



Subject Area: Computing

Knowledge/skills progression	Early Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computing systems and networks	<p>Nursery Handles books and touch screen technology carefully and the correct way up with growing competence.</p> <p>Begins to navigate apps and websites on digital media using drop down menu to select websites and icons to select apps.</p> <p>Reception Develops digital literacy skills by being able to access, understand and interact with a range of technologies.</p>	<p>Identify examples of technology</p> <p>Name main parts of a computer</p> <p>Use a mouse to click, drag and make objects</p> <p>Open and save my work</p> <p>Use arrow keys to navigate a document</p>	<p>Describe some uses of computers</p> <p>Identify different ways IT can be used</p> <p>Understand how IT devices work together</p> <p>Explain why we use IT in different ways</p> <p>Use IT for different types of activities</p>	<p>Classify input and output devices</p> <p>Describe a simple process</p> <p>Identify similarities and differences between digital and non-digital devices.</p> <p>Explain how a network can be used to share files.</p> <p>Know how digital devices can be connected</p>	<p>Know that internet provides many services</p> <p>Describe how to access websites</p> <p>Explain the different media which can be shared on internet</p> <p>Understand who creates internet content.</p>	<p>Understand computer systems features inputs, processes and outputs.</p> <p>explain the role of computer systems in our lives</p> <p>Know how information is transferred over the internet</p> <p>How connected devices allow work collaboration</p> <p>Contribute to a shared online project.</p>	<p>Search the web for specific information</p> <p>Refine searches</p> <p>Understand how search results are ranked</p> <p>How search results can be influenced</p> <p>Compare different methods of communication</p>
Data and information	<p>Nursery Knows that information can be retrieved from digital devices and the internet.</p> <p>Reception Gives meaning to the marks they make as they draw, write, paint and type using a keyboard or touch-screen technology.</p>	<p>Count and group objects</p> <p>Identify labels for a group of objects</p> <p>Identify properties of an object</p> <p>Group objects based on properties</p>	<p>Record data in tally charts</p> <p>Enter data onto a computer</p> <p>Create a pictogram</p> <p>Answer more than/less than, most/least questions</p> <p>Use a computer program to present information in different ways.</p>	<p>Arrange objects into a tree structure</p> <p>Select attributes to separate objects into similar sized groups.</p> <p>Create branching database.</p> <p>Use a branching database to answer questions</p>	<p>Use a digital device to collect data</p> <p>Talk about the data collected.</p> <p>Use different sensors.</p> <p>Use a computer program to sort the data.</p> <p>Use collected data to find information</p>	<p>Order, sort and group data cards.</p> <p>Identify fields to sort data</p> <p>Group and sort data to answer questions</p> <p>Use 'AND' and 'OR' to refine data selections.</p> <p>Use computer to create a graph</p>	<p>Change formatting of a cell.</p> <p>Create a table of formatted data.</p> <p>Use a formula to calculate data.</p> <p>Produce a graph.</p>

