

Strand	Program of Study	LI and SC	Activity Suggestions	Learning Outcome – By the end of this unit children should be able to...
ICT	use technology purposefully to create, organise, store, manipulate and retrieve digital content	<ul style="list-style-type: none"> <li>See separate sheet</li> </ul>	To be taught cross-curricularly e.g. making an animation in Literacy or making a table with animal information in Science	<ul style="list-style-type: none"> <li>See separate sheet</li> </ul>
What are Computers?	recognise common uses of information technology beyond school	<p>LI: to recognise computers and understand what they do</p> <p>I must remember:</p> <ul style="list-style-type: none"> <li>A computer is a device that performs a range of functions according to how it is programmed.</li> </ul>	<p>What is a computer? - A hunt around school looking for computers</p> <p>How does the computer know what to type? We press a button - that's its input, the computer processes which button has been pressed and which letter needs to be shown, it outputs it on the screen. Children could draw a sequence of events showing Input-process-output model</p> <p>Children look at a variety of photos of phones and discuss what they think the phone can do. Separate out the different functions a phone can do e.g. play music, play games, takes photos. Then break this down further into how does it take photos - it must have a camera.</p>	<ul style="list-style-type: none"> <li>I can recognise computers in a range of forms e.g. ipads, phones, laptops, netbooks, desktops</li> <li>I can explain that a computer responds to inputs e.g. keys being pressed causes typing</li> <li>I can discuss what might be inside devices e.g. a microphone/camera inside a mobile phone</li> </ul>
Algorithms	understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	<p>LI: to know that algorithms are a set of instructions for a computer</p> <p>I must remember:</p> <ul style="list-style-type: none"> <li>To think carefully about the order of instructions</li> <li>That I can repeat a set of instructions using a loop</li> </ul>	<p>Follow a recipe - using algorithm vocab, have some recipes that go wrong - can children debug them by finding the mistake?</p> <p>Children explain an algorithm for making something e.g. paper airplane - be pedantic, every step needs to be noted</p> <p>Children follow an algorithm for moving to a space, they need to follow in order</p> <p>Give a set of instructions children need to put them in an order. Could be picture arrow cards which children choose appropriate to movement</p> <p>If you change one of the directional sequences - what do the children think will happen?</p>	<ul style="list-style-type: none"> <li>I can explain that an algorithm is a set of instructions</li> <li>I can explain that algorithms are implemented on digital devices as programs.</li> <li>I can understand algorithms run in an order (from start to finish)</li> <li>I can sequence a set of instructions</li> <li>I can orally describe an algorithm (series of instructions) for a given task</li> </ul> <ul style="list-style-type: none"> <li>I can predict a change when I change part of my algorithm</li> </ul>
Programming	<p>create and debug simple programs</p> <p>use logical reasoning to predict the behaviour of simple programs</p>	<p>LI: To program a computer</p> <p>I must remember:</p> <ul style="list-style-type: none"> <li>A computer will only do what it has been programmed to do</li> <li>To break instructions down into small steps</li> <li>Programs run in order from start to finish</li> </ul>	<p>Children program movements with the floor robot</p> <p>Children look through the steps in a program and try and explain why it went wrong</p> <p>Ask children to get the Beebot to move in a square - discuss having to write the same thing repeatedly; there are quicker ways of doing things</p> <p>Control on-screen characters - make them move/dance</p>	<ul style="list-style-type: none"> <li>I can press buttons to make a floor robot move</li> <li>I can program a floor robot to move to a specific space e.g. Beebots</li> <li>I can find an incorrect instruction in a program</li> <li>I can understand programs run in an order (from start to finish)</li> <li>I can sequence a set of instructions</li> <li>I can predict a change when I change part of my program</li> <li>I can control an on-screen character using simple directions or arrows</li> </ul>
Digital Citizenship	use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies	<ul style="list-style-type: none"> <li>See separate sheet</li> </ul>	<p>Taught discreetly through stories, discussions circle times etc.</p> <p>Activities could include making posters and role play</p> <p>Needs to be embedded throughout all lessons as well</p>	<ul style="list-style-type: none"> <li>I can choose a sensible password including something I can remember/spell</li> <li>I can explain why I need to keep my password secret from other children</li> <li>I can show the same behaviours online as I do offline</li> <li>I can explain what to do if I find something inappropriate</li> <li>I can explain that not everything on the internet is true</li> </ul>