



Progression in Computing Skills

Foundation Stage

Learning about technology starts from birth because it's the way the world works today. Technology is an integral part of all young children's environment and world. They are surrounded by technology just as they are surrounded by language, print and numbers. In the home, technology includes remote controls for television, DVDs and sound systems, toys that have buttons and buzzers, mobile phones, washing machines, microwave ovens and other machines that require programming, and of course, computers and mobile devices such as iPads. Outside the home, children are also immersed in the technological world: they see automatic doors, cash machines, bar code scanners, digital tills and weighing machines, and security cameras. Technology is something children are going to grow up with, learn about and master, and use as a tool to increase their understanding in all areas of learning.

Many activities in the early years revolve around children developing an understanding of their environment. Settings encourage children to explore, observe, solve problems, predict, discuss and consider. ICT resources can provide tools for using these skills as well as being examined in their own right, with computers not the only resources. ICT equipment added to role-play reflects the real world, builds on children's experiences and allows them opportunities to understand how, why, when and where different forms of technology are used in everyday life.

Early experiences form a foundation upon which KS1 and KS2 can build and the current early learning goals have specific objectives relating to ICT.

New EYFS Framework for September 2021: The EYFS framework is structured very differently to the national curriculum as it is organised across seven areas of learning rather than subject areas. The aim of this document is to help subject leaders to understand how the skills taught across EYFS feed into national curriculum subjects. This document demonstrates which statements from the 2020 Development Matters are prerequisite skills for computing within the national curriculum. The table below outlines the most relevant statements taken from the Early Learning Goals in the EYFS statutory framework and the Development Matters age ranges for Three and Four-Year-Olds and Reception to match the programme of study for computing.

The most relevant statements for computing are taken from the following areas of learning:

- Personal, Social and Emotional Development
- Physical Development
- Understanding the World
- Expressive Arts and Design



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New EYFS framework from 2021

Computing			
Three and Four-Year-Olds	Personal, Social and Emotional Development		<ul style="list-style-type: none"> Increasingly follow rules, understanding why they are important.
	Physical Development		<ul style="list-style-type: none"> Match their developing physical skills to tasks and activities in the setting.
	Understanding the World		<ul style="list-style-type: none"> Explore how things work.
Reception	Personal, Social and Emotional Development		<ul style="list-style-type: none"> Show resilience and perseverance in the face of a challenge.
	Physical Development		<ul style="list-style-type: none"> Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Know and talk about the different factors that support their overall health and wellbeing: <ul style="list-style-type: none"> -sensible amounts of 'screen time'.
	Expressive Arts and Design		<ul style="list-style-type: none"> Explore, use and refine a variety of artistic effects to express their ideas and feelings.
ELG	Personal, Social and Emotional Development	Managing Self	<ul style="list-style-type: none"> Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. Explain the reasons for rules, know right from wrong and try to behave accordingly.
	Expressive Arts and Design	Creating with Materials	<ul style="list-style-type: none"> Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.



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	Year 1/2	Year 3/4	Year 5/6
Digital Literacy Online Safety	<p>To recognise common uses of information Technology beyond school.</p> <p>To use technology safely and respectfully, keeping personal information private; identify where to go for help and support when concerns about content or contact on the internet or other online technologies.</p> <p>To make decisions about whether or not statements found on the internet are true or not.</p> <p>Identify devices that can be used to search the Internet.</p> <p>Identify what things count as personal information.</p> <p>Identify when inappropriate content is accessed and act appropriately.</p> <p>Recognise that a variety of devices can be used to connect a number of people.</p> <p>Consider other people's feelings on the Internet.</p>	<p>To use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour: identify a range of ways to report concern about content and contact.</p> <p>Question the 'validity' of what they see on the internet.</p> <p>Use a browser address bar not just search box and shortcuts.</p> <p>Think before sending and comment on consequences of sending/posting.</p> <p>Recognise online behaviours that would be unfair.</p> <p>Recognise social networking sites and social networking features built into other things (such as online games and handheld games consoles)</p> <p>Make judgments in order to stay safe, whilst communicating with others online.</p> <p>Tell an adult if anything worries them online.</p> <p>Identify dangers when presented with scenarios, social networking profiles etc.</p> <p>Articulate examples of good and bad behaviour online.</p>	<p>To use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour: identify a range of ways to report concern about content and contact.</p> <p>Judge what sort of privacy settings might be relevant to reducing different risks.</p> <p>Judge when and when not to answer a question online.</p> <p>Be a good online citizen and friend.</p> <p>Articulate what constitutes good behaviour on line.</p> <p>Use different sources to double check information found online.</p> <p>Find 'report' and 'flag' buttons in commonly used sites and name sources of help (childline, cybermentors etc)</p> <p>Click-CEOP button and explain to parents what it is for.</p> <p>Discuss scenarios involving online risk.</p> <p>State the source of information found on the Internet.</p> <p>Act as a role model for younger pupils.</p>



