

## Computing Progression Framework

This progression framework helps teachers to understand the progression of skills and knowledge in the computing curriculum and can be used alongside any Scheme of Work.

The framework contains statements that reflect the progression of skills and understanding in 6 strands plus Online Safety.

- **Strand 1: Using and understanding technology**
- **Strands 2 & 3: Communication: Text & Images / Multimedia**
- **Strand 4: Communication: Data**
- **Strands 5 & 6: Programming & Computational Thinking**
- **Online Safety & Digital Literacy**

The statements have been taken from the [Sheffield Primary Computing Progression Framework](#) and [Somerset's eLIM's progression plan](#) (e Learning and Information Management Service), Somerset County Council.

*Please note the statements listed under Online Safety only relate to the Computing curriculum. We would recommend that teachers also refer to the [Education for a Connected World framework](#) which describes the skills and understanding that children and young people should have the opportunity to develop at different ages and stages. It highlights what a child should know in terms of current online technology, its influence on behaviour and development, and what skills they need to be able to navigate it safely.*

Click on the links below to view the statements for each year group

<a href="#">Year 3</a>	<a href="#">Year 4</a>	<a href="#">Year 5</a>	<a href="#">Year 6</a>
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## Computing Progression Framework - Year 3

Strand 1 Key Skills: Using and understanding technology	Strands 2 and 3 Communicating: Text, Images & Multimedia	Strand 4 Understanding & Sharing Data	Strands 5 and 6 Programming & Computational Thinking	Online Safety & Digital Literacy
<ul style="list-style-type: none"> <li>• I am beginning to type using more than two fingers</li> <li>• I can talk about the security of my school passwords</li> <li>• I can remember my password(s)</li> <li>• I can save and retrieve work on, the school network</li> <li>• I can open and save a file to a suitable folder</li> <li>• I use suitable file names when saving work</li> <li>• I understand you can organise files using folders</li> <li>• I can delete, move and copy files</li> <li>• I use right-click, left-click and double-click appropriately on a mouse</li> <li>• I can talk about the parts of a computer, laptop and mobile device e.g. iPad</li> <li>• I understand that school computers are connected together in a network</li> <li>• I can describe the World Wide Web as the part of the Internet that contains websites</li> <li>• I can use search tools to find and use an appropriate website.</li> <li>• I can use a search engine to find specific information by using keyword searches</li> </ul>	<ul style="list-style-type: none"> <li>• I can create different effects with different technology tools e.g. change the appearance of text to increase its effectiveness.</li> <li>• I know how to copy text and images into another document so I can combine a mixture of text, graphics and sound to share my ideas and learning</li> <li>• I use appropriate tools to edit and enhance media for a particular effect</li> <li>• I can use appropriate keyboard commands to amend text on my device, including making use of a spellchecker</li> <li>• I can evaluate my work and edit and improve it according to feedback</li> <li>• I think about whether I can use images that I find online in my own work</li> <li>• I evaluate existing content along with their own digital content</li> <li>• I can design and create digital content for a specific purpose using a range of different tools</li> <li>• I can tell you about ways you can communicate with others online</li> </ul>	<ul style="list-style-type: none"> <li>• I can talk about the different ways data can be organised</li> <li>• I can collect data to help me answer a question</li> <li>• I appreciate that different programs work with different types of data, e.g. text, number</li> <li>• I can explore a record database to find out information e.g. Junior Library*</li> <li>• I understand the benefits of using a computer to create charts and databases</li> <li>• I understand that information can be stored and shared on the Internet</li> <li>• I can design a questionnaire and collect a range of data on a theme</li> <li>• I can enter data using form into a database/spreadsheet package and review</li> <li>• I can draw conclusions from information stored in a spreadsheet, table or chart</li> </ul>	<ul style="list-style-type: none"> <li>• I can describe the algorithm I will need to complete a simple task.</li> <li>• I can read through an algorithm and detect any problems which could result in unsuccessful programming.</li> <li>• I can read through a program and predict the outcome</li> <li>• I can break an open-ended problem up into smaller parts.</li> <li>• I can put programming commands into a sequence to achieve a specific outcome.</li> <li>• I understand the importance of continually testing my program and can recognise when I need to debug it.</li> <li>• I understand the steps to work through when debugging a program.</li> <li>• I can take existing code and remix it make some simple changes an existing program within</li> </ul>	<ul style="list-style-type: none"> <li>• I know different ways of reporting unacceptable content and contact online within e.g. gaming, social media websites and understand why it is important to report concerns to an adult.</li> <li>• I understand that I need to check before downloading files and games from the Internet.</li> <li>• I know different ways of reporting unacceptable content and contact online</li> <li>• I understand when to share personal information and when not to</li> <li>• I understand that games and films have age ratings, and what that means</li> <li>• I understand that people can give permission for others to use their content e.g. using Creative Commons.</li> <li>• I am aware that some people lie about who they are online</li> <li>• I can recognise what kind of websites are trustworthy sources of information</li> <li>• I can recognise the benefits and risks of different apps and website</li> </ul>

