



**Skills Map for Computing**

**Early Years Computing**

<b>Problem Solving and Logical Thinking</b>	<b>Creative Content</b>	<b>Digital Literacy</b>
<ul style="list-style-type: none"> <li>• Can they explore and interact with their environment using a range of equipment? (e.g. using a camera to take photos, using an iPad to record videos)</li> <li>• Can they recognize simple icons, buttons or shortcuts?</li> <li>• Can they use appropriate icons, buttons or shortcuts to complete an action?</li> <li>• Can they explore the functions of a simple programming tool? (e.g. beebot)</li> <li>• Can they begin to plan and test instructions?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they use available applications and software to create original content?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they collect information using ICT? (e.g. take photographs, voice recordings, text)</li> <li>• Can they recognise and use simple keyboard commands (space bar, enter, delete and backspace)?</li> <li>• Can they input collected material into simple applications and programs?</li> <li>• Can they understand the appropriate vocabulary according to equipment available?</li> </ul> <p>E Safety</p> <ul style="list-style-type: none"> <li>• Do they understand how to identify age appropriate content?</li> <li>• Can they act if they find something they are unsure of (including identifying people who can help)?</li> </ul>
<b>Early Years Greater Depth</b>		
<ul style="list-style-type: none"> <li>• Can they evaluate a set of instructions?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they save and retrieve their original content?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they use the keyboard for a purpose? (e.g. to type a sentence or story)</li> </ul>



### Year 1 Computing

Problem Solving and Logical Thinking	Creative Content	Digital Literacy
<ul style="list-style-type: none"> <li>• Can they create a simple series of instructions - left and right?</li> <li>• Can they record their routes?</li> <li>• Do they understand forwards, backwards, up and down?</li> <li>• Can they put two instructions together to control a programmable device?</li> <li>• Can they begin to plan and test their instructions?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they create original content using digital technology?</li> <li>• Can they use digital technology to store and retrieve content?</li> </ul> <p>E Safety</p> <ul style="list-style-type: none"> <li>• Do they know that personal information should not be shared online?</li> <li>• Can they act if they find something they are unsure of (including identifying people who can help; minimising screen; online reporting using school system etc)?</li> </ul>	<ul style="list-style-type: none"> <li>• Do they recognise the different forms of digital communication (e.g. email address, twitter handle etc)?</li> <li>• Can they understand the appropriate vocabulary according to equipment available?</li> <li>• Can they develop awareness and use of keyboard layout and use navigation skills appropriately (e.g. backspace, enter, spacebar, mouse)?</li> </ul>
<b>Year 1 Greater Depth</b>		
<ul style="list-style-type: none"> <li>• Can they begin to plan and test their instructions?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they use digital technology to organise and edit content (e.g. data in a graph, editing images)?</li> </ul>	



## Year 2 Computing

Problem Solving and Logical Thinking	Creative Content	Digital Literacy
<ul style="list-style-type: none"> <li>• Can they predict the outcomes of a set of instructions?</li> <li>• Can they program using sequences of instructions to implement an algorithm?</li> <li>• Can you create an algorithm for your partner to debug?</li> <li>• Can they test and amend a set of instructions?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they find information on a website?</li> <li>• Can they use a web page as a resource?</li> <li>• Can they experiment with drawing tools, text, pictures and animation to create content (e.g. presentation, eBook)?</li> <li>• Can they create content (e.g. presentation, video, animation) in a small group and record the narration?</li> </ul> <p>E Safety</p> <ul style="list-style-type: none"> <li>• Can they recognise advertising on websites and learn to ignore it?</li> <li>• Can they begin to evaluate websites and know that everything on the internet is not true?</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Can they communicate safely online (e.g. reply to email, respond to tweet)?</li> <li>• Can they create, edit and format text (insert/delete words, use bold/italics/underline)?</li> </ul>
<ul style="list-style-type: none"> <li>• Can they appreciate that some algorithms are more efficient than others?</li> <li>• Can they consider when digital technology leads to improvements or has the potential to make things worse?</li> </ul>		