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Digital Literacy Online	<p>Internet research Talk about websites they have been on. Explore a website by clicking on the arrows, menus and hyperlinks. Emails (Yr2) 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>Blogging Navigate to view their class blog. Understand that it can be updated from a range of devices. Comment on their class blog. Internet research Type in a URL to find a website. Add websites to a favorites 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. 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>Internet Research Use advance search functions in Google (quotations). 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. Blogging Register for a blog, select a URL and navigate to their blog once it is created. Alter the theme and appearance of their blog, adding background images etc. Create a new post, save it as a draft and publish it. Embed photos, hyperlinks and videos into posts. Reorganise posts and remove posts they no longer want. Like/follow other blogs and build up their blog content over the year.</p>
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Information Technology Multimedia	<p>To use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <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>Sound recording Record sound at and away from a computer. Use software to record sounds. Change sounds recorded. Save, retrieve and edit sounds.</p> <p>Video Capture video. Discuss which videos to keep and which to delete. Arrange clips to create a short film. Add a title and credits.</p> <p>Presentation (2Connect) Choose a suitable subject and collect some information. Create a mindmap of this data. Link appropriate bubbles. Present the information to a group.</p>	<p>To search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p> <p>To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</p> <p>Graphics Acquire, store and combine images from cameras or the internet for a purpose. Use the print screen function to capture an image. Select certain areas of an image and resize, rotate and invert the image. Edit pictures using a range of tools in a graphics program.</p> <p>2Create a story Create a new book aimed at a target audience. Combine text, images and sound on each page. Add information about the author and title for publishing.</p> <p>Animation (I Can animate / 2animate) Plan what they would like to happen in their animation. Take a series of pictures to form an animation. Move items within their animation to create movement on playback. Edit and improve their animation.</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) 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>To search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p> <p>To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</p> <p>Sound Recording (Audacity) Collect audio from a variety of resources including own recordings and internet clips. Create a multi-track recording using effects. Edit and refine their work to improve outcomes.</p> <p>Animation Plan a multi-scene animation including characters, scenes, camera angles and special effects. Use stop –go animation software (Ican Animate / Hue animation) with an external camera to shoot animation frames. Adjust the number of photographs taken and the playback rate to improve the quality of the animation. Publish their animation and use a movie editing package to edit/refine and add titles.</p> <p>Graphics Use to create a 3D representation of a vehicle. Use the tools available to design their own fit for purpose Vehicle. Change the style, colour and texture used. Change the viewpoint angle whilst designing the vehicle to gain insight to its look from a variety of angles.</p> <p>Presentation (Powerpoint) Work independently to create a multi slide presentation that includes speakers notes. Use transitions and animations to improve the quality of the presentation. Include sounds and moving graphics in the slides. Present to a large group or class using the notes made.</p>
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Information Technology Data	<p>Know that images give information. Say what a pictogram is showing them. Put data into a program.</p> <p>Sort objects and pictures into lists or simple tables. Make a simple Y/N tree diagram to sort information. Create and search a branching database.</p>	<p>Choose information to put into a data table. Recognise which information is suitable for their topic. Design a questionnaire to collect information.</p> <p>sort and organize information to use in other ways. Create and search a branching database. create a database from information I have selected.</p>	<p>Create data collection forms and enter data accurately from these.</p> <p>Know how to check for and spot inaccurate data. Know which formulas to use when I want to change my spreadsheet model.</p> <p>Make graphs from the calculations on my spreadsheet. Sort and filter information.</p> <p>Understand that changing the numerical data effects a calculation.</p>
Computer Science Programming	<p>To understand what algorithms are; how they are implemented as programs on digital devices; and programs execute by following precise and unambiguous instructions.</p> <p>To create and debug simple programs.</p> <p>To use logical reasoning to predict the behaviour of simple programs.</p> <p>Purple Mash- 2code</p> <p>Give commands including straight forwards / backwards / turn one at a time.</p> <p>Explore what happens when a sequence of instructions is given.</p> <p>Give a set of simple instructions to follow out a task.</p> <p>Improve/change their sequence of commands.</p>	<p>To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p> <p>To use sequence, selection and repetition in programs; work with variables and various forms of input and output.</p> <p>To use logical reasoning to explain how some simple algorithms work and detect and correct errors in algorithms and programs.</p> <p>Purple Mash-2Code</p> <p>Navigate 2code programming environment.</p> <p>Add inputs to control their object.</p> <p>Use conditional statements within the program to control the object (if...then..)</p>	<p>To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p> <p>To use sequence, selection and repetition in programs; work with variables and various forms of input and output.</p> <p>To use logical reasoning to explain how some simple algorithms work and detect and correct errors in algorithms and programs.</p> <p>Purple Mash- 2Code</p> <p>Create a background and a object for a game</p> <p>Use external triggers and infinite loops to control objects.</p> <p>Create and edit variables.</p> <p>Use conditional statements.</p> <p>Design their own game including objects, backgrounds, scoring and/or timers.</p> <p>Use conditional statements, loops, variables and broadcast messages in the game.</p> <p>The game finishes when a player wins or loses and they must know they have won or lost.</p> <p>Evaluate the effectiveness of the game and debug as required.</p>



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Assessment- The majority of children will be working at age related expectations. However, some children will be identified as working below and above these.

Number in the cohort:

Working below age related expectations	Working above age related expectations
Number working below:	Number working above:

Comments for the subject leader: