Design Technology
Curriculum Overview
Year 3

Concepts	User	**Recognise** that some products meet the needs of the user more appropriately.
	Implementation	**Determine** the effectiveness throughout, **making** adjustments to improve the product.
	Innovation	**Use** research and **develop** design criteria based on the user's need.
Textiles	Learn to sew cross stitch and appliqué and then apply this to the design and creation of a cushion	
Context	Introduce two new skills to add to the pupils' repertoire: cross stitch and appliqué. Pupils apply their knowledge to the design, decoration and assembly of their own cushions or Egyptian collars..	
Design	Designing and planning the style, shape and seams of a cushion, using pattern piece paper templates and models	
Make	Sewing cross stitch and running stitch to join, complete seams, seal stuffing and add appliqué decorative elements, following specified design criteria	
Evaluate	Reviewing existing products, expressing constructive feedback on other's work	
Technical Knowledge	Understanding that fabrics can be layered for effect, recognising the appearance and technique for different stitch types, including strength to reinforce joins	
Vocabulary	Accurate, applique, cross-stitch, cushion, decorate, detail, fabric, patch, running stitch, seam, stencil, stuffing, target audience, target customer, template	
Skills application	Maths - Choosing a 2D shape for their cushion, using knowledge of length to leave correct space for stuffing, seam and running stitch length, Art and Design - Designing a theme for their applique shapes (maybe around another topic)	
Recap	Can I thread a needle? Can I form different stitches? Can I use a template?	
Structures	Learn advanced construction techniques & plan for complex arrangements of structures, continual emphasis on evaluating throughout.	
Context	Learning about the features of a castle, pupils design and make one of their own. They will also be using configurations of handmade nets and recycled materials to make towers and turrets before constructing a stable base.	
Design	Planning for manufacture, establishing and using a design criteria to help focus and evaluate their work, utilising research to inform idea generation	
Make	Using more demanding practical skills (paper engineering/paper folding techniques), including traditional and digital net creation using computer-aided-design (CAD)	
Evaluate	Reflecting on their project as it progresses, evaluating their own and other's final product	
Technical Knowledge	Applying prior understanding and increasing knowledge of paper or card nets and structures; consolidating methods and techniques to improve stability and strength	
Vocabulary	2D shapes, 3D shapes, castle, design criteria, evaluate, façade, feature, flag, net, recyclable, scoring, stable, strong, structure, tab, weak.	

Digital	Electronic charm
Context	Design, code, make and promote a Micro:bit electronic charm to use in low-light conditions, developing their understanding of programming to monitor and control products to solve a design scenario.
Design	Problem solving by suggesting potential features on a Micro: bit and justifying my ideas., Developing design ideas for a technology pouch., Drawing and manipulating 2D shapes, using computer-aided design, to, produce a point of sale badge.
Make	Using a template when cutting and assembling the pouch., Following a list of design requirements., Selecting and using the appropriate tools and equipment for cutting, joining, shaping and decorating a foam pouch., Applying functional features such as using foam to create soft buttons., Writing a program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm.
Evaluate	Analysing and evaluating an existing product., Identifying the key features of a pouch.
Vocabulary	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 stand
Skills application	Reading - considering language on sales displays and how it persuades us to buy the product, Maths - Drawing and manipulating 2D shapes, working with nets of 3D shapes (extension activity), Computing - Learning about the history of Computers and how they have developed over time into smart wearables today, writing a programme to enable an LED to flash on a button press, using CAD software to design, History - Learning about the Digital revolution and the history of computers
Recap	Do I know how to use coding software?
Skills application	Maths - Identifying and naming 2D and 3D shapes in castle structures, drawing 2D shapes, constructing nets to make 3D shapes, Computing - Using PowerPoint to create their own net (extension activity), History - Learning about the features of castles and their purpose
Recap	Y2 - constructing windmills