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Creating media	<p>Nursery Enjoys drawing and writing on paper, on screen and on different textures, such as in sand or playdough and through using touch-screen technology.</p> <p>Reception To select 'Dazzle' programme and use keys to write their name.</p> <p>Can create content such as a video recording, stories, and/or draw a picture on screen.</p>	<p>Use tools to make marks and draw lines</p> <p>Use shapes to create a picture.</p> <p>Use brush and colour tools</p> <p>Recognise and find keys in a keyboard</p> <p>Enter text into a word processor</p> <p>Use backspace, letter, number and space keys.</p> <p>Type capital letters</p> <p>Change the font</p> <p>Select text</p>	<p>Identify devices to capture an image.</p> <p>Use IT to take a photograph</p> <p>Explain what makes a good photograph</p> <p>Use different orientations, zoom and flash.</p> <p>Explain how to improve a photo</p> <p>Create a rhythm pattern</p> <p>Create and refine a musical pattern on a computer using 3 notes</p> <p>Explain choices when creating musical patterns.</p> <p>Open and save work</p>	<p>Explore animation as a sequence of pictures</p> <p>Create a stop-frame animation</p> <p>Create a storyboard</p> <p>Evaluate quality of work</p> <p>Add other media to animation</p> <p>Change font style, size and colour for given purpose.</p> <p>Change page orientation</p> <p>Select layout for a given purpose</p> <p>Edit content</p>	<p>Use digital device to record a sound</p> <p>Edit sections of audio file</p> <p>Combine digital sounds</p> <p>Create a simple podcast</p> <p>Explore how images can be changed in real life.</p> <p>Change the composition of an image.</p> <p>Use different image effects</p> <p>Combine parts of images to create new images.</p>	<p>Compare features of different videos</p> <p>Experiment with different camera angles</p> <p>Capture video using a range of filming techniques</p> <p>Edit video to improve final outcome</p> <p>Understand 'vector' graphics.</p> <p>Combine shapes to create vector drawing.</p> <p>Modify objects to create effects</p> <p>Use layers within vector drawings</p>	<p>Know websites are written in HTML</p> <p>Recognise common features of a web page</p> <p>Find copyright-free images</p> <p>Use hyperlinks to link webpages</p> <p>Create a webpage.</p> <p>Insert, select, move and delete 3D shapes.</p> <p>Resize and change colour of a 3D object.</p> <p>Create a 3D model.</p> <p>Modify 3D objects.</p>

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Programming	<p>Nursery Knows how to operate simple equipment, e.g. turns on CD player, uses a remote control, can navigate touch-capable technology with support.</p> <p>Shows an interest in technological toys with knobs or pulleys, real objects such as cameras, and touchscreen devices such as mobile phones and tablets.</p> <p>Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.</p> <p>Reception Completes a simple program on electronic devices.</p> <p>Uses ICT hardware to interact with age-appropriate computer software.</p>	<p>Match a command to an outcome</p> <p>Follow instructions</p> <p>Give directions</p> <p>Predict the outcome of a sequence of instructions</p> <p>Use forward, backwards, left + right turns to control a robot</p> <p>Use a command to move a sprite</p> <p>Link 'block' instructions together</p> <p>Use 'blocks' with numbers.</p> <p>Create an algorithm to control a sprite</p>	<p>Follow instructions given by someone else</p> <p>Give clear unambiguous instructions</p> <p>Create different algorithms for a range of sequences – using same commands</p> <p>Create an algorithm to meet a goal</p> <p>Compare predictions to algorithm outcome</p> <p>Debug parts of an algorithm</p> <p>Identify different sequences with same outcome</p> <p>Build sequences of 'blocks' to meet design.</p> <p>Debug simple algorithms</p>	<p>Create a program following a design</p> <p>Create a sequence of connected commands</p> <p>Combine sound commands</p> <p>Recognise that commands can be represented by 'blocks'</p> <p>Use commands to move a sprite</p> <p>Use 'pen' command blocks</p> <p>Test a program against its design</p> <p>Debug simple errors and modify code sequences</p>	<p>Create an algorithm to produce a given outcome</p> <p>Identify patterns in a sequence</p> <p>Use repetition command blocks</p> <p>Use count-controlled loops</p> <p>Use an infinite loop</p> <p>Use simple draw command-blocks</p> <p>Test and debug code</p> <p>Predict the outcome of a code snippet</p> <p>Code multiple sprites</p>	<p>Connect a simple circuit to a micro-controller</p> <p>Code a controller to make an LED switch on</p> <p>Control multiple outputs by a microcontroller</p> <p>Code sequences using:</p> <ul style="list-style-type: none"> - count-controlled loops - condition loops - if..then.. selection <p>Test and debug code</p> <p>-</p>	<p>Extend use of loops and selection blocks</p> <p>Explain purpose of variable</p> <p>Set and change values of a variable</p> <p>Code an event to set a variable</p> <p>Create an algorithm for a project.</p> <p>Use sensor inputs</p> <p>Use operand (<=>) in an if statement</p>