

Computing

Threshold Concept	Milestone One	Milestone Two	Milestone Three
	By the end of Year Two, the children should be able to:	By the end of Year Four, the children should be able to:	By the end of Year Six, the children should be able to:
<p>Code This concept involves developing an understanding of instructions, logic and sequences.</p> <p>Motion</p>	<ul style="list-style-type: none"> Control motion by specifying the number of steps to travel, direction and turn. 	<ul style="list-style-type: none"> Use specified screen coordinates to control movement. 	<ul style="list-style-type: none"> Set IF conditions for movements. Specify types of rotation giving the number of degrees.
<p>Looks</p>	<ul style="list-style-type: none"> Add text strings, show and hide objects and change the features of an object. 	<ul style="list-style-type: none"> Set the appearance of objects and create sequences of changes. 	<ul style="list-style-type: none"> Change the position of objects between screen layers (send to back, bring to front).
<p>Sound</p>	<ul style="list-style-type: none"> Select sounds and control when they are heard, their duration and volume. 	<ul style="list-style-type: none"> Create and edit sounds. Control when they are heard, their volume, duration and rests. 	<ul style="list-style-type: none"> Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation.
<p>Draw</p>	<ul style="list-style-type: none"> Control when drawings appear and set the pen colour, size and shape. 	<ul style="list-style-type: none"> Control the shade of pens. 	<ul style="list-style-type: none"> Combine the use of pens with movement to create interesting effects.
<p>Events</p>	<ul style="list-style-type: none"> Specify user inputs (such as clicks) to control events. 	<ul style="list-style-type: none"> Specify conditions to trigger events. 	<ul style="list-style-type: none"> Set events to control other events by 'broadcasting' information as a trigger.
<p>Control</p>	<ul style="list-style-type: none"> Specify the nature of events (such as a single event or a loop). 	<ul style="list-style-type: none"> Use IF THEN conditions to control events or objects. 	<ul style="list-style-type: none"> Use IF THEN ELSE conditions to control events or objects.

Sensing	<ul style="list-style-type: none"> • Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?). 	<ul style="list-style-type: none"> • 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). 	<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"> • From Year 3 onwards. 	<ul style="list-style-type: none"> • Use variables to store a value. • Use the functions define, set, change, show and hide to control the variables. 	<ul style="list-style-type: none"> • Use lists to create a set of variables.
Operators	<ul style="list-style-type: none"> • From Year 3 onwards. 	<ul style="list-style-type: none"> • Use the Reporter operators <p style="text-align: center;"> $() + ()$ $() - ()$ $() * ()$ $() / ()$ </p> <p style="text-align: center;">to perform calculations.</p>	<ul style="list-style-type: none"> • Use the Boolean operators <p style="text-align: center;"> $() < ()$ $() = ()$ $() > ()$ $() \text{and} ()$ $() \text{or} ()$ $\text{Not} ()$ </p> <p style="text-align: center;">to define conditions.</p> <p style="text-align: center;">.</p> <ul style="list-style-type: none"> • Use the Reporter operators <p style="text-align: center;"> $() + ()$ $() - ()$ $() * ()$ </p>

			<p style="text-align: center;">() / ()</p> <p style="text-align: center;">to perform calculations.</p> <p style="text-align: center;">Pick Random () to ()</p> <p style="text-align: center;">Join () ()</p> <p style="text-align: center;">Letter () of ()</p> <p style="text-align: center;">Length of ()</p> <p style="text-align: center;">() Mod () This reports the remainder after a division calculation</p> <p style="text-align: center;">Round ()</p> <p style="text-align: center;">() of ().</p>
<p style="text-align: center;">Connect This concept involves developing an understanding of how to safely connect with others.</p>	<ul style="list-style-type: none"> • Participate in class social media accounts. • Understand online risks and the age rules for sites. 	<ul style="list-style-type: none"> • Contribute to blogs that are moderated by teachers. • Give examples of the risks posed by online communications. <ul style="list-style-type: none"> • Understand the term 'copyright'. • Understand that comments made online that are hurtful or offensive are the same as bullying. • Understand how online services work. 	<ul style="list-style-type: none"> • Collaborate with others online on sites approved and moderated by teachers. <ul style="list-style-type: none"> • 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.

			<ul style="list-style-type: none"> • Understand the effect of online comments and show responsibility and sensitivity when online. • Understand how simple networks are set up and used.
Communicate This concept involves using apps to communicate one's ideas.	Use a range of applications and devices in order to communicate ideas, work and messages.	<ul style="list-style-type: none"> • Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally. 	<ul style="list-style-type: none"> • 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
Collect This concept involves developing an understanding of databases and their uses.	<ul style="list-style-type: none"> • Use simple databases to record information in areas across the curriculum. 	<ul style="list-style-type: none"> • Devise and construct databases using applications designed for this purpose in areas across the curriculum. 	<ul style="list-style-type: none"> • Select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner