

Threads	EYFS	Year 1 <i>Bright Person:</i> <i>Steve Jobs</i>	Year 2 <i>Bright Person:</i> <i>Charles Babbage</i>	Year 3 <i>Bright Person:</i> <i>Mark Zuckerberg</i>	Year 4 <i>Bright Person:</i> <i>Delia Derbyshire</i>	Year 5 <i>Bright Person:</i> <i>Larry Page</i>	Year 6 <i>Bright Person:</i> <i>Tim Berners-Lee</i>
Computer Networks		<p>To know: That technology can help us Different examples of technology. That a computer is an example of technology. that choices are made when using technology.</p> <p><b>I can:</b> <b>Choose technology to do a job.</b> <b>Identify the main parts of a computer.</b> <b>Use a mouse in different ways.</b> <b>Use a keyboard to type and edit text.</b> <b>Show how to use technology safely.</b></p>	<p>To know: The different types of computers used in school. That a computer is a part of IT. The features, uses and benefits of IT.</p> <p><b>I can:</b> <b>Describe some uses of computers.</b> <b>Identify IT in school.</b> <b>Identify IT beyond school.</b> <b>Show how to use IT safely.</b></p>	<p>To know: The different methods of communication. How to use email safely.</p> <p><b>I can:</b> <b>Identify different ways that the internet can be used for communication.</b> <b>Open and respond to an email using an address book.</b> <b>Add an attachment to an email.</b> <b>Explore a simulated email scenario.</b></p>	<p>To know: How networks connect to other networks. How information can be shared via the WWW. That the WWW is part of the internet. That the global interconnection of networks is the internet. Why security is needed on the internet. How to access the WWW. About the different types of content/media that can be added, created and shared on the WWW. That the internet enables us to view the WWW. That the WWW comprises of websites and webpages.</p> <p><b>I can:</b> <b>Describe the current limitations of WWW media.</b> <b>Evaluate the reliability of content and the consequences of unreliable content.</b> <b>Explain the benefits of the WWW.</b></p>	<p>To know: That a system is a set of interconnected parts which work together. That computers can be connected together to form IT systems. About inputs, processes and outputs in large IT systems. That search engines are examples of large IT systems. Why search engines create indices. The role of web crawlers in creating an index. How search results are selected. That ranking order search results to make them more useful and how this makes search engine companies money.</p> <p><b>I can:</b> <b>Describe the input and output of a search engine.</b> <b>Demonstrate that different search terms produce different results.</b> <b>Evaluate the results of search terms.</b></p>	<p>To know: That data is transferred across networks using agreed protocols. That connections between computers allow access to shared stored files. That data is transferred in packets. That computers connected to the internet allow people in different places to work together. The opportunities that technology offers for communication and collaboration. Which types of media can be shared through the internet. That communicating and collaboration using the internet can be public or private.</p> <p><b>I can:</b> <b>Outline and evaluate methods of communicating and collaborating using the internet for given purposes.</b> <b>Decide what should and should not share online.</b></p>



