

## Curriculum Map for Computing

### Key Stage 1

	Year 1	Year 2
Generic Skills	<ul style="list-style-type: none"> <li>• Can print work using the Print icon.</li> <li>• Can use both hands on the keyboard.</li> <li>• Can load programs with support.</li> <li>• Can save work with support.</li> <li>• Can retrieve work with support.</li> <li>• Can talk about how they are using ICT.</li> <li>• Can start to use appropriate ICT vocabulary.</li> </ul>	<ul style="list-style-type: none"> <li>• Can load programs independently.</li> <li>• Can save work independently.</li> <li>• Can retrieve work independently.</li> <li>• Can plan what they are going to do.</li> <li>• Can edit their work.</li> <li>• Can practise keyboard skills using both hands, try to use more than two fingers, and try to use the thumb on the spacebar.</li> <li>• Can explain their work and how they have used ICT.</li> <li>• Can annotate their work samples using prompts.</li> <li>• Can use appropriate ICT vocabulary.</li> </ul>
Data Handling	<ul style="list-style-type: none"> <li>• Can develop simple classification skills based on practical sorting activities.</li> <li>• Can, with support, use simple data plotting/ graphing programs to produce pictograms and other simple graphs.</li> <li>• Can place objects and pictures in a list or a simple table.</li> </ul>	<ul style="list-style-type: none"> <li>• Can independently plot data as a pictogram, block chart or bar graph.</li> <li>• Can know that graph types can be changed.</li> <li>• Can interpret the graphs - discuss the graphs and answer simple questions.</li> <li>• Can make a simple Y/N tree diagram to sort information.</li> <li>• Can use the search tools in a prepared database to answer simple questions e.g. how many minibeasts have wings?</li> <li>•</li> </ul>
Research	<ul style="list-style-type: none"> <li>• Can talk about websites they have been on.</li> <li>• Can explore a website by clicking on buttons, arrows, menus and hyperlinks.</li> <li>• Can navigate 'back' by clicking on the 'back' button.</li> <li>• Can complete a search using a child friendly search engine under the supervision of adults.</li> </ul>	<ul style="list-style-type: none"> <li>• Can complete a search using a child friendly search engine independently.</li> <li>• Can use the Internet to find information for a topic, with support (Favourites file, hyperlinks set up by the teacher)</li> </ul>
Computer Science	<ul style="list-style-type: none"> <li>• Can understand how many everyday devices respond to commands.</li> <li>• Can give and follow instructions using Forward and Backward commands (arrows) and the Go command, one at a time. (Can use a programmable robot)</li> <li>• Can explore outcomes when instructions are given in a sequence.</li> <li>• Can give a simple sequence of instructions.</li> <li>• Can discuss/explore what will happen when instructions are given in a sequence.</li> </ul>	<ul style="list-style-type: none"> <li>• Can compare use of a programmable robot with robots working in factories doing repetitive tasks.</li> <li>• Can plan and create a sequence of instructions to a move a programmable robot.</li> <li>• Can control a programmable robot, with a purpose. (Defined by either teacher or child.)</li> <li>• Can use the 'repeat' (loop) and 'when' (conditional statement) command within a series of instructions.</li> <li>• Can discuss how to edit/refine a sequence of commands.</li> <li>• Can create a sequence of instructions including 'right angle' turns.</li> </ul>

