



Computing: Skills and Knowledge Progression

	Topic	Emerging 40-60 months	Expected ELG	Exceeding
EYFS		Completes a simple program on a computer. Uses ICT hardware to interact with age-appropriate computer software.	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	Children find out about and use a range of everyday technology. They select appropriate applications that support an identified need – for example in deciding how best to make a record of a special event in their lives, such as a journey on a steam train.

Yr	Multimedia	Programming	Online	E-Safety	Data
1/2	<p>Graphics Use ICT to generate ideas for their work. Use various tools such as brushes, pens, rubber, stamps, shapes. Save, retrieve and print work.</p> <p>Text Use spacebar, backspace, delete, arrow keys, return. Start to use two hands when typing. Word process short texts to present.</p> <p>Images Capture images. Discuss which images to keep and which to delete. Choose suitable images to support text or appropriate for outcome. Present the information to a group.</p>	<p>Bee-bots Give commands including straight forwards / backwards / turn one at a time. Explore what happens when a sequence of instructions is given. Give a set of simple instructions to follow out a task. Give a set of instructions to form simple geometric shapes. Improve/change their sequence of commands</p> <p>Scratch Understand what happens in different computer game and that they work by following instructions. Predict what will happen in a computer game. To test a computer game. To understand what an algorithm is. To plan a route from one place to another. Program a sprite to move in Scratch and be able to spot and correct mistakes in a program (debug).</p>	<p>Internet research Talk about websites they have been on. Explore a website by clicking on the arrows, menus and hyperlinks.</p> <p>Emails Recognise an email address. Find the @ key on the keyboard. Contribute to a class email. Open and select to reply to an email as a class.</p>	<p>Make decisions about whether or not statements found on the internet are true or not. Identify devices that can be used to search the Internet. Identify what things count as personal information. Identify when inappropriate content is accessed and act appropriately. Recognise that a variety of devices can be used to connect a number of people. Consider other people's feelings on the Internet.</p>	<p>Know that images give information. Say what a pictogram is showing them. Put data into a program. Sort objects and pictures into lists or simple tables. Create simple graphs with images.</p>

