

Year 3 National Curriculum objectives: Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art.

<p>Year 3 Areas of study: Constructing a Castle Pneumatic Toys</p>	<p>Design: Designing a castle with key features to appeal to a specific person/purpose • Drawing and labelling a castle design using 2D shapes, labelling: -the 3D shapes that will create the features - materials needed and colours • Designing and/or decorating a castle tower on CAD software. Designing a toy which uses a pneumatic system • Developing design criteria from a design brief • Generating ideas using thumbnail sketches and exploded diagrams • Learning that different types of drawings are used in design to explain ideas clearly.</p>
<p>Make: Constructing a range of 3D geometric shapes using nets • Creating special features for individual designs • Making facades from a range of recycled materials. Creating a pneumatic system to create a desired motion • Building secure housing for a pneumatic system • Using syringes and balloons to create different types of pneumatic systems to make a functional and appealing pneumatic toy • Selecting materials due to their functional and aesthetic characteristics • Manipulating materials to create different effects by cutting, creasing, folding, weaving.</p>	<p>Evaluate: Evaluating own work and the work of others based on the aesthetic of the finished product and in comparison, to the original design • Suggesting points for modification of the individual designs. Using the views of others to improve designs • Testing and modifying the outcome, suggesting improvements • Understanding the purpose of exploded-diagrams through the eyes of a designer and their client.</p>
<p>Technical: To understand that wide and flat based objects are more stable • To understand the importance of strength and stiffness in structures. To understand how pneumatic systems work • To understand that pneumatic systems can be used as part of a mechanism • To know that pneumatic systems operate by drawing in, releasing and compressing air.</p>	<p>Additional: To know the following features of a castle: flags, towers, battlements, turrets, curtain walls, moat, drawbridge and gatehouse - and their purpose • To know that a façade is the front of a structure • To understand that a castle needed to be strong and stable to withstand enemy attack • To know that a paper net is a flat 2D shape that can become a 3D shape once assembled • To know that a design specification is a list of success criteria for a product. To understand how sketches, drawings and diagrams can be used to communicate design ideas • To know that exploded-diagrams are used to show how different parts of a product fit together • To know that thumbnail sketches are small drawings to get ideas down on paper quickly.</p>

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<p>Year 3 Areas of study: Eating Seasonally Cushions</p>	<p>Design:</p> <ul style="list-style-type: none"> • Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish. <p>Designing and making a template from an existing cushion and applying individual design criteria.</p>
<p>Make: Knowing how to prepare themselves and a work space to cook safely in, learning the basic rules to avoid food contamination • Following the instructions within a recipe. Following design criteria to create a cushion • Selecting and cutting fabrics with ease using fabric scissors • Threading needles with greater independence • Tying knots with greater independence • Sewing cross stitch to join fabric • Decorating fabric using appliqué • Completing design ideas with stuffing and sewing the edges.</p>	<p>Evaluate: Establishing and using design criteria to help test and review dishes • Describing the benefits of seasonal fruits and vegetables and the impact on the environment • Suggesting points for improvement when making a seasonal tart. Evaluating an end product and thinking of other ways in which to create similar items.</p>
<p>Knowledge: To know that not all fruits and vegetables can be grown in the UK • To know that climate affects food growth • To know that vegetables and fruit grow in certain seasons • To know that cooking instructions are known as a 'recipe' • To know that imported food is food which has been brought into the country • To know that exported food is food which has been sent to another country. • To understand that imported foods travel from far away and this can negatively impact the environment • To know that each fruit and vegetable gives us nutritional benefits because they contain vitamins, minerals and fibre • To understand that vitamins, minerals and fibre are important for energy, growth and maintaining health • To know safety rules for using, storing and cleaning a knife safely • To know that similar coloured fruits and vegetables often have similar nutritional benefits.</p> <p>To know that applique is a way of mending or decorating a textile by applying smaller pieces of fabric • To know that when two edges of fabric have been joined together it is called a seam • To know that it is important to leave space on the fabric for the seam • To understand that some products are turned inside out after sewing so the stitching is hidden.</p>	

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