## Computing Progression Framework - Year 4

Strand 1 Key Skills: Using and understanding technology	Strands 2 and 3 Communicating: Text, Images & Multimedia	Strand 4 Understanding & Sharing Data	Strands 5 and 6 Programming & Computational Thinking	Online Safety & Digital Literacy
<ul style="list-style-type: none"> <li>• I understand the benefits of a good password</li> <li>• I can choose a secure password when I am using a website</li> <li>• I can open and save a file to a suitable folder</li> <li>• I use suitable file names when saving work</li> <li>• I understand you can organise files using folders</li> <li>• I can delete, move and copy files</li> <li>• I can use right-click, left-click and double-click appropriately on a mouse</li> <li>• I understand that school computers are connected together in a network</li> <li>• I can tell you whether a resource I am using is on the Internet, the school network or my own device.</li> <li>• I can identify key words to use when searching safely on the World Wide Web</li> <li>• I understand what a browser is</li> <li>• I think about the reliability of information I read on the World Wide Web</li> <li>• I can explain the different functions you can do on a keyboard e.g. using ctrl + letters to perform some tasks (Ctrl C, Ctrl S, Ctrl P, Ctrl Z etc) use of Function Keys to control e.g. brightness, volume etc.</li> <li>• I understand the differences on keyboards when using different devices</li> </ul>	<ul style="list-style-type: none"> <li>• I can collect, organise and present information effectively using a range of media</li> <li>• I can use a range of tools when editing photos, video and sound and create different effects e.g. transitions in video, colour contrasts with photos etc.</li> <li>• I am confident to explore new media to extend what I can achieve</li> <li>• I can create, modify and present documents for a particular purpose e.g. leaflets, presentations, adverts</li> <li>• I can use a keyboard confidently and make use of a spellchecker when writing and reviewing my work</li> <li>• I can give constructive feedback to my friends to help them improve their work and refine my own work</li> <li>• I can edit existing media to make new content with an awareness of copyright</li> </ul>	<ul style="list-style-type: none"> <li>• I can organise data in different ways</li> <li>• I can collect data and identify where it could be inaccurate</li> <li>• I can plan, create and search a database/spreadsheet to answer questions</li> <li>• I can choose the best way to present data to my friends</li> <li>• I appreciate that different programs work with different types of data, e.g. text, number</li> <li>• I can explore a record database to find out information e.g. Junior Library</li> <li>• I understand the benefits of using a computer to create charts and databases</li> <li>• I understand that information can be stored and shared on the Internet</li> <li>• I understand that search engines store information in databases</li> <li>• I can design a questionnaire and collect a range of data on a theme</li> <li>• I can enter data using form into a database/spreadsheet package and review</li> <li>• I can draw conclusions from information stored in a spreadsheet, table or chart</li> </ul>	<ul style="list-style-type: none"> <li>• I can use an efficient procedure to simplify a program e.g. use forever loops in a program; procedure called 'square' in Logo</li> <li>• I can create a program using a range of events/inputs to control what happens</li> <li>• I can use logical thinking to solve an open-ended problem by breaking it up into smaller parts</li> <li>• I know that I need to keep testing my program while I am putting it together.</li> <li>• I can use different programming tools e.g. apps</li> <li>• I can recognise an error in a program and debug it</li> <li>• I recognise that an algorithm will help me to sequence more complex programs</li> <li>• I can use diagrams to represent an algorithm, e.g. a flowchart</li> <li>• I recognise that using algorithms will also help solve problems in other learning such as Maths, Science and Design and Technology</li> <li>• I can remix and make more complex changes an existing program</li> <li>• I can read through a program and predict the outcome</li> <li>• I can begin to understand the use of selection in algorithms and programs, i.e. if... then...</li> </ul>	<ul style="list-style-type: none"> <li>• I can talk about the ways I can protect myself and my friends from harm online.</li> <li>• I know that anything I post online can be seen by others.</li> <li>• I choose websites and games that are appropriate for my age.</li> <li>• I can talk about why I need to ask a trusted adult before downloading files and games from the Internet.</li> <li>• I comment positively and respectfully online.</li> <li>• I know different ways of reporting unacceptable content and contact online</li> <li>• I understand when to share personal information and when not to</li> <li>• I understand that people can give permission for others to use their content e.g. using Creative Commons.</li> <li>• I am aware that some people lie about who they are online</li> <li>• I recognise what kind of websites are trustworthy sources of information</li> <li>• Recognise the benefits and risks of different apps and websites</li> </ul>