<p>3/4</p>	<p>Graphics Video- (iMovie-Ipads) Plan what they would like to happen in their own video. To study sports programmes to learn how they are filmed. Capture video for a purpose. Choose which clips to keep and which to discard. To record an audio commentary with useful information in it. Trim and arrange clips to convey meaning. Add titles, credits, slide transitions, special effects. To edit and improve their videos. To share their final videos with their peers.</p> <p>Animation- (iMotion-Ipads) Plan what they would like to happen in their animation, including characters, scenes, camera angles and special effects. Take a series of pictures to form an animation. Choose which frames are suitable for their movie. Add different effects and combine text and images. Playback, edit and improve their animation. Share their animation movies.</p> <p>Text Get quicker at typing with both hands. Use a variety of font sizes, styles and colours. Align text left, right and centre.</p> <p>Presentation (Powerpoint) Present information using Powerpoint. Create a title slide and choose a style. Change the layout of a slide. Insert a picture/ text/graph from the Internet or personal files. Decide upon and use effective transitions.</p> <p>Sound-Magix Music maker/Audacity Either: Create a multi-track recording using different effects or edit and add effects to a downloaded audio clip. Edit and refine their work to improve outcomes.</p>	<p>Scratch Navigate the Scratch programming environment. To be able to design a game in Scratch. Create a background and a sprite for a game. To be able to write a computer program for an animation. Add inputs to control their sprite. To put Scratch blocks in the right order. To be able to correct mistakes in my program. Create sound and graphics for an animation. Test, evaluate and improve their game. Use conditional statements within the program to control the sprite (if...then..)</p> <p>To design an interactive educational game. To use the random number block and use variables to work out the score. To plan their own way to program a game. To use a countdown timer. Explain an algorithm works.</p>	<p>Emails Log into an email account, open, create and send an email. Attach files to an email. Download and save files from an email. Email more than one person and reply to all.</p> <p>Exploring computer networks, including the internet. To name some of the hardware that connects computers. To use the ping, ipconfig and tracert commands. To see and understand how networks keep them safe online. Describe the way hardware works to connect computer and how data passes across the internet.</p> <p>Html coding To understand that web pages are written in HTML. To use some HTML tags. To use the ... tag correctly. create a web page by writing HTML.</p> <p>Wiki pages To explain what Wikipedia is and a Wiki page. Write for a target audience using a wiki tool. Create content for a Wiki. Edit the content on a wiki. Understand how important Wikipedia's Five pillars are.</p>	<p>Question the 'validity' of what they see on the internet. Use a browser address bar not just search box and shortcuts. Think before sending and comment on consequences of sending/posting. Recognise online behaviours that would be unfair. Recognise social networking sites and social networking features built into other things (such as online games and handheld games consoles) Make judgments in order to stay safe, whilst communicating with others online. Tell an adult if anything worries them online. Identify dangers when presented with scenarios, social networking profiles etc. Articulate examples of good and bad behaviour online.</p>	<p>Choose, collect, compare and record information to put into a data table. Create bar charts to present their information. Recognise which information is suitable for their topic. Design a survey to collect information. Analyse, sort and organise information to use in other ways.</p>
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5/6	<p>Graphics To use an art package to create their own piece of art using different effects.</p> <p>Web pages (Google Sites) To create web pages using relevant information, text, images, backgrounds and hyperlinks.</p> <p>Movie (Movie maker) To consider the characteristics of effective or evocative photographs. Take effective or evocative digital photographs for a specific purpose. To develop technical skills in taking and uploading photographs. Become familiar with the tools and techniques of movie software. Edit pictures using a range of tools in the program. Select certain areas of an image and resize, rotate and invert the image. Combine words, pictures and graphic elements to present information and complete their movie. Combine layers of sound to create a full piece. Present movies to their peers, receive feedback and make alterations to improve it.</p>	<p>Scratch Use external triggers and infinite loops to control sprites. Create and edit variables. Use conditional statements. Design their own game including sprites, backgrounds, scoring and/or timers. Use conditional statements, loops, variables and broadcast messages in the game. The game finishes when a player wins or loses and they must know they have won or lost. Evaluate the effectiveness of the game and debug as required.</p> <p>Kodu To become familiar with the basic commands of Kodu programming. Load up Kodu and create a moving character. Add programming to objects and change the colour and size of them. Design their own animation game. Reflect on work and Independently add more objects to enhance the look and feel of the game. Be able to create more than one path for objects and characters to follow. To add a timer. Add more scenery, objects and characters to enhance gameplay.</p> <p>App Inventor Become familiar with App inventor and its capabilities. To programme a button on App inventor Create an app that has a button that makes a sound when clicked. Change the button image. Experiment with different sound</p>	<p>Internet Research Use advance search functions in Google (quotations). Type in a URL to find a website. Know how to add websites to a favourites list. Use a search engine to find a range of media, e.g. images, texts. Think of search terms to use linked with questions they wish to answer. Talk about the reliability of information on the Internet, e.g. the difference between fact and opinion. To explain how Google orders web pages in a search. ('Page Rank'). Understand websites such as Wikipedia are made by users (link to E-Safety). Use strategies to check the reliability of information (cross check with another source such as books). Use their knowledge of domain names to aid their judgment of the validity of websites. Cloud Computing Understand files may be saved off their device in 'clouds'. Upload/download a file to the cloud on different devices. Understand about syncing files using cloud computing folders.</p> <p>Blogging Understand what a blog is and that it can be updated from a range of devices. Register to a blogging site and become familiar with a blog's interface. Understand how to use and create blogs safely and responsibly. Understand how to comment with respect on others' blog</p>	<p>Judge what sort of privacy settings might be relevant to reducing different risks. Judge when and when not to answer a question online. Be a good online citizen and friend. Articulate what constitutes good behaviour online. Use different sources to double check information found online. Find 'report' and 'flag' buttons in commonly used sites and name sources of help (childline, cybermentors etc) Click-CEOP button and explain to parents what it is for. Discuss scenarios involving online risk. State the source of information found on the Internet. Act as a role model for younger pupils.</p>	<p>Excel Become familiar with using spreadsheet program. Understand the purpose of a spreadsheet. Know how to check for and spot inaccurate data. Create data collection forms and enter data accurately from these. Use simple formulae to add, subtract, multiply and divide numbers in a spreadsheet. Know which formulas to use to change a spreadsheet model. Make graphs. Sort and filter information. Understand that changing the numerical data effects a calculation.</p> <p>Survey monkey To understand why surveys are useful. Discuss what information can be gathered through surveys. Create a set of good survey questions to gather</p>
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		<p>effects. Create and use images. Understand what the emulator is and how it works. Program the emulator. Use variables and procedures in the program. Using inputs and outputs in the program. Design the interface for an app and code a character to move around the screen. Add a background (colour or image) and sound to a canvas and screen. Program a score into the App using a variable. Combine selection and iteration in a set of instructions. Program the character to move faster.</p>	<p>posts and understand what is acceptable and unacceptable when commenting on blog posts. Discuss what it takes to create a good blog post. Create a new blog post, save it as a draft and publish it. Embed photos, hyperlinks and videos into posts. Alter the theme and appearance of their blog, adding background images etc. Prezi To become familiar with 'Prezi' online as a presentation tool. To know how to stay safe using Prezi. Use Prezi to present information. Social media- Edmodo (Unit linked to survey monkey) Become familiar with Edmodo and its capabilities. Discuss how to stay safe using Edmodo and how to report if something is worrying them. Become familiar with how to sign up to Edmodo. To know how to add and delete a post and respond to someone else's post. Upload survey monkey links for others to complete surveys.</p>		<p>information online. Monitor and analyse the data from a survey. Share and present information gathered.</p>
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