Text	<ul style="list-style-type: none"> <li>• Can access and open a word processing document.</li> <li>• Can enter text.</li> <li>• Can use upper and lower case letters.</li> <li>• Can use the space bar.</li> <li>• Can use the Return key.</li> <li>• Can use the Shift key to create a capital letter.</li> <li>• Can understand how to sue the delete/backspace key if they have mistyped or repeated a letter.</li> <li>• Can word process short texts using word lists.</li> <li>• Can move the cursor and insert text.</li> </ul>	<ul style="list-style-type: none"> <li>• Can understand how text can be saved and retrieved.</li> <li>• Can change the font style.</li> <li>• Can change the font size.</li> <li>• Can change the font colour.</li> <li>• Can use the cursor (arrow) keys for simple on screen editing.</li> <li>• Can import graphics and add text, with support.</li> </ul>
Graphics	<ul style="list-style-type: none"> <li>• Can use ICT to generate ideas for their work.</li> <li>• Can start using various tools including brushes and pens in a paint package.</li> <li>• Can start to use the spray can, fill tool and stamps in a paint package.</li> <li>• Can change the colour or pattern of the paintbrush, paint bucket or spray can in a paint package.</li> <li>• Can draw a simple picture.</li> </ul>	<ul style="list-style-type: none"> <li>• Can use the line tool in a paint package.</li> <li>• Can independently use various tools including brushes and pens in a paint package.</li> <li>• Can independently use the spray can, fill tool and stamps in a paint package.</li> <li>• Can select and use tools appropriately.</li> </ul>
Publisher		<ul style="list-style-type: none"> <li>• Can create a new blank document.</li> <li>• Can select full page layout.</li> <li>• Can increase the view by changing the zoom %.</li> <li>• Can create a text box and enter text.</li> <li>• Can apply formatting skills learnt in word processing.</li> </ul>
Filming	<ul style="list-style-type: none"> <li>• Can use a digital camera or digital video camera to take pictures.</li> <li>• Can be aware that digital pictures and video can be saved on a computer.</li> </ul>	<ul style="list-style-type: none"> <li>• Can capture videos.</li> <li>• Can discuss which videos to keep and why.</li> <li>• Can use a digital camera or digital video camera to take appropriate pictures or video for a specific purpose. (E.g. as part of their topic)</li> </ul>
Animations and Sound	<ul style="list-style-type: none"> <li>• Can add captions or sound to drawn, digital pictures or video, with support.</li> <li>• Can understand that sound can be recorded and played back.</li> <li>• Can record their own voice or others with support.</li> </ul>	<ul style="list-style-type: none"> <li>• Can arrange clips to make a short film that conveys meaning.</li> <li>• Can add simple titles and credits.</li> <li>• Can select text and make simple changes including bold, italic and underlined.</li> <li>• Can edit images using an art package or other software e.g. crop, resize.</li> <li>• Can record their own voice or others independently</li> <li>• Can use music software to experiment, create and play their own compositions</li> <li>• Can with support, evaluate and modify (edit) their own compositions</li> <li>• Can be aware that sound can be recorded on the computer as a sound file</li> </ul>

<p>E-safety</p>	<ul style="list-style-type: none"> <li>• Can make decisions about whether or not statements or images found on the Internet are likely to be true.</li> <li>• Can identify different devices that can go on the Internet, and separate those that do not.</li> <li>• Can identify what counts as personal information.</li> <li>• Can identify when inappropriate content is accessed and act appropriately.</li> </ul>	<ul style="list-style-type: none"> <li>• Can identify obviously false information in a variety of contexts.</li> <li>• Can recognise that a variety of devices (XBox, PSP etc as well as computers and phones) connect users with other people.</li> <li>• Can identify personal information that should be kept private.</li> <li>• Can consider other people's feelings on the Internet.</li> </ul>
<p>Technology in our lives</p>	<ul style="list-style-type: none"> <li>• Can recognise the ways we use technology in our classroom.</li> <li>• Can recognise ways that technology is used in my home and community.</li> <li>• Can use links to websites to find information.</li> <li>• Can begin to identify some of the benefits of using technology.</li> </ul>	<ul style="list-style-type: none"> <li>• Can tell you why I use technology in the classroom.</li> <li>• Can tell you why I use technology in my home and community.</li> <li>• Starting to understand that other people have created the information I use.</li> <li>• Identify benefits of using technology including finding information, creating and communicating.</li> <li>• Can talk about the differences between the Internet and things in the physical world.</li> </ul>