Skills: **Bold**

Enrichment: *Italics*



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Programming	<p>To know: What a given command does. That a command can match to an outcome. That a program is a set of commands that a computer can run. That a series of instructions can be issues before they are enacted.</p> <p><b>I can:</b> <b>Enact a given word.</b> <b>Predict the outcome of a command.</b> <b>List which commands can be used on a device.</b> <b>Run a command on a floor robot.</b> <b>Choose a command for a given purpose.</b> <b>Build a sequence of commands in steps.</b> <b>Run a program on a device.</b></p>	<p>To know: That a series of instructions is a sequence. What happens when we change the order of instructions. That a series of instructions can be issued before they are enacted. That you can predict the outcome of a program.</p> <p><b>I can:</b> <b>Choose a series of words that can be enacted as a sequence.</b> <b>Choose a series of instructions that can be run as a program.</b> <b>Create a program.</b> <b>Trace a sequence to make a prediction.</b> <b>Run a program on a device.</b> <b>Debug a program that I have written.</b></p>	<p>To know: That programs start because of an input. What a sequence is. That a program includes sequences of commands That the sequence of a program is a process. That the order of commands can affect a program's output That different sequences can achieve the same or different outputs.</p> <p><b>I can:</b> <b>Build a sequence of commands.</b> <b>Combine commands in a program.</b> <b>Order commands in a program.</b> <b>Create a sequence of commands to produce a given outcome.</b></p>	<p>To know: What 'repeat' means How to identify everyday tasks that include repetition as part of a sequence. That we can use a loop command in a program to repeat instructions. How to identify a loop within a program. How to identify patterns in a sequence. That in programming there are indefinite loops and count-controlled loops. That an indefinite loop will run until the program is stopped. That you can program a loop to stop after a specific number of times. How to identify patterns in a sequence. The importance of instruction order in a loop. That not all tools enable more than one process to be run at once.</p> <p><b>I can:</b> <b>List an everyday task as a set of instruction including repetition.</b> <b>Use an indefinite/count-controlled loop to produce a given outcome.</b> <b>Plan a program that includes appropriate</b></p>	<p>To know: That a condition can only be true or false. That a count-controlled loop contains a condition. The difference between a count-controlled loop and a condition-controlled loop. That a condition-controlled loop will stop when a condition is met. That when a condition is met, a loop will complete a cycle before it stops. That selection can be used to branch the flow of a program. That a loop can be used to repeatedly check whether a condition has been met. The importance of instruction order in 'if...then...else...' statements.</p> <p><b>I can:</b> <b>Create a condition-controlled loop.</b> <b>Use a condition in an 'if...then...' statement to start an action.</b> <b>Use selection to switch the program flow in one of two ways.</b> <b>Use a condition in an 'if...then...else..' statement to produce given outcomes.</b></p>	<p>To know: A 'variable' is something that is changeable. How to identify examples of information that is variable. That a variable can be used in a program. That a variable has a name and a value. That the value of a variable can be used by a program. That the value of a variable can be updated. That variables can hold numbers of letters. The way in which a variable is changed. That a variable can be set as a constant. The importance of setting up a variable at the start of a program. That there is only one value for a variable at any one time. That if you change the value of a variable, you cannot access the previous value. That if you read a variable, the value remains. That the name of a variable is meaningless to the computer. That the name of a variable needs to be unique.</p> <p><b>I can:</b></p>



Skills: **Bold**  
Enrichment: *Italics*



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				<p>loops to produce a given outcome.          Recognise tools that enable more than one process to be run at the same time (concurrency)          Create two or more sequences that run at the same time.</p>	<p>Identify a variable in an existing program.          Experiment with the value of an existing variable.          Choose a name that identifies the role of a variable to make it easier for humans to understand it.          Decide where in a program to set a variable.          Update a variable with a user input.          Use an event in a program to update a variable.          Use a variable in a conditional statement to control the flow of a program.          Use the same variable in more than one location in a program.</p>
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Skills: **Bold**  
 Enrichment: *Italics*



