Year 3 DT	Autumn Castles	Spring Cushions	Summer Pneumatic Toys
Values	Friendship and Love	Respect and responsibility	Perseverance and Hope
National Curriculum	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. When designing and making, pupils should be taught to: Design • use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Make • select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities Evaluate • investigate and analyse a range of existing products • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • understand how key events and individuals in design and technology have helped shape the world Technical knowledge • apply their understanding of how to strengthen, stiffen and reinforce more complex structures • understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] • understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] • apply their understanding of computing to program, monitor and control their products		
Overview	Pupils explore the features of a castle. They then experiment with a range of 3d net structures and reinforcement techniques to finally design a castle and make one.	Pupils will develop their knowledge of a running stitch then design and make a cushion for their teddies.	Pupils will explore existing products which include pneumatics and experiment with pneumatic systems. Children will then design a toy using a design criteria, make it and evaluate it's effectiveness.

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What we need to know **Red Hill Riches**	Features of a castle include towers, turrets, battlements and gatehouses A 3D net is used to construct a 3D shape from 2D card Structures can be reinforced with additional card 3d shapes can be joined using tabs You design against a design criteria You evaluate a product against a design criteria	Two pieces of fabric can be joined together with a stitch A running stitch is one continuous stitch A cushion can be embellished with pockets and extra details	Pneumatics operate using air or gas Pneumatics make elements of a design move Pneumatic elements can be included within a toy Products can be decorated to be aesthetically pleasing
Links to prior knowledge (footprints)	To know that shapes and structures with wide, flat bases or legs are the most stable. To understand that the shape of a structure affects its strength. To know that materials can be manipulated to improve strength and stiffness. To know that a structure is something which has been formed or made from parts. To know that a 'stable' structure is one which is firmly fixed and unlikely to change or move. To know that a 'strong' structure is one which does not break easily. To know that a 'stiff' structure or material is one which does not bend easily.	To know how to thread a needle To know a simple running stitch	To know that 'joining technique' means connecting two products together. To understand that different techniques for joining materials can be used for different purposes. To know that drawing a design idea is useful to see how an idea will look.
Vocabulary	2D shapes, 3D shapes, castle, design criteria, evaluate, façade, feature, flag, net, recyclable, scoring, stable, strong, structure, tab, weak	Stitch, fabric, embellish, continuous. Cushion, aesthetics	Pneumatic, techniques, operate,

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Excellence **Enjoyment** **Everyone** **Everything**	Excellence: Understanding the significance of a design brief and exploring how textiles can be used to create beautiful and useful items. Enjoyment: Each lesson will be engaging, creative and enjoyable. Everyone: Each lesson will be inclusive and accessible for all children, regardless of ability. Everything: Every piece of work will be celebrated, every lesson.	Excellence: Understanding the significance of a design brief and exploring what makes a successful and high quality cushion Enjoyment: Each lesson will be engaging, creative and enjoyable. Everyone: Each lesson will be inclusive and accessible for all children, regardless of ability. Everything: Every piece of work will be celebrated, every lesson.	Excellence: Understanding the significance of a design brief and exploring what makes a successful and high quality structures. Enjoyment: Each lesson will be engaging, creative and enjoyable. Everyone: Each lesson will be inclusive and accessible for all children, regardless of ability. Everything: Every piece of work will be celebrated, every lesson.
Disciplinary Knowledge	Designing a castle with key features to appeal to a specific person/purpose. Drawing and labelling a castle design using 3D shapes. Constructing a range of 3D geometric shapes using nets. Creating special features for individual designs. Evaluating own work and the work of others based on the aesthetic of the finished product and in comparison to the original design.	Designing a cushion in accordance with a design criteria Marking and cutting fabric accurately, in accordance with a design. Sewing a strong running stitch, making small, neat stitches and following the edge. Decorating a cushion – attaching objects using thread and adding a secure fastening. Learning different decorative stitches. Evaluating work continually as it is created.	Designing and making a pneumatic toy and applying individual design criteria. Following their design criteria Selecting and creating a pneumatic device Decorating a product to be aesthetically pleasing Evaluating an end product. Suggesting points for modification of the individual designs.