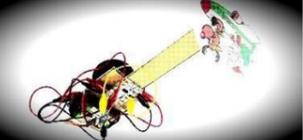




Long Term Plan- Physical Computing (Linked to the D.T Curriculum)

Year Group	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Project	 <p>See Year 1 Twinkl Scheme planning</p>	 <p>Police Lights Planning and Resources</p>	 <p>Lighthouse Project Planning and Resources</p>	 <p>Countdown Clock Project Planning and Resources</p>	 <p>Moving Eyes Planning and Resources</p>	 <p>Spinning Santa Project Planning and Resources</p>
Computing Links/Development matters links	<p>Scheme planning</p> <p>'Programming toys'</p>	<p>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</p> <p>create and debug simple programs</p> <p>use logical reasoning to predict the behaviour of simple programs</p> <p>use technology purposefully to create, organise, store, manipulate and retrieve digital content</p> <p>recognise common uses of information technology beyond school</p>	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems;</p> <p>Solve problems by decomposing them into smaller parts;</p> <p>Use sequence, selection and repetition in programs; work with various forms of input and output.</p>	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems;</p> <p>Solve problems by decomposing them into smaller parts;</p> <p>Use sequence and repetition in programs; work with various forms of input and output.</p>	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems;</p> <p>Solve problems by decomposing them into smaller parts;</p> <p>Use sequence, variables and repetition in programs; work with various forms of output.</p> <p>Design and Tech</p>	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems;</p> <p>Solve problems by decomposing them into smaller parts;</p> <p>Use sequence and repetition in programs; work with various forms of input and output.</p>
D.T Links	N.A	<p>design purposeful, functional, appealing products for themselves and other users based on design criteria</p> <p>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>evaluate their ideas and products against design criteria</p>	<p>Apply their understanding of computing to program, monitor and control their products.</p>	<p>Apply their understanding of computing to program, monitor and control their products</p>	<p>Apply their understanding of computing to program, monitor and control their products.</p>	<p>The principles of this project could be embedded into another project, designed by students.</p>
Physical Computing Resources	Beebots	<p>One Crumble with USB lead;</p> <p>A computer with the Crumble software installed;</p> <p>One battery pack with batteries (not rechargeable);</p> <p>Two sparkles;</p> <p>Eight croc-leads.</p>	<p>One Crumble with USB lead;</p> <p>A computer with the Crumble software installed;</p> <p>One battery pack with batteries (not rechargeable);</p> <p>One Sparkle;</p> <p>One toggle switch or one light-dependent resistor;</p> <p>Seven croc-leads.</p>	<p>One Crumble with USB lead;</p> <p>A computer with the Crumble software installed;</p> <p>One battery pack with batteries (not rechargeable);</p> <p>One servo (and Crumbliser);</p> <p>One buzzer;</p> <p>One push-to-make switch;</p> <p>Nine croc-leads.</p>	<p>One Crumble with USB lead;</p> <p>A computer with the Crumble software installed;</p> <p>A battery box with batteries (not rechargeable);</p> <p>5 croc-leads;</p> <p>A servo with crumbliser;</p>	<p>A Crumble controller, with micro-USB lead;</p> <p>A computer with the latest Crumble software;</p> <p>A battery pack with batteries (not rechargeable);</p> <p>A gearbox motor with wheel;</p> <p>A servo with Crumbliser;</p> <p>5 croc-leads.</p>
D.T Resources		<p>Printed template;</p> <p>Scissors;</p> <p>Coloured pens/pencils;</p> <p>Glue;</p> <p>Masking tape.</p>	<p>Card;</p> <p>A clear plastic cup;</p> <p>Tin foil;</p> <p>Scissors/craft knife;</p> <p>Glue/tape;</p> <p>Coloured pens/pencils or paint.</p>	<p>Card and pens or Printed template;</p> <p>Scissors;</p> <p>Tape;</p> <p>Glue;</p> <p>Two split-pins/paper fasteners.</p>	<p>Cardboard box around the size of your painting/picture;</p> <p>Piece of card that is at least 6cm bigger than your painting;</p> <p>paperclip or strong wire;</p> <p>Craft knife;</p> <p>Paint, palette and brush;</p> <p>Glue gun and glue;</p> <p>Scissors</p>	<p>You will also need scissors, glue, sticky pads, corrugated card and a Santa sleigh to attach to the end.</p>



Costs

Year Group	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Budget Resources	Purchased	15 starter kits cover this.	15 starter kits cover this 15 toggle switch <i>or</i> one light-dependent resistor;	One servo (and Crumbliser); One buzzer; One push-to-make switch; Extra Croc leads	15 A servo with crumbliser;	

20 Starter kits

20 buzzers

20 Toggle Switches or Light dependent resistor

20 Servo with Crumbliser

20 push switches