Year 3 Computing		
Problem Solving and Logical Thinking	Creative Content	Digital Literacy
<ul style="list-style-type: none"> <li>• Can they experiment with variables to control models?</li> <li>• Can they give an on-screen robot directional instructions (e.g. 90/45 degree turns)?</li> <li>• Can they write more complex programs (leading to varying outcomes)?</li> <li>• Do they understand input and output?</li> <li>• Can they use commands to draw a shape (e.g. square, rectangle and other regular shapes on screen)</li> </ul>	<ul style="list-style-type: none"> <li>• Can they use editing software to manipulate media (e.g. crop, add effects, manipulate audio)?</li> <li>• Can they manipulate sound?</li> <li>• Can they combine text, images and sounds and show awareness of audience?</li> </ul> <p>E Safety</p> <ul style="list-style-type: none"> <li>• Do they recognise the difference between the work of others which has been copied (plagiarism) and restructuring and re-presenting materials in ways which are unique and new?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they open and send an attachment?</li> <li>• Can they find relevant information by browsing a menu?</li> <li>• Can they search for an image, then copy and paste it into a document?</li> <li>• Can they copy and paste text into a document?</li> <li>• Do they know how to manipulate text (e.g. underline text, centre text, change font and size)?</li> <li>• Can they save files (e.g. word doc, pictures) to an appropriate folder?</li> </ul>
<b>Year 3 Greater Depth</b>		
<ul style="list-style-type: none"> <li>• Can they recognise the impact of keyword choice on search engine results (e.g. results ranked according to relevance)?</li> </ul> <p style="text-align: center;">Can they evaluate content (created/researched) against a given goal?</p>		



Year 4 Computing		
Problem Solving and Logical Thinking	Creative Content	Digital Literacy
<ul style="list-style-type: none"> <li>• Can they use repeat instructions to draw regular shapes on screen, using commands?</li> <li>• Can they experiment with variables to control models?</li> <li>• Can they make turns specifying the degrees?</li> <li>• Can they make accurate predictions about the outcome of a program they have written?</li> <li>• Can they give an on-screen robot specific directional instructions that takes them from x to y?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they capture images using a range of devices (e.g. webcams, screen capture, scanning, visualiser and internet)?</li> <li>• Can they select media to download, import or export?</li> <li>• Can they copy graphics from a range of sources and paste into a desktop publishing program?</li> <li>• Can they insert media into a presentation (image, video, audio)?</li> <li>• Do they know how to manipulate text, underline text, centre text, change font and size and save text to a folder?</li> <li>• Can they create a presentation that is aimed at a specific audience?</li> </ul> <p>E Safety</p> <ul style="list-style-type: none"> <li>• Can they recognise that cyber bullying is unacceptable and will be sanctioned in line with the school's policy?</li> <li>• Do they understand the need for caution when using an internet search for images and what to do if they find an unsuitable image?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they identify the benefits of ICT to send messages and to communicate?</li> <li>• Can they use the automatic spell checker to edit spellings?</li> <li>• Can they use a search engine to find a specific website?</li> <li>• Do they know how to manipulate text (e.g. underline text, centre text, change font and size)?</li> <li>• Can they navigate using an internet browser (e.g. use tabbed browsing to open two or more web pages at the same time, open a link to a new window)?</li> </ul>
Year 4 Greater Depth		
<ul style="list-style-type: none"> <li>• Can they design and create content on a computer in response to a given goal, paying attention to the needs of a known audience?</li> <li>• Can they give reasons for errors in programs and explain how they have corrected these?</li> <li>• Can they explain an algorithm using sequence, repetition and selection in their own words?</li> </ul>		



