

## **The aims of the National Curriculum for Design & Technology are:**

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook.

## **Our vision at Brockenhurst C of E Primary School:**

Design and Technology is an inspiring 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. Our children are taught to select and use appropriate tools safely and effectively to make a product. In all areas of Design and Technology the children are encouraged to consider the effectiveness of their designs and requirements of the product. Every child will have the opportunity to learn and extend their understanding, experience and application in the use of technology, including I.C.T, in as wide a variety of situations as possible

Our Design and Technology curriculum enables the children to gain Knowledge and understanding of materials, Structures, controls and mechanisms. It also provides them with opportunities to develop their design, enquiry, scientific and mathematical skills.

| Progression of Skills        |                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                     |                                                                                  |                                                                                                                                                                                                                                          |                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                          |
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|                              | Pre-School                                                                                                                                                         | Reception                                                                                                                                                                                                                                                                                                                           | Year 1                                                                           | Years 2                                                                                                                                                                                                                                  | Years 3                                                                                                                                                                                                          | Year 4                                                                                                                                                                                                                                                                                                                                                                      | Year 5                                                                                                                                                                                                                                                                                                                               | Year 6                                                                                                                                                                                                                                                                                   |
| <b>Cooking and Nutrition</b> | <p>Different foods belong to different groups.</p> <p>Healthy foods help our bodies work well.</p> <p>Recipes tell us what ingredients we need and what to do.</p> | <p>Recognise that food is needed to help us grow and stay healthy. Identify some healthy foods (e.g., fruits, vegetables, milk, water). Talk about foods they like and dislike. Know that food comes from different sources (plants and animals). Understand basic hygiene routines, such as washing hands before handling food</p> | <ul style="list-style-type: none"> <li>• cut food safely</li> </ul>              | <ul style="list-style-type: none"> <li>• understand the need for a variety of food in a diet</li> <li>• group familiar food groups e.g. fruit and vegetables</li> <li>• measure and weigh food items – using informal methods</li> </ul> | <ul style="list-style-type: none"> <li>• say what to do to be hygienic and safe</li> <li>• begin to be able to read and understand food labels</li> <li>• measure and weigh ingredients appropriately</li> </ul> | <ul style="list-style-type: none"> <li>• understand what makes a healthy and balanced diet and that different foods and drinks provide different substances the body needs to be healthy and active</li> <li>• understand seasonality and know how a variety of ingredients are grown, reared, caught and processed to make them safe and palatable/tasty to eat</li> </ul> | <ul style="list-style-type: none"> <li>• know appropriate portion sizes and the importance of not skipping meals, including breakfast</li> <li>• understand some of the basic processes to get food from farm to plate</li> <li>• taste a range of ingredients and food items to develop a food vocabulary when designing</li> </ul> | <ul style="list-style-type: none"> <li>• understand the main food groups and the different nutrients that are important for health</li> <li>• use information on food labels to inform choices</li> <li>• join and combine ingredients appropriately e.g. beating, rubbing in</li> </ul> |
| <b>Processes</b>             | Construct with a clear                                                                                                                                             | Design purposeful                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>• generate ideas and recognise</li> </ul> | <ul style="list-style-type: none"> <li>• design purposeful, functional,</li> </ul>                                                                                                                                                       | <ul style="list-style-type: none"> <li>• demonstrate that his/her design meets a</li> </ul>                                                                                                                      | <ul style="list-style-type: none"> <li>• investigate similar products to</li> </ul>                                                                                                                                                                                                                                                                                         | use research and develop design criteria                                                                                                                                                                                                                                                                                             | use market research to inform plans                                                                                                                                                                                                                                                      |

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| <p>purpose in mind. Select appropriate materials, tools and techniques. Cut, join, shape and assemble materials safely. Use a range of small tools with increasing control. Explore colour, texture, form and function when creating products. Adapt and improve their work during the making process. Talk about and</p> | <p>products for users. Follow a simple design–make–evaluate process. Use a wider range of tools and materials. Develop skills in structures, mechanisms, textiles and food technology.</p> | <p>characteristics of familiar products</p> <ul style="list-style-type: none"> <li>• use pictures and words to describe what he/she wants to do</li> <li>• select from and use a range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining and finishing</li> <li>• choose materials and explain why they are being used</li> <li>• explore and evaluate a range of existing products</li> <li>• build structures, exploring how they can be made stronger, stiffer and</li> </ul> | <p>appealing products for himself/herself and other users based on design criteria</p> <ul style="list-style-type: none"> <li>• generate, develop, model and communicate his/her ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</li> <li>• select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to</li> </ul> | <p>range of requirements</p> <ul style="list-style-type: none"> <li>• complete a plan that shows the order and also what equipment and tools he/she needs</li> <li>• use equipment and tools accurately</li> <li>• explain how he/she has selected appropriate materials and components to create a finished product that will be of good quality</li> <li>• investigate and analyse a range of existing products</li> <li>• strengthen frames using diagonal struts</li> </ul> | <p>the one to be made to give starting points for a design</p> <ul style="list-style-type: none"> <li>• generate alternative plans and expound on the good points and drawbacks of his/her original design</li> <li>• select from and use a wider range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining and finishing, accurately</li> <li>• explain how his/her choices of materials and components have contributed to the aesthetic</li> </ul> | <p>to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups</p> <ul style="list-style-type: none"> <li>• create prototypes to show his/her ideas</li> <li>• use tools and materials precisely</li> <li>• select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional</li> </ul> | <ul style="list-style-type: none"> <li>• generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer aided design</li> <li>• make modifications to the original design as he/she proceeds</li> <li>• cut and join with accuracy to ensure a high-quality finish to his/her product</li> <li>• understand how key events and individuals in</li> </ul> |
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|  | <p>evaluate their creations, explaining how they made them. Explore how everyday objects and simple mechanisms work.</p> |  | <p>more stable • use levers and sliders</p> | <p>their characteristics</p> <ul style="list-style-type: none"> <li>• choose materials and explain why they are being used depending on their characteristics</li> <li>• evaluate his/her ideas and products against design criteria</li> <li>• join materials together as part of a moving structure</li> <li>• explore and use mechanisms e.g. levers, sliders, wheels and axles, in his/her product</li> </ul> | <ul style="list-style-type: none"> <li>• use a simple circuit in his/her product</li> </ul> | <p>qualities of his/her finished product</p> <ul style="list-style-type: none"> <li>• consider how the finished product might be improved and how well it meets the needs of the user</li> <li>• join and combine materials and components accurately in temporary and permanent way</li> <li>• understand and use mechanical systems in his/her products e.g. gears, pulleys, cams, levers and linkages</li> </ul> | <p>properties and aesthetic qualities</p> <ul style="list-style-type: none"> <li>• evaluate his/her ideas and products against his/her own design criteria and consider the views of others to improve his/her work</li> <li>• apply his/her understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>• understand and use electrical systems in his/her products e.g. series circuits incorporating switches</li> </ul> | <p>design and technology have helped shape the world</p> <ul style="list-style-type: none"> <li>• construct products using different joining techniques</li> <li>• apply his/her understanding of computing to program, monitor and control his/her product</li> </ul> |
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