



## Computing - Year 4

### Threshold Concepts and Milestones



Term	Threshold Concept	Sub-division	Statement	Activity
Autumn 1	<b>Code</b> This concept involves developing an understanding of instructions, logic and sequences.	<b>Control</b>	<ul style="list-style-type: none"> <li>Specify conditions to trigger events.</li> </ul>	Children create app games and races using Espresso Coding including, <b>sequences</b> . <a href="#">Discoverycoding unit 4a</a>
		<b>Operators</b>	Use the Reporter operators () + () () - () () * () () / () to perform calculations.	Children complete unit 4,3 (spreadsheets) in Purplemash and create times table calculators and timed math quizzes. <a href="#">Purplemash unit 4.3</a>
Autumn 2	<b>Connect</b> This concept involves developing an understanding of how to safely connect with others.		Give examples of the risks posed by online communications.  Understand that comments made online that are hurtful or offensive are the same as bullying.  Understand how online services work.	Children continue to contribute to class blogs and are instructed to leave comments on other people's posts. Children learn about moderators and administrators and how they can help when encountering cyberbullying online. <a href="#">Purplemash Unit 4.2</a>



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Spring 1	<b>Communicate</b>		Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.	Children cover unit 4.4 writing for different audiences in Purple Mash <a href="#">Purplemash Unit 4.4</a>
	<b>Code</b>	<b>Variables and lists</b>	Use variables to store a value. Use the functions define, set, change, show and hide to control the variables.	Introduced to the concept of points and score keeping in Espresso coding. Children are required to create a game that allows a score/time to be monitored by a <b>variable</b> indicator. <a href="#">Coding 4B introduction to variables</a>
Spring 2	<b>Code</b>	<b>Events</b>	Specify conditions to trigger events.	Children create app games and races using Espresso Coding including <b>variables</b> , sequences and loops. <a href="#">Introduction to variables</a>  Children complete Lego Wedo activity goal kicker (includes debugging and variables) <a href="#">Goal Kicker/Goal Keeper (page 14)</a>
	<b>Code</b> This concept involves developing an understanding of instructions, logic and sequences.	<b>Motion</b>	Use specified screen coordinates to control movement.	Children complete the logo unit of work in Purple Mash <a href="#">unit 4.5 Purplemash</a>



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Summer 1	<b>Code</b>	<b>Draw</b>	Control the shade of pens.	Children use a variety of "paint" techniques including water colour to create images for an electronic stop frame animation in Purple Mash. <a href="#">unit 4.7 animation</a>
		<b>Events</b>	Specify conditions to trigger events.	Children create app games and races using Espresso Coding including variables, sequences and <b>loops</b> . <a href="#">Coding repetition and events</a>
Summer 2	<b>Connect</b>		Understand the term 'copyright'.	Children do a variety of online research and consider the reliability of sources. Children conduct searches for images that are not copyrighted and why.  <a href="#">purplemash unit 4.7</a>
	<b>Connect</b>		Understand how online services work.	Children learn about the different components in a computer <a href="#">purple mash unit 4.8</a>

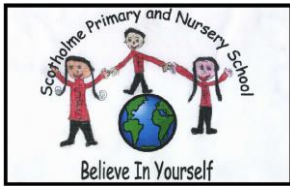


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Threshold Concept	Sub-division	Statement	Content
<b>Code</b> This concept involves developing an understanding of instructions, logic and sequences.	<b>Motion</b>	Use specified screen coordinates to control movement.	Create variables that allow them to set an objects starting point based on screen coordinates.
	<b>Looks</b>	Set the appearance of objects and create sequences of changes.	Create app games and races using Espresso Coding including variables, sequences and loops.
	<b>Sound</b>	Create and edit sounds. Control when they are heard, their volume, duration and rests.	Add sounds to games, animations and stories using PurpleMash and Espresso Coding
	<b>Draw</b>	Control the shade of pens.	Use a variety of "paint" techniques including water colour to create images and pictures
	<b>Events</b>	Specify conditions to trigger events.	Create app games and races using Espresso Coding including variables, sequences and loops.
	<b>Control</b>	Use IF THEN conditions to control events or objects.	Create app games and races using Espresso Coding including variables, sequences and loops.
	<b>Sensing</b>	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).	Create app games and races using Espresso Coding including variables, sequences and loops.
	<b>Variables and lists</b>	Use variables to store a value. Use the functions define, set, change, show and hide to control the variables.	Introduction to the concept of points and score keeping in Espresso coding. Children are required to create a game that allows a score/time to be monitored by a variable indicator.
<b>Operators</b>	Use the Reporter operators $() + ()$ $() - ()$ $() * ()$ $() / ()$ to perform calculations.	Children complete unit 4,3 (spreadsheets) in purple mash and create times table calculators and timed math quizzes.	



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<p><b>Connect</b> This concept involves developing an understanding of how to safely connect with others.</p>		<p>Contribute to blogs and vlogs that are moderated by teachers. Give examples of the risks posed by online communications. Understand the term 'copyright'. Understand that comments made online that are hurtful or offensive are the same as bullying. Understand how online services work.</p>	<p>Conduct online research and consider the reliability of sources. Conduct searches for images that are not copyrighted and why. Contribute to class blogs and are instructed to leave comments on other people's posts. Learn about moderators and administrators and how they can help when encountering cyberbullying online.</p>
<p><b>Communicate</b> This concept involves using apps to communicate one's ideas.</p>		<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>	<p>Write for different audiences in Purple Mash Unit 4.4 Access to class blogs, Dojo and 2email to message friends and their class teacher (monitored).</p>
<p><b>Collect</b> This concept involves developing an understanding of databases and their uses.</p>		<ul style="list-style-type: none"> <li>Devise and construct databases using applications designed for this purpose in areas across the curriculum.</li> </ul>	<p>Create spreadsheets to support numeracy and science-based work using 2calculate and 2investigate.</p>