Year 5 Computing		
Problem Solving and Logical Thinking	Creative Content	Digital Literacy
<ul style="list-style-type: none"> <li>• Can they combine sequences of instructions and procedures to turn devices on or off?</li> <li>• Do they understand input and output?</li> <li>• Can they explore 'What is' questions by playing adventure or quest games?</li> <li>• Can they plan a solution to a problem using decomposition (e.g. developing a computer game, creating a website)?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they listen, download, produce and upload a variety of broadcast media (e.g live streaming, podcast)</li> <li>• Can they manipulate sounds using audio editing software (eg. Audacity)?</li> <li>• Can they select music from a variety of sources and incorporate it into multimedia presentations?</li> <li>• Can they work on simple film editing?</li> <li>• Can they use a range of presentation applications?</li> <li>• Can they use technology to capture a range of multimedia.?</li> <li>• Can they make a home page for a website that contains links to other pages?</li> <li>• Can they prepare and then present a simple film? (e.g. Storyboarding and then filming/editing).</li> </ul> <p>E Safety</p> <ul style="list-style-type: none"> <li>• Can they independently, and with regard for e-safety, select and use appropriate communication tools to solve problems by collaborating and communicating with others within and beyond school?</li> <li>• Do they understand they should not publish other people's pictures or tag them on the internet without permission?</li> <li>• Do they know that content put online is extremely difficult to remove?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they conduct a video chat with someone elsewhere in the school or in another school?</li> <li>• Can they use bullets and numbering tools?</li> <li>• Can they use a search engine using keyword searches?</li> <li>• Can they compare the results of different searches?</li> <li>• Can they download a document and save it to the computer?</li> <li>• Can they decide which sections are appropriate to copy and paste from at least two web pages?</li> </ul>
Year 5 Greater Depth		
<ul style="list-style-type: none"> <li>• Can they make a multimedia presentation that contains: sound; animation; video and buttons to navigate?</li> <li>• Can they save an image document as a gif or j peg. file format using the command (e.g. "save as")?</li> <li>• Can evaluate content according to its effectiveness and impact on a target audience?</li> <li>• Can they write programs that have sequences, repetitions and variables?</li> <li>• Do they consider audience when editing a simple film and justify their choices?</li> </ul>		



### Year 6 Computing

Problem Solving and Logical Thinking	Creative Content	Digital Literacy
<ul style="list-style-type: none"> <li>• Can they explain how an algorithm works?</li> <li>• Can they detect errors in a program and correct them?</li> <li>• Can they explore 'what if' questions by planning different scenarios for controlled devices?</li> <li>• Can they use input from sensors to trigger events? (Wedo Lego, Makey Makey)</li> <li>• Can design, write and debug their own computer control application?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they explore the menu options and experiment with images (colour effects, options, snap to grid, grid settings etc.)?</li> <li>• Can they add special effects to alter the appearance of a graphic?</li> <li>• Can they 'save as' gif or jpeg, wherever possible to make the file size smaller (for emailing or downloading)?</li> <li>• Can they make an information poster using their graphics skills to good effect?</li> <li>• Can they present a film for a specific audience and then adapt same film for a different audience?</li> <li>• Can they create a sophisticated multimedia presentation?</li> </ul> <p>E Safety</p> <ul style="list-style-type: none"> <li>• Do they understand that some material on the internet is copyrighted and may not be copied or downloaded?</li> <li>• Do they recognise the potential risks of using internet communication tools and understand how to minimise those risks (including scams and phishing)?</li> <li>• Do they understand that some malicious adults may use various techniques to make contact and elicit personal information?</li> </ul>	<ul style="list-style-type: none"> <li>• Can they conduct a video chat with people in another country or organisation?</li> <li>• Can they contribute to discussions online?</li> <li>• Can they use a search engine using keyword searches?</li> <li>• Can they confidently choose the correct page set up option when creating a document?</li> <li>• Can they confidently use text formatting tools, including heading and body text?</li> <li>• Can they use complex searches using such as '+' 'OR' "Find the phrase in inverted commas"?</li> </ul>
<b>Year 6 Greater Depth</b>		
<ul style="list-style-type: none"> <li>• Can they incorporate graphics where appropriate, using the most effective text wrapping formats?</li> <li>• Can they compare the information provided on two tabbed websites looking for bias and perspective?</li> <li>• Can they check and refine a series of instructions?</li> </ul>		