## Key Stage 2

	Year 3	Year 4	Year 5	Year 6
Generic Skills	<ul style="list-style-type: none"> <li>• Can use a range of ICT equipment and software with support.</li> <li>• Can create and name new folders, with support.</li> <li>• Can print work using the drop down menu.</li> <li>• Can make changes to their work.</li> <li>• Can consolidate keyboard skills.</li> <li>• Can highlight/select items.</li> <li>• Can use cut, copy and paste.</li> <li>• Can explain their work and how they have used ICT.</li> </ul>	<ul style="list-style-type: none"> <li>• Can choose an appropriate program, with support.</li> <li>• Can create and name new folders, independently.</li> <li>• Can use Print Preview.</li> <li>• Can understand that work can be saved in different places e.g. network, writeable CD ROM, PenDrive</li> <li>• Can plan what they are going to do and evaluate the results.</li> <li>• Can describe their work and explain how and why they have used ICT.</li> </ul>	<ul style="list-style-type: none"> <li>• Can choose an appropriate program to perform a task.</li> <li>• Can understand and use the hierarchical file system.</li> <li>• Can combine information from various sources.</li> <li>• Can describe and discuss their work and explain how and why they have used ICT.</li> </ul>	<ul style="list-style-type: none"> <li>• Can choose and combine the use of appropriate ICT tools to complete a task.</li> <li>• Can critically evaluate the fitness for purpose of work as it progresses.</li> <li>• Can annotate their work samples using prompt questions</li> </ul>
Data Handling	<ul style="list-style-type: none"> <li>• Can collect information using a questionnaire.</li> <li>• Can enter data into a prepared database.</li> <li>• Can use the search tools to answer simple questions relevant to an investigation.</li> <li>• Can sort and organise information to use in other ways.</li> <li>• Can produce graphs from the data with support.</li> <li>• Can enter data in a prepared spreadsheet, with support.</li> <li>• Can select data to produce a graph, with support.</li> <li>• Can recognise which information is suitable for their topic.</li> <li>• Can understand that libraries store data about all books and readers on computer and compare this with school's library system.</li> </ul>	<ul style="list-style-type: none"> <li>• Can begin to identify data handling opportunities</li> <li>• Can create and search a branching database.</li> <li>• Can create a database from information I have selected.</li> <li>• Can use the database to carry out an investigation.</li> <li>• Can present data in different ways – e.g. graphs, tables.</li> <li>• Can start to amend errors.</li> <li>• Can use a spreadsheet to record data and produce graphs independently.</li> <li>• Can enter data in a prepared spreadsheet independently.</li> <li>• Can select data to produce a graph independently.</li> <li>• Can use a spreadsheet to explore number patterns eg in a hundred square, multiplication table.</li> </ul>	<ul style="list-style-type: none"> <li>• Can create data collection forms and enter data from these accurately.</li> <li>• Can know how to check for and spot inaccurate data.</li> <li>• Can enter information into a spreadsheet using appropriate headings.</li> <li>• Can move to a specific cell in a spreadsheets.</li> <li>• Can use a simple formula e.g. SUM</li> <li>• Can use a spreadsheet to investigate e.g. cost of foods / drinks Which is the best value drink?</li> </ul>	<ul style="list-style-type: none"> <li>• Can know how to check for and spot inaccurate data.</li> <li>• Can use formulae and functions in a spreadsheet.</li> <li>• Can enter and use simple formula in a spreadsheet.</li> <li>• Can understand that changing the numerical data effects a calculation.</li> <li>• Can change data to satisfy 'What if' queries.</li> <li>• Can use a spreadsheet to solve simple problems e.g. the relationship between the perimeter and area of a quadrilateral.</li> <li>• Can make graphs from the calculations on my spreadsheet.</li> <li>• Can use editing tools to alter the design of a graph.</li> <li>• Can organise, refine and present information appropriate to the audience</li> </ul>

