



Computing - Year 5

Threshold Concepts and Milestones



Term	Threshold Concept	Sub-division	Statement	Activity
Autumn 1	Collect		Select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner.	Children use 2Calculate to complete word counts, convert measurements and use text variables to complete calculations (unit 5.3 spreadsheets) Purplemash unit 5.3
	Connect		Collaborate with others online on sites approved and moderated by teachers. Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems. Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission, from the copyright holder. Understand the effect of online comments and show responsibility and sensitivity when online.	Children think critically about what they share online. They consider what is inappropriate to share in text, image or video format. They look at advanced search terms when using a search engine. Purplemash unit 5.2



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	Code	Variables and lists	Use lists to create a set of variables.	Using 2Question to create branching databases. Purplemash unit 5.4
Autumn 2	Code	Control	Use IF THEN conditions to control events or objects.	Children complete the refresher unit of espresso coding where they revisit the work they have completed in year 2,3 and 4 Discovery Coding 5
				Using Amazing Mechanisms (page 17) Children use Lego equipment to experiment how variables in code can control real world equipment.



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Spring 1	<p>Code This concept involves developing an understanding of instructions, logic and sequences.</p>	<p>Control</p>	<ul style="list-style-type: none"> • Use IF THEN conditions to control events or objects. 	<p>Children design and create a 3D game in Purple Mash using DIY3D app. Purple Mash Unit 5.5 game creator</p>
	<p>Code This concept involves developing an understanding of instructions, logic and sequences.</p>	<p>Draw</p>	<ul style="list-style-type: none"> • Combine the use of pens with movement. 	<p>3D modelling unit 5.6 Create designs for 3D models using patterns and adjusting shapes 3D modelling 5.6</p>
Spring 2	<p>Code This concept involves developing an understanding of instructions, logic and sequences.</p>	<p>Control</p>	<p>Use IF THEN conditions to control events or objects.</p>	<p>Children create racing apps in Espresso Coding that includes algorithms for changes in speed and control (simulated oil slicks or ice on the track). Discovery - speed direction and coordinates</p>



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Summer 1	Code	Control	Use IF THEN conditions to control events or objects.	Children work in espresso coding to create conditional events using variables such as random position and number generation. They learn how these can be utilised in simulations. Random Numbers and Simulation
	Communicate		Choose the most suitable applications and devices for the purposes of communication. Use many of the advanced features in order to create high quality, professional or efficient communications.	Children create a short video using green screen, Garageband and their ipads. Year 5 iPad project
Summer 2	Communicate		Choose the most suitable applications and devices for the purposes of communication. Use many of the advanced features in order to create high quality, professional or efficient communications.	Concept maps Concept Maps Children learn about the importance of visual representations of complex ideas. Children create visual representations of shared ideas about a subject. Children understand what a 'stage' 'node'



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Threshold Concept		Year 5	Content
Code This concept involves developing an understanding of instructions, logic and sequences.	Motion	<ul style="list-style-type: none"> • Set IF conditions for movements. 	Creating branching databases that allow for searches and refinements to criteria. Creating algorithms that allow for random number generation or simulate a particular curved movement in Espresso Coding.
	Looks		
	Sound	<ul style="list-style-type: none"> • Upload sounds from a file and edit them. 	Use Audacity sound editor to manipulate and change a recorded sound made by the pupils. Use Drumbit app to create a rhythm and then add reverberation.
	Draw	<ul style="list-style-type: none"> • Combine the use of pens with movement. 	Use logo to create commands for "pen up" and "pen down" to create separate shapes within one sequence of instructions.
	Events	<ul style="list-style-type: none"> • Set events to control other events. 	Children create racing apps in Espresso Coding that includes Algorithms for changes in speed and control (simulated oil slicks or ice on the track).
	Control	<ul style="list-style-type: none"> • Use IF THEN conditions to control events or objects. 	Children create racing apps in Espresso Coding that includes algorithms for changes in speed and control (simulated oil slicks or ice on the track). Children design and create a 3D game in Purple Mash using DIY3D app.



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	Sensing	<ul style="list-style-type: none"> • Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions. 	
	Variables and lists	<ul style="list-style-type: none"> • Use lists to create a set of variables. 	Using 2Question to create branching databases.



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	<p>Operators</p>	<ul style="list-style-type: none"> • Use the Boolean operators $() < ()$ $() = ()$ $() > ()$ $() \text{and} ()$ $() \text{or} ()$ Not() to define conditions. • Use the Reporter operators $() + ()$ $() - ()$ $() * ()$ $() / ()$ to perform calculations. Pick Random () to () Join () () Letter () of () Length of () $() \text{Mod} ()$ This reports the remainder after a division calculation Round () () of (). 	<p>Reviewing search results when combined with various Boolean operators</p>
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<p>Connect This concept involves developing an understanding of how to safely connect with others.</p>		<p>Collaborate with others online on sites approved and moderated by teachers. Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems. Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission, from the copyright holder. Understand the effect of online comments and show responsibility and sensitivity when online. Understand how simple networks are set up and used.</p>	<p>Using 2Blog to create banks of research and ideas for topic-based work/homework Take part in class room debates and discussions about various aspects of safety. Actively take part and respond to comments made on posts created and shared by the pupils. Reflect on the influence this may have had. Research how networks connect different devices via servers.</p>
<p>Communicate This concept involves using apps to communicate one's ideas.</p>		<p>Choose the most suitable applications and devices for the purposes of communication. Use many of the advanced features in order to create high quality, professional or efficient communications.</p>	<p>Consider target audiences and how to reach them. Use 2Connect to make online, shared and opinionated resources. Using the class blog in purplemash</p>



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<p>Collect This concept involves developing an understanding of databases and their uses.</p>		<p>Select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner.</p>	<p>Using 2graph and 2calculate to report and present data related to science and topic research</p>
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