

Design and Technology Objectives by Year Group

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Designing	<ol style="list-style-type: none"> To design a product to fit a specific purpose. To communicate ideas for a specific design through discussion. To draw a design in 2D. 	<ol style="list-style-type: none"> To design a product to fit a purpose based on a real-world design criteria. To use a template to communicate a design. To experiment with ideas using 'mock ups'. To discuss and explain simple design ideas and decisions. 	<ol style="list-style-type: none"> To investigate, through research, similar products within a particular functional genre, and list key features. To understand and describe in simple form the purpose of products to be made. To explain and list stylistic features in a design which will allow it to appeal to specific groups and types of users. 	<ol style="list-style-type: none"> To research in detail the needs and wants of users for a pre-specified product, and present them to others. To create a design criteria from the above. To use prototypes to generate, model, and communicate suggestions for a design solution. To communicate ideas in simple 3D diagrams, viewed from different angles. 	<ol style="list-style-type: none"> To research in detail the needs and wants of users for a pre-specified product, and present them to others as 2D and 3D diagrams (hand drawn or computer). To research information about the requirements of users using discussions, surveys and interviews. To develop a range of design criteria that inform ideas and develop a more complex design. To use prototypes to generate, model, and communicate suggestions for a design solution. To communicate ideas in simple 3D diagrams, viewed from different angles. 	<ol style="list-style-type: none"> To use annotated sketches, 2D cross-sectional drawings and exploded diagrams to generate, develop, model and communicate ideas to others. To use computer aided-design (CAD) to generate, develop and model a design based on specific scaling and size requirements. To create a Gantt time-line of actions and manufacturing requirements based on a pre-set time-scale for the creation of a product.
Making	<ol style="list-style-type: none"> To use 2 different tools to cut and join. To use 2 different tools to make a completed end product. To select and use tools safely to make a product. To describe the characteristics of different materials. To select appropriate materials for a given task. 	<ol style="list-style-type: none"> To use 6 different tools to cut, join, shape and finish. To select appropriate materials to make a product. To discuss and evaluate why certain materials are more suitable for different purposes. 	<ol style="list-style-type: none"> To successfully select from a range of common tools and equipment to undertake a specific task. To follow simple procedures that help ensure safety. To follow simple instructions in pictorial or textual format. To measure, mark out, cut and shape. With age appropriate accuracy, join materials and components. To apply appropriate finishing techniques to create a final product, with aesthetic and practical appeal. 	<ol style="list-style-type: none"> To create specifications of equipment needed to make a product. To measure, mark out, cut and shape a range of materials. To assemble, join and combine a range of materials. To apply a range of more advanced finishing techniques to increase the function and appeal of a product. To follow complex procedures for safety and hygiene. 	<ol style="list-style-type: none"> To create a list of tools and equipment needed for the specific technique to be used. To use, with increasing accuracy, skills and techniques to cut and shape materials and components. To use, with increasing accuracy, skills and techniques to join materials and components. To justify choices of materials and components based on functional properties, and stylistic and aesthetic properties. To create and record safety procedures for the use of specific equipment. 	<ol style="list-style-type: none"> To create a list of tools and equipment needed for the specific technique to be used. To use, with increasing accuracy, skills and techniques to create, form, mould, cut and shape materials and components. To use, with increasing accuracy, skills and techniques to join materials and components with different adhesives. To justify choices of materials & components based on physical stylistic and aesthetic properties. To create and record safety procedures for the use of specific equipment.