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Creating Media	<p>To know: What different freehand tools do. That computers can be used to create art. That a tool can be adjusted to suit my need. When it's appropriate to use each tool.</p> <p>That a keyboard is used to enter text. That shift key changes the output of a key. That text can be changed and edited. The impact of choices made.</p> <p><b>I can:</b> <b>Create a picture using freehand tools.</b> <b>Use shape and line tools.</b> <b>Use a range of paint colours.</b> <b>Use the fill tool to colour an enclosed area.</b> <b>Use the undo button to correct a mistake.</b> <b>Combine a range of tools to create a piece of artwork.</b> <b>Compare painting using a computer with painting using brushes.</b></p>	<p>To know: That computers can play the sounds of musical instruments. That the same pattern can be represented in different ways. How to compare playing music on instruments and making music on a computer.</p> <p>The functions of 2Paint. The impressionist style of art. The work of Piet Mondrian. The work of William Morris The Pointillist work of Seurat. About surrealism and eCollage.</p> <p><b>I can:</b> <b>Experiment with musical patterns and sounds on a computer.</b> <b>Compose a rhythm and melody on a given theme.</b> <b>Use a computer to play the same music in different ways.</b> <b>Evaluate a musical composition created on a computer.</b> <b>To improve a musical composition.</b> <b>I can name, save and find my work.</b></p>	<p>To know: That an animation is made up of a sequence of images. That a capturing device needs to be in a fixed position. That smaller movements create smoother animation. The impact of adding other media to an animation. That a project must be exported so it can be shared.</p> <p>How text and images can be used to convey information. Landscape and portrait are two different page orientations. How different layouts can suit different purposes. That DTP pages can be structure with placeholders. That different font styles and effects are used for particular purposes. The benefits of using a DTP application.</p> <p><b>I can:</b> <b>Plan an animation using a storyboard.</b> <b>Set up a work area with an awareness of what will be captured.</b> <b>Capture an image.</b></p>	<p>To know: About rhythm, tempo and pulse. About melody, pitch, texture and dynamics.</p> <p>How to change the composition of a digital image by rotating, flipping and cropping. How to adjust colours of a digital image. How to apply filters and effects to a digital image. How to select part of a digital image. How to use close, copy and paste to change the composition of a digital image. How to use cloning to retouch a digital image. How to add text to a digital image.</p> <p><b>I can:</b> <b>Identify and discuss the main elements of music.</b> <b>Experiment with rhythm and tempo.</b> <b>Create a melodic phrase.</b> <b>Electronically compose a piece of music.</b></p> <p><b>Recognise that digital images can be manipulated.</b></p>	<p>To know: The features of video as a visual media format. Which devices can and can't record video. The purpose of a storyboard. The filming techniques can be used to create different effects. Why you need to review and reflect on a video project. That videos can be improved through editing and what the limitations of this are. That projects need to be exported to be shared.</p> <p>That a vector drawing comprises separate objects. That each object in a drawing is in its own layer. That vector images can be scaled without impact on quality. That objects can be modified in groups. How alignment and size guides can help create a more consistent drawing. What the impact is of choices made.</p> <p><b>I can:</b> <b>Use different camera angles.</b> <b>Pan, tilt and zoom.</b></p>	<p>To know: The relationship between HTML and visual display. That web pages can contain different media, are written by people and are a set of hyperlinked web pages. The components of a web page layout. About ownership and use of images (copyright). The need to preview pages and for a navigation path. The implications of linking to content owned by others.</p> <p>That 3D models can be created on a computer. That a 3D environment can be viewed from different perspectives. That digital tools can manipulate 3D objects. How placeholders can create holes in 3D objects. That artefacts can be broken down into a collection of 3D objects.</p> <p><b>I can:</b> <b>Review an existing website.</b> <b>Create a new blank web page.</b> <b>Add text to a web page and change its appearance.</b></p>
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		<p>Use letter, number, space and punctuation keys to enter text.          Select text and change its appearance.          Use the backspace key to remove text.          Select text.          Position the text cursor in a chosen location.          Change the appearance of text on a computer.          Use undo.</p>	<p>I can include photos, text and sound in my creations.          I can create digital artwork based on different themes.          I can use 2Paint, a painting tool on Purple Mash.</p>	<p>Use the onion skinning tool.          Move a subject between captures.          Review a captured sequence of frames as an animation.          Remove frames to improve an animation.          Add media to enhance an animation.          Review a completed project.</p> <p>Change page orientation.          Organise text and image placeholders in a page layout.          Add text to a placeholder.          Add and remove images to and from placeholders.          Edit text in a placeholder.          Move, resize and rotate images.          Choose fonts and apply effects to text.          