

This term in Computing we will be learning about				
	Mastery	Working beyond National Standards	Working at national standards	Working below national standards
KNOWLEDGE	<ul style="list-style-type: none"> <li>Know several strategies for creating and managing multiple secure passwords</li> <li>Understand how different malware vectors affect different users</li> <li>Know how to find additional sources of support and guidance for learning advanced formatting techniques</li> </ul>	<ul style="list-style-type: none"> <li>Know how passwords are typically attacked</li> <li>Know what suspicious clues in a phishing email to look for</li> <li>Be able to identify the different types of malware</li> <li>Know which formatting tools have extra menus and options</li> </ul>	<ul style="list-style-type: none"> <li>Know what the basic requirements of a secure password are</li> <li>Know what is meant by phishing</li> <li>Know the names of different types of malware</li> <li>Know the main formatting tools in slideshow software</li> </ul>	<ul style="list-style-type: none"> <li>Know that passwords must be kept secret</li> <li>Know that some online messages are scams</li> <li>Know that malware means bad software</li> <li>Know that different tools can be used to format documents</li> </ul>
SKILLS & APPLICATION	<ul style="list-style-type: none"> <li>Be able to discuss the advantages and disadvantages of different password policies</li> <li>Be able to protect myself and others from a range of security threats</li> <li>Be able to make use of CC and BCC to use email effectively</li> <li>Be able to create effective slideshows that communicate information in an efficient manner</li> <li>Be able to create and apply a consistent house style to my work</li> </ul>	<ul style="list-style-type: none"> <li>Be able to identify poor passwords</li> <li>Be able to identify less obvious phishing scams</li> <li>Be able to use my avatar on multiple platforms</li> <li>Be able to attach files to emails</li> <li>Be able to create effective slideshows that use appropriate language for my audience</li> <li>Be able to add hyperlinks between pages</li> </ul>	<ul style="list-style-type: none"> <li>Be able to devise a secure password</li> <li>Be able to identify obvious phishing scams</li> <li>Be able to create an avatar to protect my online identity</li> <li>Be able to send and reply to emails</li> <li>Be able to format text to a slideshow</li> <li>Be able to resize images to a slideshow</li> <li>Be able to format shapes to a slideshow</li> </ul>	<ul style="list-style-type: none"> <li>Be able to change my password</li> <li>Be able to log in to my emails</li> <li>Be able to move objects in a slideshow</li> <li>Be able to add text to a slideshow</li> <li>Be able to add images to a slideshow</li> <li>Be able to add shapes to a slideshow</li> </ul>

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KNOWLEDGE	<ul style="list-style-type: none"> <li>Know how numbers, images and text are all stored using different binary formats</li> <li>Know how subroutines can make programs more efficient</li> <li>Know that different blocks can make use of nesting</li> </ul>	<ul style="list-style-type: none"> <li>Know that computers use binary signals to store and transfer different types of information</li> <li>Know what multiple different types of programming block can achieve</li> <li>Know what a variable is</li> <li>Know how to use a random number generator</li> </ul>	<ul style="list-style-type: none"> <li>Know that computers use binary signals to store information</li> <li>Know that computers can be programmed by creating sequences of instructions</li> <li>Know what sequence, selection and iteration mean</li> </ul>	<ul style="list-style-type: none"> <li>Know that computers use 1s and 0s</li> <li>Know that computers can be given instructions</li> <li>Know that different types of programming block do different things</li> </ul>
SKILLS & APPLICATION	<ul style="list-style-type: none"> <li>Be able to convert between binary, denary and hexadecimal</li> <li>Be able to manipulate images with a range of resolutions and colour depths</li> <li>Be able to use a list or array of variables to store data</li> <li>Be able to create programs that use subroutines in order to improve efficiency</li> <li>Be able to create complex sequences of instructions that use nested blocks to carry out more complex algorithms</li> </ul>	<ul style="list-style-type: none"> <li>Be able to convert between 8-bit binary and denary numbers</li> <li>Be able to work with 2-bit and 3-bit images that use colour</li> <li>Be able to use variables in programs in order to store data</li> <li>Be able to use a random number generator to make a computer act independently</li> <li>Be able to use if statements and loops consistently</li> </ul>	<ul style="list-style-type: none"> <li>Be able to convert between 4-bit binary and denary numbers</li> <li>Be able to identify an image from its binary code</li> <li>Be able to create sequences of instructions using inputs and outputs</li> <li>Be able to use if statements and loops sometimes</li> </ul>	<ul style="list-style-type: none"> <li>Be able to recognise large and small binary numbers</li> <li>Be able to create a simple image using binary numbers</li> <li>Be able to put instructions in order to do something useful</li> <li>Be able to transfer a program to a microbit and test it</li> </ul>