<p>Research</p>	<ul style="list-style-type: none"> <li>• Can type in a URL to find a website.</li> <li>• Can add websites to favourites.</li> <li>• Can use a search engine to find a range of media, e.g. images, text.</li> <li>• Can understand Internet safety rules.</li> </ul>	<ul style="list-style-type: none"> <li>• Can think of search terms to use linked to questions they are finding the answers for.</li> <li>• Can talk about the reliability of information on the Internet, e.g. the difference between fact and opinion.</li> <li>• Can use Internet safety rules.</li> </ul>	<ul style="list-style-type: none"> <li>• Can use advanced search functions in Google, e.g. quotations.</li> <li>• Can use AND and OR in their searches</li> <li>• Can check the accuracy of information, with support.</li> <li>• Can begin to be aware of privacy and other issues related to using the Internet.</li> <li>• Can interpret and question the plausibility of information.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand websites such as Wikipedia are made by users (link to E-Safety)</li> <li>• Can suggest ways to check the accuracy of information independently.</li> <li>• Can be aware of privacy and other issues related to using the Internet.</li> </ul>
<p>Computer Science</p>	<ul style="list-style-type: none"> <li>• Can plan, write, evaluate, and edit a sequence of instructions. Can be aware that Logo is a computer language.</li> <li>• Can write a simple program in Logo to produce a line drawing. Can use more advanced Logo programming, including pen up, pen down etc.</li> <li>• Write a program to reproduce a defined problem, e.g. geometric shape/pattern.</li> <li>• Can begin to experiment with on-screen control software to control outputs.</li> <li>• Can use a variety of inputs.</li> <li>• Can use the 'repeat' (loop) command within a series of instructions.</li> <li>• Can use the 'if... then' (conditional statement) command within a series of instructions</li> </ul>	<ul style="list-style-type: none"> <li>• Can include an algorithm to include selection (if) and repetition (loops).</li> <li>• Can decomposed algorithms into component parts (procedures).</li> <li>• Can test and correct parts of an algorithm separately.</li> <li>• Can use conditional statements ('if...then') to create dangerous items in their world.</li> </ul>	<ul style="list-style-type: none"> <li>• Can create and edit variables.</li> <li>• Can predict the outcome of a control procedure.</li> <li>• Can use conditional statements. Use loops and conditions to refine algorithms</li> <li>• Can use conditional statements to control external outputs.</li> <li>• Can use conditional statements and infinite loops.</li> <li>• Can evaluate and edit the set of instructions to make a more efficient system</li> <li>• Can be aware of control applications in everyday life, e.g. automatic doors, robots in car factories, automatic security lights.</li> </ul>	<ul style="list-style-type: none"> <li>• Can use on-screen control software to plan, create and run a more complex set of instructions</li> <li>• Can declare statements.</li> <li>• Can use comparison and numerical operators in Python.</li> <li>• Can plan and create a control system to answer a task</li> <li>• Can understand when it would be appropriate to use a control system</li> <li>• Can navigate Python programming environment.</li> <li>• Evaluate the effectiveness of their game and debug if required.</li> </ul>