Review a document.</p>	<p>Recognise that digital images can be changed for different purposes.          Use an application to change part/whole of a digital image.          Use an application to add to the composition of a digital image.          Choose the most appropriate tool for a particular purpose.          Consider the impact of changes made on the quality of the image.</p>	<p>Determine what scenes will convey your idea.          Combine filming techniques for a given purpose.          Identify features of a video recording device or application.          Decide what changes I will make when editing.          Use split, trim and crop to edit a video.</p> <p>Add an object to a vector drawing.          Select and delete objects.          Duplicate, modify and reposition objects.          Move objects between the layers of a drawing.          Group and ungroup selected objects.          Combine options to achieve a desired effect.          Create a vector drawing for a given purpose.</p>	<p>Embed media in a web page.          Add web pages to a site.          Insert hyperlinks between pages and another site.          Preview a web page.</p> <p>Position 3D shapes relative to one another.          Use digital tools to modify 3D objects.          Combine objects to create a 3D digital artefact.          Use digital tools to accurately size 3D objects.          Construct a 3D model which reflects a real-world object.</p>
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Data and Information	<p>To know: That objects can be counted. That information can be presented and in different ways.</p> <p><b>I can:</b> <b>Identify some attributes of an object.</b> <b>Collect simple data.</b> <b>Describe the properties of an object and group them to answer questions.</b> <b>Describe a group of objects based on commonality.</b></p>	<p>To know: How to use a tally chart to collect data. The appropriate headings for tally charts and pictograms. How to compare objects that have been grouped by attribute. How to construct a given comparison question. How to use a computer program to present information in different ways. That we can present information using a computer. That some information should not be shared.</p> <p><b>I can:</b> <b>Show that I can enter data onto a computer.</b> <b>Recognise that things can be described by attributes.</b> <b>Use a computer to view data in different formats.</b> <b>Use pictograms to answer single-attribute questions.</b> <b>Use a computer to answer comparison questions.</b></p>	<p>To know: How to investigate questions with yes/no answers. How to identify attributes that you can ask yes/no questions about. How to select an attribute to separate objects into two similarly sized groups. That a branching database in an identification tool. That a data set can be structured using yes/no questions. That a well-structured branching database will enable you to identify objects using fewer questions. How to suggest real world applications for branching databases.</p> <p><b>I can:</b> <b>Create questions with yes/no answers.</b> <b>Choose questions that will divide objects into evenly sized subgroups.</b> <b>Repeatedly create subgroups of objects.</b> <b>Identify an object using a branching database.</b> <b>Retrieve information from different levels of the branching database.</b></p>	<p><i>To know:</i> <i>How to format cells as currency, percentage, decimal to different decimal places or fraction.</i> <i>About times tables and averages.</i> <i>How to read and use line graphs.</i></p> <p><b>I can:</b> <b>Use the number formatting tools within 2Calculate to appropriately format numbers.</b> <b>Add a formula to a cell to make a calculation.</b> <b>Use the timer, random number and spin button tools.</b> <b>Combine tools to explore number.</b> <b>Use a series of data in a spreadsheet to create a line graph.</b> <b>Use spreadsheets to plan actions.</b> <b>Use currency formatting in 2Calculate.</b> <b>Allocate values to images and use these to explore place value.</b> <b>Use a spreadsheet to check their understanding of a mathematical concept.</b></p>	<p>To know: That a computer program can be used to organise data. That ordering data and tools can be used to select data to answer questions. How operands can be used to filter data. How 'AND' and 'OR' can be used to refine data selection. That computer programs can be used to compare data visually. That we present information to communicate a message.</p> <p><b>I can:</b> <b>Choose different ways to view data.</b> <b>Chose which attribute and value to search by to answer a question.</b> <b>Ask questions that need more than one attribute to answer.</b> <b>Choose which attribute to sort data by to answer a given question.</b> <b>Choose multiple criteria to search data to answer a given question.</b> <b>Select an appropriate graph to visually compare data.</b> <b>Choose suitable ways to present information.</b></p>	<p>To know: Questions that can be answered using spreadsheet data. What an item of data is in a spreadsheet. How the data type determines how a spreadsheet can process the data. That there are different software tools to work with data. That formulas can be used to produce calculated data. That cells can be linked. Why data should be organised in a spreadsheet. That a cell's value automatically updates when the value in a linked cell is changed. How to evaluate results in comparison to the question asked.</p> <p><b>I can:</b> <b>Calculate data using a formula for each operation.</b> <b>Use functions to create new data.</b> <b>Use existing cells within a formula.</b> <b>Choose suitable ways to present spreadsheet data.</b></p>
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Skills: **Bold**