## Computing Progression Framework - Year 5

Strand 1 Key Skills: Using and understanding technology	Strands 2 and 3 Communicating: Text, Images & Multimedia	Strand 4 Understanding & Sharing Data	Strands 5 and 6 Programming & Computational Thinking	Online Safety & Digital Literacy
<ul style="list-style-type: none"> <li>• I understand what makes a strong password and why this is important at school and in the wider world and I know how to protect my password and other personal information.</li> <li>• I can create and use a strong password where appropriate</li> <li>• I can organise files effectively using folders</li> <li>• I recognise some file types and extensions</li> <li>• I can describe different uses of the Internet e.g. World Wide Web, World wide web (WWW), Search engines, Email, Audio and video calls: Voice over Internet Protocol (VoIP), Instant Messaging, Streaming media, Wikis and blogs, Gaming</li> <li>• I can recognise and evaluate different types of information I find on the World Wide Web</li> <li>• I can describe the different parts of a webpage e.g. hyperlinks, heads, embedded content e.g. videos, forms, documents</li> <li>• I know how to find out who the information on a webpage belongs to</li> <li>• I can use more advanced searching techniques when using a search engine and check its reliability</li> <li>• I can use the keyboard confidently to type at a suitable pace</li> <li>• I can use some common keyboard shortcuts</li> <li>• I understand that different devices can have different operating systems, and can give examples, e.g. Windows, iOS, Android</li> <li>• I understand the main functions of an operating system</li> </ul>	<ul style="list-style-type: none"> <li>• I can use the skills I have already developed to create content using unfamiliar technology</li> <li>• I can select, use and combine the appropriate technology tools to create effects that will have an impact on others</li> <li>• I can identify and use appropriate hardware and software to fulfil a specific task</li> <li>• I can remix and edit a range of existing and my own media to create new content</li> <li>• I show that I recognise the audience when designing and creating digital content</li> <li>• I understand the benefits of using technology to collaborate with others</li> <li>• I can select and combine the use of different Internet services to fulfil a purpose and can explain what I have used and why</li> <li>• I can evaluate my own content against success criteria and make improvements accordingly</li> <li>• I can identify success criteria for creating digital content for a given purpose and audience</li> </ul>	<ul style="list-style-type: none"> <li>• I can use a spreadsheet and database to collect and record data</li> <li>• I can choose an appropriate tool to help me collect data</li> <li>• I can present data in an appropriate way</li> <li>• I can search a database/spreadsheet using different operators/formulae to refine my search</li> <li>• I can talk about mistakes in data and suggest how it could be checked.</li> <li>• I appreciate that different programs work with different types of data, e.g. text, number</li> <li>• I know that there is a difference between data and information</li> <li>• I understand the benefits of using a computer to create charts and databases e.g. Junior Library</li> <li>• I understand that search engines store information in databases</li> <li>• I can design a questionnaire and collect a range of data on a theme</li> <li>• I can enter data into a spreadsheet package and interrogate the data using a variety of different formulae</li> <li>• I can draw conclusions from information stored in a database, spreadsheet, table or chart</li> </ul>	<ul style="list-style-type: none"> <li>• I can decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program for a device or onscreen activity</li> <li>• I can recognise that different solutions exist for the same problem</li> <li>• I can recognise when to use a variable to achieve a required output.</li> <li>• I can create simple variables, e.g. to keep score/remove lives in a game</li> <li>• I can use a variable to increase programming possibilities e.g. to stop a program, to keep score or remove lives in a game</li> <li>• I can combine a variable with relational operators (&lt; = &gt;) to determine when a program changes, e.g. if score &gt; 5, say "well done"</li> <li>• I can change an input to a program to achieve a different output.</li> <li>• I can use 'if' and 'then' commands to select an action</li> <li>• I can refine a procedure using repeat and repeat until commands</li> <li>• I can predict what will happen in a program or algorithm (e.g. change of output) when the input changes (e.g. sensor, data or event)</li> <li>• I can use logical reasoning to detect and debug mistakes in a program</li> <li>• I use logical thinking, imagination and creativity to extend a program</li> </ul>	<ul style="list-style-type: none"> <li>• I can explain why I need to protect myself and my friends and the best ways to do this, including reporting concerns to an adult</li> <li>• I know that anything I post online can be seen, used and may affect others.</li> <li>• I can explain the importance of communicating kindly and respectfully</li> <li>• I can discuss the importance of choosing an age-appropriate website or game</li> <li>• I can explain why I need to protect my computer or device from harm</li> <li>• I know where to find copyright free images and audio, and why this is important</li> <li>• I demonstrate responsible use of online services and technologies, and know a range of ways to report concerns</li> <li>• I understand what makes a strong password and why this is important at school and in the wider world and I know how to protect my password and other personal information.</li> <li>• Become increasingly savvy online consumers</li> </ul>