E-safety	<ul style="list-style-type: none"> <li>• Can question the “validity” of what they see on the Internet.</li> <li>• Can use a browser address bar not just search box and shortcuts.</li> <li>• Can think before sending and suggest consequences of sending/posting.</li> <li>• Can recognise online behaviours that would be unfair.</li> </ul>	<ul style="list-style-type: none"> <li>• Can recognise social networking sites and social networking features built into other things (such as online games and handheld games consoles).</li> <li>• Can make judgments in order to stay safe, whilst communicating with others online.</li> <li>• Can tell an adult if anything worries them online.</li> <li>• Can identify dangers when presented with scenarios, social networking profiles, etc.</li> </ul> <p>Can articulate examples of ‘good’ and ‘bad’ behaviour online.</p>	<ul style="list-style-type: none"> <li>• Can judge what sort of privacy settings might be relevant to reducing different risks.</li> <li>• Can judge when to answer a question online and when not to.</li> <li>• Can be a good online citizen and friend, not a ‘digital bystander’.</li> <li>• Can articulate what constitutes good behaviour online.</li> <li>• Can find and cite the web address for any information or resource found online.</li> </ul> <p>Can use different sources to double check information found.</p>	<ul style="list-style-type: none"> <li>• Can find <i>report</i> and <i>flag</i> buttons in commonly used sites and name sources of help (Childline, Cybermentors, etc)</li> <li>• Can identify ‘click-CEOP’ button and explain to parents what it is for.</li> <li>• Can discuss scenarios involving online risk.</li> <li>• Can state the source of information found on the Internet.</li> </ul> <p>Can act as a role model for younger pupils.</p>
Text	<ul style="list-style-type: none"> <li>• Can select text and change the font style, size and colour.</li> <li>• Can select text and use Bold and Underline icons.</li> <li>• Can confidently use the cursor (arrow) keys for simple on screen editing.</li> <li>• Can use the scroll bars to view different parts of the document justify / align text.</li> <li>• Can import graphics and add text.</li> </ul>	<ul style="list-style-type: none"> <li>• Can import graphics and use the Picture Toolbar to choose the text wrapping.</li> <li>• Can use the spell checker.</li> <li>• Can use Page Setup to choose Portrait or Landscape page as appropriate.</li> <li>• Can learn how to insert and use a simple table.</li> <li>• Can use the Zoom menu to view the whole page.</li> <li>• Can use word art.</li> </ul>	<p>Children should be given the opportunity to use their word processing skills in a range of contexts.</p> <ul style="list-style-type: none"> <li>• Can change the layout of a document using centering and justification.</li> <li>• Can use the tab key to format a list.</li> <li>• Can import, position and manipulate graphics into word processing document.</li> <li>• Can moving, resizing and reshaping text and graphics on a page.</li> </ul>	<p>Children should be given the opportunity to use their word processing skills in a range of contexts.</p> <ul style="list-style-type: none"> <li>• Can split cells in a table.</li> <li>• Can merge cells in a table.</li> <li>• Can insert/delete cells in a table.</li> <li>• Can use Find, search and replace if appropriate.</li> </ul>

<p>Graphics and publisher</p>	<ul style="list-style-type: none"> <li>• Can acquire, store and combine images from cameras or the Internet for a purpose.</li> <li>• Can select certain areas of an image and resize, rotate an image.</li> <li>• Can move text to different positions on a page.</li> <li>• Can insert clipart</li> <li>• Can add photographs</li> <li>• Can cut and paste.</li> </ul>	<ul style="list-style-type: none"> <li>• Can use the print screen function to capture an image.</li> <li>• Can edit pictures using various tools in paint or photo-manipulation software.</li> <li>• Can use the rotational function in the text box.</li> <li>• Can move/rotate clipart around the page.</li> <li>• Can create and import a picture from a paint program.</li> <li>• Can use undo/redo tool for immediate action only.</li> </ul>	<p>Using previous skills as should have all been taught.</p> <p>Multimedia presentations.</p> <ul style="list-style-type: none"> <li>• Can plan a layout or presentation to suit an audience</li> <li>• Can create and redraft work combining text, graphics and sound.</li> <li>• Can import photographs from a variety of sources.</li> <li>• Can create a simple non-linear presentation.</li> <li>• Can use transparent buttons and text links.</li> <li>• Can use action buttons to move to and from a slide.</li> <li>• Can insert hyperlinks</li> </ul>	<p>Using previous skills as should have all been taught.</p> <p>Multimedia presentations.</p> <ul style="list-style-type: none"> <li>• Can apply appropriate backgrounds.</li> <li>• Can use timings on each effect.</li> <li>• Can use rehearse timings before presenting to an audience.</li> </ul>
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<p>Filming and Animations</p>	<ul style="list-style-type: none"> <li>• Can use a storyboard to edit a sequence of digital pictures or video with support. e.g. change sequence, add transitions, effects, and sound</li> <li>• Can take a series of pictures to form a simple animation.</li> <li>• Can move 1 item within their animation to create movement on playback.</li> <li>• Can take a series of pictures to form an animation.</li> <li>• Can edit and improve their animation.</li> </ul>	<ul style="list-style-type: none"> <li>• Can use a storyboard to edit a sequence of digital pictures or video independently. E.g. change sequence, add transitions, effects, and sound</li> <li>• Can plan what they would like to happen in their film or animation.</li> <li>• Can take a series of pictures to form a more complicated animation.</li> <li>• Can move items within their animation to create movement on playback.</li> <li>• Can begin to evaluate the suitability of the presentation for the given audience.</li> <li>• Can make changes to the presentation to make it more suitable for the audience, with support.</li> </ul>	<ul style="list-style-type: none"> <li>• Can capture video for a purpose.</li> <li>• Can discuss the quality of videos and chose which to keep and which to re-shoot.</li> <li>• Can trim and arrange clips to convey meaning.</li> <li>• Can add titles, credits, slide transitions, special effects and talk about the effect these have on the audience.</li> </ul>	<ul style="list-style-type: none"> <li>• Can plan a multi-scene animation including characters, scenes, camera angles and special effects.</li> <li>• Can use stop-go animation software to shoot the animation frames.</li> <li>• Can adjust the number of photographs taken and the playback rate to improve the quality of the animation.</li> <li>• Can use a movie editing package to edit/refine and add titles.</li> <li>• Can plan for the use of special effects/transitions to enhance their video.</li> <li>• Can transfer footage to iMacs for more advanced editing.</li> <li>• Can trim, arrange and edit audio levels of video to improve the quality of their outcome.</li> <li>• Can add titles, credits, transitions, special effects.</li> <li>• Can export their video in different formats for different purposes</li> </ul>
<p>Sound</p>	<ul style="list-style-type: none"> <li>• Can record sound on the computer and be able to use the sound files in other applications, with support.</li> </ul>	<ul style="list-style-type: none"> <li>• Can record and edit sound on the computer.</li> <li>• Can use the sound files in other applications</li> </ul>	<ul style="list-style-type: none"> <li>• Can use music software to plan, create and play their own compositions.</li> <li>• Can evaluate and modify (edit) their own compositions</li> <li>• Can use a range of musical instruments in their compositions.</li> </ul>	<ul style="list-style-type: none"> <li>• Can use more sophisticated music software to plan, create, edit and play their own compositions.</li> </ul>

