

# Progression for Learners with Complex needs: Programming



Working towards end of KS1 POS statements Sept 2014	P 4 - 6	P 7 & 8
<p><b>P-Scales Computing July 2014</b> (statements in <u>italics taken from Sheffield suggested additions to p-scales</u>)</p>	<ul style="list-style-type: none"> <li>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>create and debug simple programs</li> <li>use logical reasoning to predict the behaviour of simple programs</li> </ul> <p><b>P4 Pupils make selections to communicate meaning</b></p> <ul style="list-style-type: none"> <li>Make selections to generate familiar/preferred sounds or images.</li> <li>Know that certain actions produce predictable results.</li> </ul> <p><b>P5 Pupils use computer programs</b> eg to move a device to manipulate something on screen</p> <ul style="list-style-type: none"> <li>Make connections between control devices and information on screen.</li> </ul> <p><b>P6 Pupils use technology to interact with other pupils and adults</b></p> <ul style="list-style-type: none"> <li><i>Understand that you can give instructions to digital devices to make them do things and respond to simple instructions to control device and understand that you can give instructions to digital devices to make them do things, and</i></li> <li>Operate some devices independently.</li> </ul>	<p><b>P7 Pupils gather information from different sources</b></p> <ul style="list-style-type: none"> <li>Use technology to communicate meaning and express ideas in a variety of contexts</li> <li>Begin to choose equipment and software for a familiar activity</li> <li><i>Control a digital device to do a specific task.</i></li> </ul> <p><b>P8 Pupils find similar information in different formats</b></p> <ul style="list-style-type: none"> <li>Use technology to communicate and present their ideas</li> <li>Load a resource and make a choice from it</li> <li>Communicate about their use of technology.</li> <li><i>Write a short sequence of instructions (an algorithm) to move a programmable toy.</i></li> </ul>
<p><b>Learners develop understanding</b></p>	<p>Learners begin to recognise their actions can make a change within an activity.</p>	<p>Learners recognise their actions can make a change within an activity.</p>
<p><b>Learners build skills</b></p>	<p>I begin to independently operate a familiar ICT controlled device. <b>P6</b> I can respond to and use a single instruction to produce a result. P4, <b>P5</b>, <b>P6</b> I can recognise something I have done before. P4, <b>P5</b>, <b>P6</b></p>	<p>I can choose and use familiar suitable equipment for a given activity. <b>P7</b>, <b>P8</b> I can choose and use familiar appropriate software. <b>P7</b>, <b>P8</b> I make a choice from three options I have been given to reach a desired outcome. <b>P7</b>, <b>P8</b> I can follow at least two instructions to produce a result. <b>P7</b>, <b>P8</b> I can give an instruction to make something happen. <b>P7</b>, <b>P8</b> I know what I need to do next when operating familiar devices. <b>P8</b></p>
<p><b>Suggested activities</b></p>	<p>Learners operate 'push button' toys. This could be musical instruments (keyboards), torches, light up balls, pull back cars. <a href="#">ACTIVITY</a></p>	<p>Choose and use 'push button' toys or select which activities to do in a sensory room. <a href="#">ACTIVITY</a></p>



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	<p>Use cause and effect programs on a tablet or computer e.g. Poissonrouge, Animal sounds, Grandma's garden, light box, <a href="#">Glow Draw</a>, Fireworks app. Repeat an action to make something happen again.</p>	<p>Use Bee-bots and provide with single picture instruction cards for Learners to select which button to press to get it to move. Visit <a href="http://www.tes.co.uk">www.tes.co.uk</a> for <a href="#">instruction card printouts</a>. Use Bee-bots to get them to follow a simple route using a set of instructions in picture form. <a href="#">ACTIVITY</a></p>
	<p>Use a remote vehicle that moves forwards and backwards eg Thomas the Tank Engine Inclusive Technology <a href="#">ACTIVITY</a></p>	<p>Use multiple actions to control a remote control toy <a href="#">ACTIVITY</a> <a href="#">TTS Wonderbug</a> could also be used.</p>
	<p>Use <a href="#">Choose IT apps</a>, where students can select between two choices to get a desired outcome. Free ipad/android app Choose IT Maker 3 – <a href="#">Music Jukebox</a></p>	<p>Use 2DesignandMake <a href="http://www.purplemash.com">www.purplemash.com</a> to select actions to choose how to colour in model <a href="#">ACTIVITY</a></p>
	<p>Use a sensory room with interactive lighting and sound displays. If there isn't access to a sensory room you could use portable examples of the types of equipment that could be found e.g. light up balls, chimes/ rattles/bells, fibre optic lights, plasma balls, bubble machines, talking tins, handheld massagers, vibrating pillows.</p>	<p>Use multiple switch software such as <a href="http://www.northerngrid.org/content/senswitcher/index.htm">http://www.northerngrid.org/content/senswitcher/index.htm</a> to animate patterns or objects which build across the screen with three or more presses. <a href="#">ACTIVITY</a></p>
	<p>Use single switch software such as <a href="http://www.northerngrid.org/content/senswitcher/index.htm">http://www.northerngrid.org/content/senswitcher/index.htm</a> to activate an animation from press. <a href="#">ACTIVITY</a></p>	<p>Use 2Go <a href="http://www.purplemash.com">www.purplemash.com</a> or Infant Video toolkit software to follow a set of instructions to get the rocket to the planets/ car round the racetrack.</p>
	<p>Use a <a href="#">Skoog</a> to repeat individual sounds to create music.</p>	<p>Know what to do next to get something to work - turning on a CD player/ online music player and selecting a song.</p>
	<p>Use <a href="#">BEAMZ</a> from an iPad, PC or laptop for learners to use a movement to 'break the beam' to make music.</p>	<p>Turn on a computer/ tablet and select a programme of their choice – Use icons on a desktop to select a named piece of software</p>
	<p>Use two button control to move <a href="#">TTS Easi Cars</a> forwards and backwards.</p>	<p>Opportunity to use electronic devices (microwave, photocopier) and talk about what you have to do to get it to work.</p>
		<p>Develop mouse skills to make things happen using <a href="#">Inclusive Technology Mouse Skills game</a>. Use the free Bee-Bot app by TTS group <b>level 1-3</b>. Use 2Sequence <a href="http://www.purplemash.com">www.purplemash.com</a> or 2Simple Music Toolkit to select instruments to make a musical score. Use Daisy the Dinosaur App (with learners who can identify shapes of letters and have developed fine motor skills) to move jump and turn on screen. <a href="#">ACTIVITY</a> Clicker 5 and 6 grids could be used for sequencing activities such as <a href="#">getting dressed</a>, or <a href="#">making a birthday cake</a>.</p>