## Computing Progression Framework - Year 6

Strand 1 Key Skills: Using and understanding technology	Strands 2 and 3 Communicating: Text, Images & Multimedia	Strand 4 Understanding & Sharing Data	Strands 5 and 6 Programming & Computational Thinking	Online Safety & Digital Literacy
<ul style="list-style-type: none"> <li>• I can create and use strong passwords where appropriate</li> <li>• I can organise files effectively using folders</li> <li>• I recognise several common file types and extensions</li> <li>• I am aware of a range of Internet services, e.g. email, VOIP (Voice Over Internet Protocol e.g. Skype, FaceTime), World Wide Web, and what they do</li> <li>• I can tell you the Internet services I need to use for different purposes</li> <li>• I can describe how information is transported on the Internet</li> <li>• I can select an appropriate tool to communicate and collaborate online</li> <li>• I can talk about the way search results are selected and ranked within different search engines e.g. Google, Bing</li> <li>• I can use more advanced searching techniques when using a search engine</li> <li>• I can check the reliability of a website</li> <li>• I can tell you about copyright</li> <li>• I acknowledge the sources of information that I find online</li> <li>• I can talk about how websites can use my data to make money and target their advertising</li> <li>• I use the keyboard confidently to type at a suitable pace</li> <li>• I know and use several common keyboard shortcuts e.g. Ctrl A, Ctrl C, Ctrl V</li> <li>• I understand that different devices can have different operating systems, and can give examples, e.g. Windows, iOS, Android</li> <li>• I can describe the main functions within different operating systems</li> </ul>	<ul style="list-style-type: none"> <li>• I can talk about audience, atmosphere and structure when planning different outcomes</li> <li>• I can confidently identify the potential of unfamiliar technology to increase my creativity.</li> <li>• I can combine a range of media, recognising the contribution of each to achieve a particular outcome</li> <li>• I can identify and use appropriate hardware and software to fulfil a specific task</li> <li>• I can tell you why I select particular digital tools when working on different outcomes</li> <li>• I can be digitally discerning when evaluating the effectiveness of my own work and make improvements accordingly</li> <li>• I can be digitally discerning when evaluating the effectiveness of work of by others and give appropriate feedback</li> <li>• I can remix and edit a range of existing media to create content</li> <li>• I understand the benefits of using technology to collaborate with others</li> <li>• I select and combine the use of different Internet services to fulfil a purpose and can explain what I have used and why</li> <li>• I can identify success criteria for creating digital content for a given purpose and audience</li> </ul>	<ul style="list-style-type: none"> <li>• I can plan the process for collecting information to answer a question</li> <li>• I can select the most effective tool to collect data for my investigation.</li> <li>• I can check the data I collect for accuracy and plausibility</li> <li>• I can interpret the data I collect</li> <li>• I can present the data I collect in an appropriate way</li> <li>• I use the skills I have developed to interrogate a database / spreadsheet</li> <li>• I can use filters in database / spreadsheets to find out specific information</li> <li>• I understand the benefits of using a spreadsheet to collect and analyse data</li> <li>• I can use a wide range of formulae to interrogate e.g. sum, count average, If statements</li> </ul>	<ul style="list-style-type: none"> <li>• I can deconstruct a problem into smaller steps, recognising similarities to solutions used before</li> <li>• I can explain and program each of the steps in my algorithm (for a device or onscreen activity).</li> <li>• I can predict how the outcome will change in a program or algorithm if for example the input changes (e.g. sensor, data or event)</li> <li>• I can evaluate the effectiveness and efficiency of my algorithm while continually testing the program as I write it</li> <li>• I understand the difference between and use if... then... and if... then... else... statements and use correctly within programs</li> <li>• I can link errors in a program to a problem in the algorithm on which it is based.</li> </ul>	<ul style="list-style-type: none"> <li>• I can explain the consequences of sharing too much about myself online</li> <li>• I can support my friends to protect themselves and make good choices when using for example online gaming websites, social media, including reporting concerns to an adult.</li> <li>• I can explain the consequences to myself and others of not communicating kindly and respectfully online</li> <li>• I know how to protect my computer or device from harm on the Internet.</li> <li>• I know where to find copyright free images and audio, and why this is important</li> <li>• I demonstrate responsible use of online services and technologies, and know a range of ways to report concerns</li> <li>• I can describe how I critically evaluate websites for reliability of information and authenticity</li> <li>• I understand what makes a strong password and why this is important at school and in the wider world</li> <li>• I am becoming increasingly more savvy online consumers for example I know that algorithms are used to track online activities with a view to targeting advertising and information</li> <li>• I know that there are laws around the purchase of games; the production, sending and storage of images; what is written online; and around online gambling</li> </ul>