<p>Technology In our lives</p>	<ul style="list-style-type: none"> <li>• Can save and retrieve work on the Internet, the school network or my own device.</li> <li>• Can talk about the parts of a computer.</li> <li>• Can tell you ways to communicate with others online.</li> <li>• Can describe the World Wide Web as the part of the Internet that contains websites.</li> <li>• Can use search tools to find and use an appropriate website.</li> </ul> <p>Can think about whether I can use images that I find online in my own work.</p>	<ul style="list-style-type: none"> <li>• using is on the Internet, the school network or my own device.</li> <li>• Can identify key words to use when searching safely on the World Wide Web.</li> <li>• Can think about the reliability of information I read on the World Wide Web.</li> <li>• Can tell you how to check who owns photos, text and clipart.</li> <li>• Can create a hyperlink to a resource on the World Wide Web.</li> <li>• Can recognise that websites use different methods to advertise products.</li> </ul>	<ul style="list-style-type: none"> <li>• Can describe different parts of the Internet.</li> <li>• Can use different online communication tools for different purposes.</li> <li>• Can use a search engine to find appropriate information and check its reliability.</li> <li>• Can recognise and evaluate different types of information I find on the World Wide Web.</li> <li>• Can describe the different parts of a webpage.</li> <li>• Can find out who the information on a webpage belongs to.</li> <li>• Know which resources on the Internet I can download and use.</li> </ul> <p>Can describe the ways in which websites advertise their products to me.</p>	<ul style="list-style-type: none"> <li>• Can tell you the Internet services I need to use for different purposes.</li> <li>• Can describe how information is transported on the Internet.</li> <li>• Can select an appropriate tool to communicate and collaborate online.</li> <li>• Can talk about the way search results are selected and ranked.</li> <li>• Can check the reliability of a website.</li> <li>• Can tell you about copyright and acknowledge the sources of information that I find online.</li> <li>• Know that websites can use my data to make money and target their advertising.</li> </ul>
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