



Design and Technology Medium Term Plan

Year 3 DT	Autumn	Spring	Summer
Concepts	Textiles	Digital world	Structures
Overview	Pupils decorate their collars to meet their design criteria and final design, using a variety of techniques, including appliqué, pinking and adding embellishments.	Pupils write a program to initiate a flashing LED panel using the Micro:bit light sensing, as part of their eCharm	Children construct their nets to make 3D shapes to use in the construction of their castles. After creating the curtain walls of their castles, children make and attach the specific features of their designs, decorating and adding facades to complete the project
What we need to know	<p>To know that appliqué is a way of mending or decorating a textile by applying smaller pieces of fabric.</p> <p>To understand that a product's function relies on material choices.</p> <p>To identify and explain some materials and explain their aesthetic and/or functional properties.</p>	<p>To understand that in programming a 'loop' is code that repeats something again and again until stopped.</p> <p>To know that a Micro:bit is a pocket-sized, codeable computer.</p> <p>Writing a program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm.</p>	<p>To understand that wide and flat based objects are more stable.</p> <p>To understand the importance of strength and stiffness in structures.</p> <p>To know the following features of a castle: flags, towers, battlements, turrets, curtain walls, moat, drawbridge and gatehouse – and their purpose.</p> <p>To know that a facade is the front of a structure.</p>

			To understand that a castle needed to be strong and stable to withstand enemy attack.
Sequence of learning	<p>Cross-stitch and appliqué.</p> <p>Egyptian collars.</p> <p>Developing the collars.</p> <p>Finishing the collars.</p>	<p>Smart wearables.</p> <p>Programming an eCharm.</p> <p>eCharm pouches.</p> <p>Point of sale displays.</p>	<p>Features of a castle.</p> <p>Designing a castle.</p> <p>Nets and structures.</p> <p>Building a castle.</p>
Building on what we know	<p>To know that 'joining technique' means connecting two pieces of material together.</p> <p>To know that there are various temporary methods of joining fabric by using staples, glue or pins.</p> <p>To understand that different techniques for joining materials can be used for different purposes.</p> <p>To understand that a template (or fabric pattern) is used to cut out the same shape multiple times.</p> <p>To know that drawing a design idea is useful to see how an idea will look.</p>	<p>This is the first lesson in digital world and children will have varying levels of prior knowledge.</p>	<p>To know that shapes and structures with wide, flat bases or legs are the most stable.</p> <p>To understand that the shape of a structure affects its strength.</p> <p>To know that materials can be manipulated to improve strength and stiffness.</p> <p>To know that a structure is something which has been formed or made from parts.</p> <p>To know that a 'stable' structure is one which is firmly fixed and unlikely to change or move.</p> <p>To know that a 'strong' structure is one which does not break easily.</p>

			To know that a 'stiff' structure or material is one which does not bend easily.
Vocabulary	Appliqué, cross-stitch, fabric, running stitch, patch, thread, embellish, template, cotton, silk, polyester, wrinkle, tear, water-resistant, breathable, matt, shiny, biodegrade pinking	smart wearables, product design, digital revolution, technology, analogue, digital, feature, function, digital world, Micro:bit, electronic products, program, loops, initiate, simulator, control, monitor, sense, template, develop, fasten, test, user, CAD (computer-aided design), point of sale, display, badge	2D shapes, 3D shapes, castle, design criteria, evaluate, façade, feature, flag, net, recyclable, scoring, stable, strong, structure, tab, weak
Disciplinary Knowledge	<p>Designing and making a template for an Egyptian collar and applying individual design criteria.</p> <p>Following their design criteria to create an Egyptian collar.</p> <p>Selecting and cutting fabrics with ease using fabric scissors.</p> <p>Threading needles with greater independence.</p> <p>Tying knots with greater independence.</p> <p>Sewing cross stitch to decorate or join fabric.</p>	<p>Problem solving by suggesting potential features on a Micro:bit and justifying my ideas.</p> <p>Developing design ideas for a technology pouch.</p> <p>Drawing and manipulating 2D shapes, using computer-aided design, to produce a point of sale badge.</p> <p>Using a template when cutting and assembling the pouch.</p> <p>Following a list of design requirements.</p> <p>Selecting and using the appropriate tools and equipment for cutting, joining, shaping and decorating a foam pouch.</p>	<p>Designing a castle with key features to appeal to a specific person/purpose.</p> <p>Drawing and labelling a castle design using 2D shapes.</p> <p>Designing and/or decorating a castle tower on CAD software.</p> <p>Constructing a range of 3D geometric shapes using nets.</p> <p>Creating special features for individual designs.</p> <p>Making facades from a range of recycled materials.</p> <p>Evaluating own work and the work of others based on the aesthetic of the finished</p>

	<p>Decorating fabric using appliqué, beads (or other embellishments), ribbon and pinking scissors.</p> <p>Evaluating an end product.</p>	<p>Applying functional features such as using foam to create soft buttons.</p> <p>Analysing and evaluating an existing product.</p> <p>Identifying the key features of a pouch.</p>	<p>product and in comparison to the original design.</p> <p>Suggesting points for modification of the individual designs.</p>
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