

## Excalibur Design and Technology Curriculum

### Year 5

#### Design and Technology Intent Year 5

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. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

## Design and Technology Implementation Year 5

| Skills   | Knowledge   |
|--|---|
| <p>Pupils will be taught to use the following practical methods and skills:</p> <p><u>Developing, Planning and Communicating Ideas</u></p> <ul style="list-style-type: none"><li>• Generate ideas through brainstorming and identify a purpose for their product</li><li>• Draw up a specification for their design</li><li>• Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail</li><li>• Use results of investigations, information sources, including ICT when developing design ideas</li></ul> <p><u>Working with tools, equipment, materials and components to make quality products (Inc food)</u></p> <ul style="list-style-type: none"><li>• Select appropriate materials, tools and techniques</li><li>• Measure and mark out accurately</li><li>• Use skills in using different tools and equipment safely and accurately</li><li>• Weigh and measure accurately (time, dry ingredients, liquids)</li><li>• Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens</li><li>• Cut and join with accuracy to ensure a good-quality finish to the product</li></ul> <p><u>Evaluating processes and Products</u></p> | <p>The children will learn about:</p> <p><u>Food</u></p> <p>Focus: Celebrating Culture and Seasonality</p> <p>Project: WW2 Rationing Stew / Lebkuchen Cookies German Christmas Cookies</p> <ul style="list-style-type: none"><li>• I understand the main food groups and the different nutrients that are important for health.</li><li>• I understand how a variety of ingredients are grown, reared, caught and processed to make them safe and palatable / tasty to eat.</li><li>• I can select appropriate ingredients and use a wide range of techniques to combine them.</li></ul> <p><u>Textiles</u></p> <p>Focus: Combining Different Fabric Shapes</p> <p>Project: Pencil Case with Zipper</p> <ul style="list-style-type: none"><li>• I can use my research into existing products and my market research to inform the design of my own innovative product.</li><li>• I can create prototypes to show my ideas.</li><li>• I can make careful and precise measurements so that joins, holes and openings are in exactly the right place.</li><li>• I can produce step by step plans to guide my making, demonstrating that I can apply my knowledge of different materials, tools and techniques.</li><li>• I can make detailed evaluations of existing products and my own considering the view of others to improve my work.</li><li>• I can build more complex 3D structures and apply my knowledge of strengthening techniques to make them stronger and more stable.</li></ul> <p><u>Mechanical Systems</u></p> <p>Focus: Pulleys or Gears</p> <p>Project: Moving Toys</p> |

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Evaluate a product against the original design specification</li> <li>• Evaluate it personally and seek evaluation from others</li> </ul> | <ul style="list-style-type: none"> <li>• I can use my research into existing products and my market research to inform the design of my own innovative product.</li> <li>• I can create prototypes to show my ideas.</li> <li>• I can make careful and precise measurements so that joins, holes and openings are in exactly the right place.</li> <li>• I can produce step by step plans to guide my making, demonstrating that I can apply my knowledge of different materials, tools and techniques.</li> <li>• I can make detailed evaluations of existing products and my own considering the view of others to improve my work.</li> <li>• I can build more complex 3D structures and apply my knowledge of strengthening techniques to make them stronger and more stable.</li> <li>• I understand and how to use more complex mechanical and electrical systems</li> </ul> |
|--|--|

### Design and Technology Vocabulary Year 5

| <p style="text-align: center;"><b>Food</b><br/><i>Celebrating Culture and Seasonality</i></p>  | <p style="text-align: center;"><b>Textiles</b><br/><i>Combining Different Fabric Shapes</i></p>  | <p style="text-align: center;"><b>Mechanical Systems</b><br/><i>Pulleys or Gears</i></p>   |
|--|--|--|
| <p>Ingredients, yeast, dough, wholemeal, unleavened, baking soda, spice, herbs, carbohydrate, sugar, fat, protein, vitamins, nutrients, gluten, allergy, intolerance, savoury, seasonality, pour, mix, kneed, whisk, beat, combine, fold, rubbing in</p> | <p>Specification, tacking, working drawing, clasp, pinking shears, design criteria, hem, reinforce, stem stitch, satin stitch, tie dye</p> | <p>Pulley, gear, driver, follower, rotation, motor, belt, spindle, motor, circuit, switch, ratio, transmit, annotated drawings, exploded diagrams, functionality</p> |