Evaluating	<p>9. To explore the positive and negative features of specific products.</p> <p>10. To suggest improvements to a specific product.</p> <p>11. To describe what a design criteria is.</p>	<p>8. To explore the features of 3 different products designed to do the same job, and discuss their relative suitability for the given purpose.</p> <p>9. To formulate a design criteria for a specific task and present aurally.</p>	<p>10. To investigate products and give an opinion on the likes and dislikes of finished products including the likely the perspective of different individuals.</p> <p>11. To analyse products by collating opinions from others on likes and dislikes of finished products.</p> <p>12. To consider simple ways to improve own designs to take into account the feedback of others.</p>	<p>10. To analyse and conceptually de-construct selected products, commenting with opinions.</p> <p>11. To create an annotated diagram of key features of a design.</p>	<p>11. To investigate and analyse a range of existing products, expressing personal likes and dislikes.</p> <p>12. To evaluate in increasing detail design ideas and final products comparing them with the original design specification.</p> <p>13. To learn and understand how key events in d&t have shaped the world.</p>	<p>9. To investigate and analyse a range of existing products, expressing personal likes and dislikes.</p> <p>10. To evaluate in increasing detail design ideas & final products comparing them with original design spec.</p> <p>11. To learn and understand how key events in d&t have shaped the world.</p>
Technical Knowledge	<p>12. To build a 3D structure.</p> <p>13. To understand what a 'mechanism' is.</p> <p>14. To make a lever.</p> <p>15. To make a slider.</p> <p>16. To recognise that shapes have different strengths.</p>	<p>10. To build a stable structure using triangles and a firm foundation.</p> <p>11. To describe how structures can be made stronger through bracing and alternative material choices.</p> <p>12. To make a lever and a pulley and explore the effectiveness of different materials.</p> <p>13. To make a slider and explore the effectiveness of different materials.</p> <p>14. To make wheels and axles and explore the effectiveness of different materials.</p> <p>15. To name examples of useful mechanisms.</p> <p>16. To design a new mechanism by combining levers, sliders, pulleys and wheels.</p>	<p>13. To deploy classic building techniques to strengthen simple structures.</p> <p>14. To identify and name simple mechanical systems used in products.</p> <p>15. To understand electrical systems used in products, and can connect a simple (safe) circuit with motorised parts.</p> <p>16. To use an understanding of control technology to control designs.</p>	<p>12. To predict and test how to strengthen structures using different methods.</p> <p>13. To understand and use simple mechanical systems in products.</p> <p>14. To design and construct simple electrical systems in products.</p> <p>15. To produce a menu of utensils and ingredients for a specific cooking task.</p> <p>16. To understand and apply the basic principles of a healthy & varied diet.</p>	<p>14. To use knowledge and understanding of a range of methods to strengthen ever increasingly complex structures.</p> <p>15. To understand, create and use a wide range of mechanical systems in more complex products.</p> <p>16. To understand, create and use a wide range of electrical systems in more complex products.</p> <p>17. To apply an understanding of computer control and monitoring monitor to control a range of designs.</p>	<p>12. To use knowledge and understanding of a range of methods to strengthen ever increasingly complex structures.</p> <p>13. To understand, create and use a wide range of mechanical systems in more complex products.</p> <p>14. To understand, create and use a wide range of electrical systems in more complex products.</p> <p>15. To apply an understanding of computing to program, monitor and control accurately a range of products.</p>
Cooking and Nutrition	<p>17. To identify healthy and unhealthy foods.</p> <p>18. To prepare savoury foods safely and hygienically.</p> <p>19. To understand where food comes from (fruits, vegetables, meat)</p>	<p>17. To know what a healthy and varied diet is.</p> <p>18. To prepare and cook savoury dishes safely and hygienically.</p> <p>19. To understand where food comes from (fruits, vegetables, meat).</p>	<p>17. To make suitable selection of tools and equipment for cooking specific food items.</p> <p>18. To know what a healthy and varied diet is.</p> <p>19. To prepare and cook savoury dishes safely and hygienically.</p> <p>20. To mix ingredients for baking.</p> <p>21. To understand and describe the seasonality of some foods, and explain how some foods are still available year round.</p>	<p>17. To prepare and cook a range of simple dishes safely and hygienically.</p> <p>18. To chop and mix safely.</p> <p>19. To know where and how basic ingredients are created or grown.</p>	<p>18. To produce a menu of utensils and ingredients for a specific cooking task.</p> <p>19. To understand & apply basic principles of a healthy & varied diet.</p> <p>20. To prepare and cook a range of more complex dishes safely and hygienically.</p> <p>21. To chop,mix,spread, knead & bake safely.</p> <p>22. To know where & how a variety of ingredients are artificially made, grown, reared, caught and processed.</p>	<p>Year 5 plus:</p> <p>16. To chop, slice, grate, peel, mix, spread, knead & bake safely.</p>