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KNOWLEDGE	<ul style="list-style-type: none"> <li>Know that advanced features such as conditional formatting and data validation can be used to make spreadsheets more effective</li> <li>Know a wide range of image editing tools</li> <li>Know why wired and wireless networks perform differently</li> </ul>	<ul style="list-style-type: none"> <li>Know that in a spreadsheet, functions are used to carry out more complex tasks</li> <li>Know the main selection and adjustment image editing tools</li> <li>Know the pros and cons of using wired and wireless networks</li> </ul>	<ul style="list-style-type: none"> <li>Know that in a spreadsheet, formulas are used to automatically calculate values</li> <li>Know the main movement and resizing image tools</li> <li>Know the main differences between wired and wireless networks</li> </ul>	<ul style="list-style-type: none"> <li>Know that a spreadsheet is used for working with numbers</li> <li>Know that image editing software is used to create or edit images</li> <li>Know that wired and wireless networks are different</li> </ul>
SKILLS & APPLICATION	<ul style="list-style-type: none"> <li>Be able to use conditional formatting and data validation effectively</li> <li>Be able to use advanced functions such as COUNT, ROUND and VLOOKUP</li> <li>Be able to use a range of formatting techniques to make a spreadsheet more effective and easy to use</li> <li>Be able to use a range of advanced features</li> <li>Be able to confidently manipulate the layer stack</li> <li>Be able to create effective images for a given audience and purpose</li> </ul>	<ul style="list-style-type: none"> <li>Be able to use functions in a spreadsheet (e.g. MIN, MAX, SUM, AVERAGE)</li> <li>Be able to apply advanced cell formatting techniques including merging cells, changing text alignment and adjusting border styles</li> <li>Be able to use selection tools</li> <li>Be able to use a range of adjustment tools</li> <li>Be able to use 1 or more advanced technique</li> </ul>	<ul style="list-style-type: none"> <li>Be able to use formulas in a spreadsheet (+, -, *, /)</li> <li>Be able to change cell formats including background and border settings</li> <li>Be able to resize images</li> <li>Be able to rotate images</li> <li>Be able to add text to a canvas</li> <li>Be able to apply basic formatting techniques</li> </ul>	<ul style="list-style-type: none"> <li>Be able to add data to a spreadsheet</li> <li>Be able to change the font size and colour of text</li> <li>Be able to create a blank canvas</li> <li>Be able to open an existing image</li> <li>Be able to add images to a canvas</li> <li>Be able to move images on a canvas</li> </ul>