### Year 4 Online Safety

Knowledge & understanding	Skills
<ul style="list-style-type: none"><li>• Do they understand the need for rules to keep them safe when exchanging learning and ideas online?</li><li>• Can they recognise that information on the internet may not be accurate or reliable and may be used for bias, manipulation or persuasion?</li><li>• Do they understand that the internet contains fact, fiction and opinion and begin to distinguish between them?</li><li>• Can they use strategies to verify information, e.g. cross-checking?</li><li>• Do they understand the need for caution when using an internet search for images and what to do if they find an unsuitable image?</li><li>• Do they understand that copyright exists on most digital images, video and recorded music?</li><li>• Do they understand the need to keep personal information and passwords private?</li><li>• Do they understand that if they make personal information available online it may be seen and used by others?</li><li>• Do they know how to respond if asked for personal information or feel unsafe about content of a message?</li><li>• Can they recognise that cyber bullying is unacceptable and will be sanctioned in line with the school's policy?</li><li>• Do they know how to report an incident of cyber bullying?</li><li>• Do they know the difference between online communication tools used in school and those used at home?</li><li>• Do they understand the need to develop an alias for some public online use?</li></ul>	<ul style="list-style-type: none"><li>• Do they follow the school's safer internet rules?</li><li>• Do they recognise the difference between the work of others which has been copied (plagiarism) and re-structuring and re-presenting materials in ways which are unique and new?</li><li>• Can they begin to identify when emails should not be opened and when an attachment may not be safe?</li><li>• Can they explain how to use email safely?</li><li>• Can they use different search engines?</li></ul>





## Online Safety

E-safety	E-safety
<ul style="list-style-type: none"> <li>• Can they discuss the positive and negative impact of the use of ICT in their own lives and those of their peers and family?</li> <li>• Do they understand the potential risk of providing personal information online?</li> <li>• Do they recognise why people may publish content that is not accurate and understand the need to be critical evaluators of content?</li> <li>• Do they understand that some websites and/or pop-ups have commercial interests that may affect the way the information is presented?</li> <li>• Do they recognise the potential risks of using internet communication tools and understand how to minimise those risks (including scams and phishing)?</li> <li>• Do they understand that some material on the internet is copyrighted and may not be copied or downloaded?</li> <li>• Do they understand that some messages may be malicious and know how to deal with this?</li> <li>• Do they understand that online environments have security settings, which can be altered, to protect the user?</li> <li>• Do they understand the benefits of developing a 'nickname' for online use?</li> <li>• Do they understand that some malicious adults may use various techniques to make contact and elicit personal information?</li> <li>• Do they know that it is unsafe to arrange to meet unknown people online?</li> <li>• Do they know how to report any suspicions?</li> <li>• Do they understand they should not publish other people's pictures or tag them on the internet without permission?</li> <li>• Do they know that content put online is extremely difficult to remove?</li> <li>• Do they know what to do if they discover something malicious or inappropriate?</li> </ul>	<ul style="list-style-type: none"> <li>• Do they follow the school's safer internet rules?</li> <li>• Can they make safe choices about use of technology?</li> <li>• Do they use technology in ways which minimise risk, e.g. responsible use of online discussions, etc?</li> <li>• Can they create strong passwords and manage them so that they remain strong?</li> <li>• Can they independently, and with regard for e-safety, select and use appropriate communication tools to solve problems by collaborating and communicating with others within and beyond school?</li> <li>• Can they competently use the internet as a search tool?</li> <li>• Can they reference information sources?</li> <li>• Can they use appropriate strategies for finding, critically evaluating, validating and verifying information, e.g. using different keywords, skim reading to check relevance of information, cross checking with different websites or other non ICT resources?</li> <li>• Can they use knowledge of the meaning of different domain names and common website extensions (e.g. .co.uk; .com; .ac; .sch; .org; .gov; .net) to support validation of information?</li> </ul>