Use ICT to select and record voice and sounds (e.g. Dictaphone, digital voice recorder, sound recorder in IWB software) • Use recorded sound files in other applications • Locate and use sound files from internet, CD ROM, learning platform and multimedia software (e.g. IWB software) • Select, import and edit existing sound files in sound editing software (e.g. Audacity) • Use music software to experiment capturing, repeating and reordering sound patterns 		
<p>Year 3: Electronic Communication</p> <ul style="list-style-type: none"> • Log on to an email account, open emails, create and send appropriate replies • Create and send an email to a prearranged partner, selecting the recipient from a class address book • Create own address book/add to an existing one • Attach different files to emails 		
<p>Year 3: Understand Computer Networks, the Internet and Provision of Multiple Services</p> <ul style="list-style-type: none"> • Log into the school network using own username and password • Locate own folder on a particular drive to save and retrieve work • Select either colour or black and white printing. Switch display 		

<p>between the computer and the visualiser. Upload photographs from the school camera to the class folder on the network</p> <ul style="list-style-type: none"> • Access a given website by typing in the URL into the address bar of a browser and explain what different parts of the 'address' (in the URL) refer to 		
<p>Year 3: Research Technologies</p> <ul style="list-style-type: none"> • Follow a simple search to find specific information from a website or CD ROM • Develop key questions and key words to search for specific information to answer a problem (e.g. 'where could be go on holiday?' would become 'holiday destinations') • Save and retrieve accessed information through the use of 'favourites', 'history' and 'save as...' • Use found information purposefully to complete specific tasks (e.g. copy, paste and edit relevant information) • Understand the dynamic of search engines and know that there are different search engines – some within sites, and some for the whole internet (e.g. Google). Use them appropriately • Use search engines for different media (e.g. Google Images, www.findsounds.com etc.) • Skim read and sift information to check its relevance and modify search strategies if necessary) 		
<p>Year 4: Understanding Algorithms (programming, coding and control)</p> <ul style="list-style-type: none"> • Debug and algorithm and correct any errors • Explore the effect of changing variables. Use them to make and test predictions • Use 'selection' in a programming sequence i.e. se 'if...then... else...' type actions or statements (e.g. if a character is touching the wall then bounce back, else move forwards) • Create simple flow diagrams to control physical devices or systems (real ones or on screen simulations) using inputs, outputs, including sensors 		
<p>Year 4: Information Handling</p>		

<ul style="list-style-type: none"> • Generate and compare different charts and graphs (including graphing software, database or spreadsheet) and understand that different graphs are used for different purposes • Create and use a branching database to organise and sort data to answer questions • Use a spreadsheet to explore simple patterns (e.g. in a number square) • Determine the data needed to answer a specific question; organise, present, analyse and interpret the data in tables, diagrams, tally charts, pictograms and bar charts – using IT where appropriate • Begin to develop skills to identify clearly what data needs to be collected and design a questionnaire or use an input device (e.g. data logger) to aid its collection 		
<p>Year 4: Text Processing and Multimedia</p> <ul style="list-style-type: none"> • Select suitable texts, sounds and graphics from electronic resources (e.g. Espresso) and use it appropriately • Select and import sounds from own recordings, create effects and music and import this from other sources • Select and import graphics from digital cameras, graphics packages and other sources and prepare for use (cropping, resizing, editing). Select and import graphics from digital cameras, graphics packages and other sources and prepare for use (cropping, resizing, editing) • Create a range of hyperlinks and produce a non-linear, interactive presentation • Recognise key features of layout and use design features such as text boxes, columns and borders 		
<p>Year 4: Digital Image (Art Programs, Animation and Video)</p> <ul style="list-style-type: none"> • Begin to independently capture, store, retrieve and edit a digital image • Develop greater control over the digital stills video camera and use the enhanced tools (Macro, Landscape, Zoom) 		

<ul style="list-style-type: none"> • Discuss and evaluate the quality of their own and others' capture images and make appropriate decisions (e.g. keep, delete or change) • Create a short animated sequence from captured images in simple storyboarding software to communicate a specific idea • Capture footage from camcorders into simple movie editing software. Arrange, trim and cut clips to create a short film that conveys meaning • Import music and stills into video editing software and add to film projects • Add simple titles and credits 		
<p>Year 4: Sounds and Music</p> <ul style="list-style-type: none"> • Select, import and edit existing sound files in sound editing software (e.g. Audacity) • Use music software to experiment capturing, repeating and reordering sound patterns • Use music software to create a simple multipart percussion composition • Use ICT to create and perform sounds or music that would otherwise not be possible live – e.g. playing a multipart piece or a very fast piece) 		
<p>Year 4: Electronic Communication</p> <p>Contribute to discussion forums, blogs and surveys</p> <p>Create own discussions, blogs and surveys</p> <p>Contribute to a Wiki</p> <p>Begin to use video conferencing as a class, if appropriate (e.g. with another class or school)</p>		
<p>Year 4: Understand Computer Networks, the Internet and Provision of Multiple Services</p> <ul style="list-style-type: none"> • Able to explain that the computers in the classroom are part of a school network. That they are connected by wires (or wirelessly) to a main computer called the server. Other devices such as printers, projectors and visualisers may also be connected. Draw or label a diagram to show this. 		

<ul style="list-style-type: none"> • Able to explain that the server is connected to the Internet which is made up of a global network and is able to communicate with other servers to share resources and data. Draw or label a diagram to show this. • Able to explain what the school's monitoring software does and why it has been installed 		
<p>Year 4: Research Technologies</p> <ul style="list-style-type: none"> • Follow a simple search to find specific information from a website or CD ROM • Develop key questions and key words to search for specific information to answer a problem (e.g. 'where could be go on holiday?' would become 'holiday destinations') • Save and retrieve accessed information through the use of 'favourites', 'history' and 'save as...' • Use found information purposefully to complete specific tasks (e.g. copy, paste and edit relevant information) • Understand the dynamic of search engines and know that there are different search engines – some within sites, and some for the whole internet (e.g. Google). Use them appropriately • Use search engines for different media (e.g. Google Images, www.findsounds.com etc.) • Skim read and sift information to check its relevance and modify search strategies if necessary) 		