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KNOWLEDGE	<ul style="list-style-type: none"> <li>Know how to research effectively in order to ensure that data is reliable</li> <li>Know what a range of advanced audio editing tools do, and when it is appropriate to use them</li> <li>Know what a range of advanced image editing tools do, and when it is appropriate to use them</li> </ul>	<ul style="list-style-type: none"> <li>Know why different groups spread false news</li> <li>Know how to fact check news and identify different types of false news</li> <li>Know what the envelope tool does in Audacity</li> <li>Know how at least 2 different selection tools work in image editing software</li> </ul>	<ul style="list-style-type: none"> <li>Know a range of different types of false news</li> <li>Know some of the key features to look for when presented with news</li> <li>Know the basic tools for editing sounds in Audacity</li> <li>Know the main movement and resizing image editing tools</li> </ul>	<ul style="list-style-type: none"> <li>Know that some sources of news are unreliable</li> <li>Know that people have different reasons for spreading false news</li> <li>Know that audio editing software can be used to manipulate sounds</li> <li>Know that image editing software can be used to manipulate images</li> </ul>
SKILLS & APPLICATION	<ul style="list-style-type: none"> <li>Be able to analyse a range of news stories to assess how reliable each one is</li> <li>Be able to combine different types of audio (speech, sound effects and music) to produce an effective audio product</li> <li>Be able to use a range of advanced features</li> <li>Be able to confidently manipulate the layer stack</li> <li>Be able to create effective images for a given audience and purpose</li> </ul>	<ul style="list-style-type: none"> <li>Be able to spot false news consistently using fact checking techniques</li> <li>Be able to use the envelope tool</li> <li>Be able to export a finished sound file in a suitable format</li> <li>Be able to use at least two different selection tools</li> <li>Be able to use 2 or more advanced techniques</li> </ul>	<ul style="list-style-type: none"> <li>Be able to spot a less obvious false news story and identify which features are suspicious</li> <li>Be able to cut sound files</li> <li>Be able to rearrange sound files</li> <li>Be able to resize images effectively without stretching</li> <li>Be able to use a range of adjustment tools</li> <li>Be able to use 1 or more advanced technique</li> </ul>	<ul style="list-style-type: none"> <li>Be able to spot an obvious false news story</li> <li>Be able to combine two or more sound files</li> <li>Be able to resize images</li> <li>Be able to rotate images</li> <li>Be able to add text to a canvas</li> <li>Be able to apply basic formatting techniques</li> </ul>

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KNOWLEDGE	<ul style="list-style-type: none"> <li>Know a wider range of flowchart symbols and their meanings</li> <li>Know how subroutines can make programs more efficient</li> <li>Know the Boolean operators used in selection statements</li> <li>Know what a list is</li> </ul>	<ul style="list-style-type: none"> <li>Know how to represent variables using a flowchart</li> <li>Know the syntax for a FOR loop and a WHILE loop</li> <li>Know what a variable is</li> <li>Know enough Python syntax to be able to predict what a program will do consistently</li> </ul>	<ul style="list-style-type: none"> <li>Know what the main flowchart symbols mean</li> <li>Know what sequence, selection and iteration mean</li> <li>Know the syntax for an IF statement or a loop</li> <li>Know enough Python syntax to be able to predict what a program will do sometimes</li> </ul>	<ul style="list-style-type: none"> <li>Know that instructions can be described using a flowchart</li> <li>Know that computers can be programmed by creating sequences of instructions</li> <li>Know what sequence, selection and iteration mean</li> </ul>
SKILLS & APPLICATION	<ul style="list-style-type: none"> <li>Be able to create a complex flowchart that uses subroutines</li> <li>Be able to define and call subroutines in a python program</li> <li>Be able to create selection statements with multiple conditions</li> <li>Be able to declare a list</li> <li>Be able to use a loop to step through a list</li> <li>Be able to identify and correct a range of errors, including both syntax and logic errors</li> </ul>	<ul style="list-style-type: none"> <li>Be able to create a complex flowchart that makes use of variables</li> <li>Be able to add a FOR loop and a WHILE loop to a program</li> <li>Be able to declare, assign and interrogate variables</li> <li>Be able to write simple programs from scratch</li> <li>Be able to test and debug programs to find and fix errors</li> </ul>	<ul style="list-style-type: none"> <li>Be able to create a simple flowchart that includes decisions</li> <li>Be able to edit an existing program to change how it functions</li> <li>Be able to add to an existing program to give it new functionality</li> <li>Be able to add an IF statement or a loop to a program</li> <li>Be able to test a program for errors</li> </ul>	<ul style="list-style-type: none"> <li>Be able to follow a simple flowchart</li> <li>Be able to create a simple flowchart with no decisions</li> <li>Be able to run an existing python program</li> <li>Be able to change prompts in a python program</li> </ul>