Enrichment: *Italics*



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IT Skills	<p><b>iPad:</b>  <i>I can safely carry an iPad with two hands or hugging it to my chest.            I can open an iPad using the home button.            I can lock an iPad using the correct button.            I can navigate through apps by swiping.            I can log into different apps (Spelling Shed and TT Rockstars).            I can control the volume level.</i></p> <p><b>Desktop:</b>  <i>I can log into the desktop computers using my own username and password.            I can begin to use a mouse and keyboard.</i></p>	<p><b>iPad:</b>  <i>I can safely carry an iPad with two hands or hugging it to my chest.            I can open an iPad using the home button.            I can lock an iPad using the correct button.            I can navigate through apps by swiping.            I can log into different apps (Spelling Shed and TT Rockstars and Seesaw).            I can control the volume level.            I can use the camera on a digital device to take a photo.            I can use the camera to scan a QR code to access apps/websites needed.</i></p> <p><b>Desktop:</b>  <i>I can log into the desktop computers using my own username and password.            I can confidently use a mouse and keyboard.            I can drag and drop items.</i></p> <p><b>Seesaw:</b>  <i>With support, I can log into Seesaw and find activities.            I can navigate my journal.</i></p>	<p><b>iPad:</b>  <i>I can safely carry an iPad with two hands or hugging it to my chest.            I can open an iPad using the home button.            I can lock an iPad using the correct button.            I can navigate through apps by swiping.            I can log into different apps (Spelling Shed, TT Rockstars and Seesaw).            I can control the volume level.            I can use the keyboard on the iPad to type accurately checking for mistakes.            I can use the camera on a digital device to take a photo.            I can use the camera to scan a QR code to access apps/websites needed.            I can use Safari to search for websites and images.</i></p> <p><b>Desktop:</b>  <i>I can log into the desktop computers using my own username and password.            I can confidently use a mouse and keyboard.            I can find and open Google Chrome browser.            I can identify the URL bar.            I can open a new tab and close them.            I can use Google to search for websites and images.            I can use the back, forward, and refresh button on the web browser as needed.            I can navigate to school shared.</i></p>	<p><b>iPad:</b>  <i>I can log into different apps (Spelling Shed, TT Rockstars and Seesaw).            I can use the keyboard on the iPad to type accurately checking for mistakes.            I can drag and drop items.            I can use the camera on a digital device to take a photo.            I can use the camera to scan a QR code to access apps/websites needed.            I can use Safari to search for websites and images.</i></p> <p><b>Desktop:</b>  <i>I can log into the desktop computers using my own username and password.            I can confidently use a mouse and keyboard.            I can find and open Google Chrome browser.            I can identify the URL bar.            I can open a new tab and close them.            I can use Google to search for websites and images.            I can use the back, forward, and refresh button on the web browser as needed.            I can navigate to school shared.</i></p>	<p><b>iPad:</b>  <i>I can log into different apps (Spelling Shed, TT Rockstars and Seesaw).            I can use the keyboard on the iPad to type accurately checking for mistakes.            I can drag and drop items.            I can use the camera on a digital device to take a photo.            I can use the camera to scan a QR code to access apps/websites needed.            I can use Safari to search for websites and images.</i></p> <p><b>Desktop:</b>  <i>I can log into the desktop computers using my own username and password.            I can confidently use a mouse and keyboard.            I can find and open Google Chrome browser.            I can identify the URL bar.            I can open a new tab and close them.            I can use Google to search for websites and images.            I can use the back, forward, and refresh button on the web browser as needed.            I can navigate to school shared.</i></p>
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			<p><i>I can complete activities set by the teacher.</i></p>	<p><i>I can open a new tab and close them.</i>  <i>I can use Google to search for websites and images.</i>  <i>I can use the back, forward, and refresh button on the web browser as needed.</i>  <i>I can log into my Google account using my assigned Google email address and password</i></p> <p><b>Seesaw:</b>  <i>I can independently log into Seesaw and find activities.</i>  <i>I can navigate my journal.</i>  <i>I can complete activities set by the teacher.</i></p>	<p><i>I can set up and order folders.</i>  <i>I can save and upload work documents and images to different locations on a desktop PC.</i>  <i>I can log into my Google account using my assigned Google email address and password</i></p> <p><b>Seesaw:</b>  <i>I can independently log into Seesaw and find activities.</i>  <i>I can navigate my journal.</i>  <i>I can draft and complete activities set by the teacher.</i>  <i>I can photograph or screenshot my work and upload it to Seesaw.</i>  <i>I can reflect on my work through adding sensible comments to my completed tasks.</i></p>	<p><i>I can set up and order folders.</i>  <i>I can save and upload work documents and images to different locations on a desktop PC.</i>  <i>I can confidently use Microsoft Office software such as Powerpoint, Publisher and Word to create content.</i>  <i>I can log into my Google account using my assigned Google email address and password</i></p> <p><b>Seesaw:</b>  <i>I can independently log into Seesaw and find activities.</i>  <i>I can navigate my journal.</i>  <i>I can draft and complete activities set by the teacher.</i>  <i>I can photograph or screenshot my work and upload it to Seesaw.</i>  <i>I can reflect on my work through adding sensible comments to my completed tasks.</i>  <i>I can create detailed drawings and annotate images on Seesaw.</i></p>	<p><i>I can independently set up and order folders.</i>  <i>I can independently save and upload work documents and images to different locations on a desktop PC.</i>  <i>I can confidently use Microsoft Office software such as Powerpoint, Publisher, Excel and Word to create content.</i>  <i>I can log into my Google account using my assigned Google email address and password.</i></p> <p><b>Seesaw:</b>  <i>I can independently log into Seesaw and find activities.</i>  <i>I can navigate my journal.</i>  <i>I can draft and complete activities set by the teacher.</i>  <i>I can photograph or screenshot my work and upload it to Seesaw.</i>  <i>I can reflect on my work through adding sensible comments to my completed tasks.</i>  <i>I can independently create detailed drawings and annotate images on Seesaw.</i></p>
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