

# Computing Progression Milestones



## Pre-Milestone 1 - (EYFS)

The EYFS framework is structured very differently to the National Curriculum as it is organised across seven areas of learning rather than subject areas. At Butterwick C of E Primary School, we recognise that we live in an ever-developing technological world and that it is important to integrate the reality of technology into the lives of young children safely. The following information shows the prerequisite skills for computing in EYFS which have been outlined with relevant statements taken from the Early Learning Goals and Development Matters to match this programme of study – age range Three and Four-Year-Olds and Reception.

Personal, Social and Emotional Development	Physical Development	Expressive Arts and Design
<p>ELG - Be confident to try new activities and show independence, resilience and perseverance in the face of challenge</p> <p>ELG - Explain the reasons for rules, know right from wrong and try to behave accordingly.</p> <p>DM – Show resilience and perseverance in the face of challenge</p> <p>DM – Know and talk about the different factors that support their overall health and wellbeing:</p> <ul style="list-style-type: none"> <li>- Sensible amounts of 'screen-time'.</li> </ul>	<p>DM – Develop their small motor skills so that they can use a range of tools competently, safely and confidently.</p>	<p>ELG - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>DM – Explore, use and refine a variety of artistic effects to express their ideas and feelings.</p>

### Opportunities Provided for Children to Incorporate Technological Elements into their Development.

<p>Writing on interactive whiteboard</p> <p>Moving objects/numbers/letters on the interactive whiteboard</p> <p>Programming Bee Bots with simple instructions and perseverance in the face of challenge.</p>	<p>Read and share books about keeping safe online, such as 'Digiduck', 'Hana and the Magic Window' and 'Smartie the Penguin'.</p> <p>Gather and collect data into simple bar charts and pictograms.</p>	<p>Mini Mash – drawing, sorting, information gathering</p> <p>Numbots/Top Marks/Google Earth</p> <p>Taking photographs/videos (on cameras and ipads)</p> <p>Use of Seesaw for digital drawing</p>
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Key Concepts		Milestone 1 (Year 1 & 2)	Milestone 2 (Year 3 & 4)	Milestone 3 (Year 5 & 6)
<b>Code</b> This concept involves developing an understanding of instructions, logic and sequences.	Motion	• Control motion by specifying the number of steps to travel, direction and turn.	• Use specified screen coordinates to control movement.	• Set IF conditions for movements. Specify types of rotation giving the number of degrees.
	Looks	• Add text strings, show and hide objects and change the features of an object.	• Set the appearance of objects and create sequences of changes.	• Change the position of objects between screen layers (send to back, bring to front).
	Sound	• Select sounds and control when they are heard, their duration and volume.	• Create and edit sounds. Control when they are heard, their volume, duration and rests.	• Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation.
	Draw	• Control when drawings appear and set the pen colour, size and shape.	• Control the shade of pens.	• Combine the use of pens with movement to create interesting effects.
	Events	• Specify user inputs (such as clicks) to control events.	• Specify conditions to trigger events.	• Set events to control other events by 'broadcasting' information as a trigger.
	Control	• Specify the nature of events (such as a single event or a loop).	• Use IF THEN conditions to control events or objects.	• Use IF THEN ELSE conditions to control events or objects.
	Sensing	• Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?).	• Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions).	• Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions.
	Variables and Lists	• From Year 3 onwards.	• Use variables to store a value.  • Use the functions define, set, change, show and hide to control the variables.	• Use lists to create a set of variables.
Operators	• From Year 3 onwards.	• Use the Reporter operators $0 + 0$ $0 - 0$ $0 * 0$ $0 / 0$ to perform calculations.	• Use the Boolean operators $0 < 0$ $0 = 0$ $0 > 0$ $0 \text{ and } 0$ $0 \text{ or } 0$ Not 0 to define conditions. • Use the Reporter operators $0 + 0$ $0 - 0$ $0 * 0$ $0 / 0$	to perform calculations. Pick Random 0 to 0 Join 0 0 Letter 0 of 0 Length of 0 $0 \text{ Mod } 0$ This reports the remainder after a division calculation Round 0 0 of 0.

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Key Concepts	Milestone 1 (Year 1 & 2)	Milestone 2 (Year 3 & 4)	Milestone 3 (Year 5 & 6)
<p><b>Connect</b> This concept involves developing an understanding of how to safely connect with others.</p>	<ul style="list-style-type: none"> <li>Participate in class social media accounts.</li> <li>Understand online risks and the age rules for sites.</li> </ul>	<ul style="list-style-type: none"> <li>Contribute to blogs that are moderated by teachers.</li> <li>Give examples of the risks posed by online communications.</li> <li>Understand the term 'copyright'.</li> <li>Understand that comments made online that are hurtful or offensive are the same as bullying.</li> <li>Understand how online services work.</li> </ul>	<ul style="list-style-type: none"> <li>Collaborate with others online on sites approved and moderated by teachers.</li> <li>Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems.</li> <li>Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission, from the copyright holder.</li> <li>Understand the effect of online comments and show responsibility and sensitivity when online.</li> <li>Understand how simple networks are set up and used.</li> </ul>
<p><b>Communicate</b> This concept involves using apps to communicate one's ideas.</p>	<ul style="list-style-type: none"> <li>Use a range of applications and devices in order to communicate ideas, work and messages.</li> </ul>	<ul style="list-style-type: none"> <li>Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.</li> </ul>	<ul style="list-style-type: none"> <li>Choose the most suitable applications and devices for the purposes of communication.</li> <li>Use many of the advanced features in order to create high quality, professional or efficient communications.</li> </ul>
<p><b>Collect</b> This concept involves developing an understanding of databases and their uses.</p>	<ul style="list-style-type: none"> <li>Use simple databases to record information in areas across the curriculum.</li> </ul>	<ul style="list-style-type: none"> <li>Devise and construct databases using applications designed for this purpose in areas across the curriculum.</li> </ul>	<ul style="list-style-type: none"> <li>Select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner.</li> </ul>