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KNOWLEDGE	<ul style="list-style-type: none"> <li>Know that advanced features such as conditional formatting IF statements can be used to make spreadsheets more effective</li> <li>Know a wide range of HTML tags including hyperlinks</li> <li>Know good conventions for effective webdesign</li> </ul>	<ul style="list-style-type: none"> <li>Know what a VLOOKUP formula is and how to use it</li> <li>Know a range of HTML tags, including the IMG tag</li> <li>Know how a template or master page can be used to make web page design easier and more consistent</li> </ul>	<ul style="list-style-type: none"> <li>Know that in a spreadsheet, functions are used to carry out more complex tasks</li> <li>Know the basic HTML codes for creating a web page</li> <li>Know the main tools for creating web pages in web design software</li> </ul>	<ul style="list-style-type: none"> <li>Know that in a spreadsheet, formulas are used to automatically calculate values</li> <li>Know that web pages can be written using code</li> <li>Know that web design software can be used to create web pages and web sites</li> </ul>
SKILLS & APPLICATION	<ul style="list-style-type: none"> <li>Be able to use conditional formatting effectively</li> <li>Be able to use advanced functions such as IF, COUNT, and ROUND</li> <li>Be able to use a range of formatting techniques to make a spreadsheet more effective and easy to use</li> <li>Be able to create effective, attractive and well formatted websites using a consistent house style, using a combination of WYSISYG and HTML based techniques</li> </ul>	<ul style="list-style-type: none"> <li>Be able to use data validation and the VLOOKUP function to create an interactive spreadsheet</li> <li>Be able to apply advanced cell formatting techniques including merging cells, changing text alignment and adjusting border styles</li> <li>Be able to edit existing HTML by adding formatting tags</li> <li>Be able to add an image to a webpage using HTML</li> <li>Be able to create and use a master page to ensure that a website has a consistent colour scheme and layout</li> <li>Be able to add external hyperlinks</li> </ul>	<ul style="list-style-type: none"> <li>Be able to use functions in a spreadsheet (e.g. MIN, MAX, SUM, AVERAGE)</li> <li>Be able to adjust cell formats for different types of content (e.g. currency, text)</li> <li>Be able to edit existing HTML by changing or adding basic tags</li> <li>Be able to apply text formatting tools</li> <li>Be able to apply a consistent colour scheme</li> <li>Be able to create a website containing hyperlinks and at least 3 pages</li> </ul>	<ul style="list-style-type: none"> <li>Be able to use formulas in a spreadsheet (+, -, *, /)</li> <li>Be able to change cell formats including background and border settings</li> <li>Be able to create a basic webpage</li> <li>Be able to add text and images to a webpage</li> <li>Be able to move and resize images</li> </ul>

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KNOWLEDGE	<ul style="list-style-type: none"> <li>Know what a range of advanced image editing tools do, and when it is appropriate to use them</li> <li>Know when to use different types of software, and that they can be used in combination to achieve a range of outcomes</li> </ul>	<ul style="list-style-type: none"> <li>Know what a clipping mask does and what can be achieved using layer effects</li> <li>Know what the strengths and weaknesses are for a range of different software types</li> </ul>	<ul style="list-style-type: none"> <li>Know how at least 2 different selection tools work in image editing software</li> <li>Know what the main features of spreadsheet, word processing, presentation software, image editing and CAD software are</li> </ul>	<ul style="list-style-type: none"> <li>Know the main movement and resizing image editing tools</li> <li>Know that a range of software tools are available and are suitable for different tasks</li> </ul>
SKILLS & APPLICATION	<ul style="list-style-type: none"> <li>Be able to use a range of advanced features</li> <li>Be able to confidently manipulate the layer stack</li> <li>Be able to create effective images for a given audience and purpose</li> <li>Be able to consistently and accurately describe the features and drawbacks of different software choices for different scenarios</li> <li>Be able to create complex 3D models using a range of advanced features that are fully appropriate to a project brief</li> </ul>	<ul style="list-style-type: none"> <li>Be able to use at least two different selection tools</li> <li>Be able to create a clipping mask</li> <li>Be able to apply layer effects</li> <li>Be able to select appropriate software for a range of tasks</li> <li>Be able to justify software choices in all cases</li> <li>Be able to create an effective 3D model that makes use of multiple textures and is drawn to scale</li> </ul>	<ul style="list-style-type: none"> <li>Be able to resize images effectively without stretching</li> <li>Be able to use a range of adjustment tools</li> <li>Be able to use 1 or more selection tools</li> <li>Be able to move layers in order to change the overall outcome</li> <li>Be able to use at least 3 different pieces of software as part of a project</li> <li>Be able to justify software choices in some cases</li> <li>Be able to create an original 3D model</li> </ul>	<ul style="list-style-type: none"> <li>Be able to create a basic image from a blank canvas</li> <li>Be able to resize images</li> <li>Be able to add and format text</li> <li>Be able to select different layers</li> <li>Be able to use at least 2 different pieces of software as part of a project</li> <li>Be able to follow a tutorial to create a basic 3D model</li> </ul>

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SKILLS & APPLICATION	<ul style="list-style-type: none"> <li>Be able to create a complex flowchart that uses subroutines</li> <li>Be able to define and call subroutines in a python program</li> <li>Be able to create selection statements with multiple conditions</li> <li>Be able to declare a list</li> <li>Be able to use a loop to step through a list</li> <li>Be able to identify and correct a range of errors, including both syntax and logic errors</li> </ul>	<ul style="list-style-type: none"> <li>Be able to create a complex flowchart that makes use of variables</li> <li>Be able to add a FOR loop and a WHILE loop to a program</li> <li>Be able to declare, assign and interrogate variables</li> <li>Be able to write simple programs from scratch</li> <li>Be able to test and debug programs to find and fix errors</li> </ul>	<ul style="list-style-type: none"> <li>Be able to create a simple flowchart that includes decisions</li> <li>Be able to edit an existing program to change how it functions</li> <li>Be able to add to an existing program to give it new functionality</li> <li>Be able to add an IF statement or a loop to a program</li> <li>Be able to test a program for errors</li> </ul>	<ul style="list-style-type: none"> <li>Be able to follow a simple flowchart</li> <li>Be able to create a simple flowchart with no decisions</li> <li>Be able to run an existing python program</li> <li>Be able to change prompts in a python program</li> </ul>



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KNOWLEDGE	<ul style="list-style-type: none"> <li>Know what types of computer model exist and why they often need very powerful computers</li> <li>Know the key differences between magnetic, optical and solid state storage technology</li> <li>Know how different exposure settings affect photographs</li> </ul>	<ul style="list-style-type: none"> <li>Know why computer models are effective and more efficient than alternatives</li> <li>Know how HDDs and SSDs work</li> <li>Know why RAM is important</li> <li>Know at least six rules of photography</li> </ul>	<ul style="list-style-type: none"> <li>Know what a computer model is</li> <li>Know the difference between a HDD and an SSD</li> <li>Know that RAM is important for computer systems</li> <li>Know at least four rules of photography</li> </ul>	<ul style="list-style-type: none"> <li>Know that in a spreadsheet, formulas are used to automatically calculate values</li> <li>Know that computers are made up of different components, including one for storage</li> <li>Know at least two rules of photography</li> </ul>
SKILLS & APPLICATION	<ul style="list-style-type: none"> <li>Be able to create a complex model in response to a scenario and use a range of techniques including Goal Seek in order to provide potential solutions to a problem</li> <li>Be able to make use of exposure settings and composition rules to create a varied and effective portfolio of images to a brief</li> </ul>	<ul style="list-style-type: none"> <li>Be able to create an effective spreadsheet from scratch</li> <li>Be able to use modelling techniques to use a spreadsheet to solve problems</li> <li>Be able to take attractive and appealing digital photographs</li> <li>Be able to use a range of rules of photography effectively</li> <li>Be able to discuss the strengths and weaknesses of a portfolio of images</li> </ul>	<ul style="list-style-type: none"> <li>Be able to use functions in a spreadsheet (e.g. MIN, MAX, SUM, AVERAGE)</li> <li>Be able to answer "What If" questions using a spreadsheet</li> <li>Be able to take effective digital photographs</li> <li>Be able to use at least two rules of photography consistently</li> <li>Be able to identify the use of composition rules in photographs consistently</li> </ul>	<ul style="list-style-type: none"> <li>Be able to use formulas in a spreadsheet (+, -, *, /)</li> <li>Be able to change cell formats including background and border settings</li> <li>Be able to take digital photographs</li> <li>Be able to identify the use of composition rules in photographs sometimes</li> </ul>