

Design and Technology Autumn Spring Summer				
National Curriculum Objectives Key Stage 1		National Curriculum Objectives Key Stage 2		
<p>Design</p> <ul style="list-style-type: none"> Design purposeful, functional, appealing products for themselves and others based on design criteria Generate, develop, model and communicate their ideas through talking, drawing, templates and ICT. <p>Make</p> <ul style="list-style-type: none"> Select from and use a range of tools and equipment to perform practical tasks Select from and use a wide range of materials and components <p>Evaluate</p> <ul style="list-style-type: none"> Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria <p>Technical knowledge</p> <ul style="list-style-type: none"> Build structures exploring how they can be made stronger and more stable Explore and use mechanisms in their products <p>Cooking and nutrition</p> <ul style="list-style-type: none"> Use the basic principles of a healthy and varied diet to prepare dishes Understand where food comes from 		<p>Design</p> <ul style="list-style-type: none"> Use research and develop design criteria to inform the design of innovative products that are fit for purpose for particular groups. Generate, develop and communicate ideas through discussion, sketches, diagrams <p>Make</p> <ul style="list-style-type: none"> Select from and use a wider range of tools and equipment to perform practical tasks accurately Select from and use a wider range of materials and components according to their functional properties <p>Evaluate</p> <ul style="list-style-type: none"> Investigate and analyse a range of existing products Evaluate their ideas and products against their own criteria and consider others' views Understand how key events and individuals in DT have shaped the world <p>Technical Knowledge</p> <ul style="list-style-type: none"> Apply understanding of how to strengthen and reinforce structures. Understand and use mechanical systems in their products Understand electrical systems in their products Apply understanding of computing to programme and control their products <p>Cooking and nutrition</p> <ul style="list-style-type: none"> Understand and apply the principles of a healthy and varied diet Prepare and cook a variety of predominantly savoury dishes Understand seasonality and how ingredients are grown, reared, caught and processed 		
Essential Areas of Learning	End of Year 1	End of Year 3	End of Year 5	End of Year 6
	Completed in both cycles	Key Stage 1 N.C. (Cycle 1) Key Stage 2 N.C. (Cycle 2)	Completed in both cycles	Completed in both cycles
To master practical skills	1. Food	1. Design a healthy snack for snack time (fruit) 2. Cut food safely 3. Assemble ingredients	1. Name the basic principles of a healthy and varied diet 2. Use different cutting techniques safely and peel/grate food items safely 3. Measure and weigh ingredients 4. Map where our food comes from 5. Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed	1. Apply principles of a healthy and balanced diet to create a meal 2. Measure ingredients to the nearest gram accurately 3. Follow a recipe

2. Materials	<ol style="list-style-type: none"> 1. Cut materials with scissors 2. Estimate the measurement needed 3. Try different shaping techniques such as tearing, cutting, folding and curling 4. Choose the best method to join materials e.g. glue, tape 	<ol style="list-style-type: none"> 1. Cut materials safely using tools provided 2. Measure and mark out to the nearest centimetre 3. Demonstrate a range of cutting and shaping techniques 4. Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen) 	<ol style="list-style-type: none"> 1. Cut materials accurately and safely by selecting appropriate tools. 2. Measure and mark out to the nearest millimetre 3. Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). 4. Select appropriate joining techniques 	<ol style="list-style-type: none"> 1. Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape) 2. Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper)
3. Electricals and electronics		<ol style="list-style-type: none"> 1. Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage). 	<ol style="list-style-type: none"> 1. Use electrical systems in products, such as series and/or parallel circuits. 	<ol style="list-style-type: none"> 1. Understand and use electrical systems in products, incorporating a range of components such as buzzers and motors.
4. Computing		<ol style="list-style-type: none"> 1. Model designs using software. 	<ol style="list-style-type: none"> 1. Control and monitor models using software designed for this purpose. 	<ol style="list-style-type: none"> 1. Write code to control and monitor models or products.

	5. Construction	1. Use paper and card to strengthen e.g. by folding, layering	1. Practise drilling, screwing, gluing and nailing materials to make and strengthen products	1. Choose suitable techniques to construct products or to repair items 2. Strengthen materials using suitable techniques	1. Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filling and sanding) 2. Apply understanding of how to strengthen, stiffen and reinforce more complex structures.
	6. Mechanics	1. Create products using sliders	1. Create products using simple levers, wheels and axles	1. Use scientific knowledge of forces to choose appropriate mechanisms for a product such as levers, linkages winding mechanisms, pulleys and gears	
7. To design and make, taking inspiration from design throughout history	1. Design products 2. Record ideas by talking or with drawing 3. Make a product 4. Use tools	1. Design products with a clear purpose and an intended user. Use software to design 2. Develop their ideas through talking, drawing, templates, mock-ups and, where appropriate, ICT 3. Make products, refining the design as work progresses. 4. Select from and use a range of tools and equipment to perform practical tasks such as cutting, shaping, joining and finishing. 5. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.	1. Design functional, appealing products based on design criteria that are fit for purpose and designed with the user in mind 2. Identify some of the great designers to generate ideas for designs 3. Develop ideas through the use of discussion, annotated sketches and computer-aided design 4. Improve upon existing designs, giving reasons for choices 5. Make products by working efficiently and carefully selecting materials	1. Design functional, appealing products based on design criteria that are fit for purpose and designed with the user in mind 2. Identify some of the great designers to generate ideas for designs 3. Develop ideas through the use of discussion, annotated sketches and computer-aided design 4. Improve upon existing designs, giving reasons for choices 5. Make products by working efficiently and carefully selecting materials	1. Investigate and analyse a range of existing products 2. Evaluate ideas and products against own design criteria and consider the views of others to improve work 3. Understand how key events and individuals in design and technology have helped shape the world 4. Make products through stages of prototypes, making continual refinements 5. Ensure products have a high quality finish, using art skills where appropriate

8. To evaluate	1. Explore objects and designs to identify likes and dislikes	1. Suggest improvements to existing designs. Explore existing products 2. Evaluate own products against design criteria	1. Disassemble existing products to understand how they work. 2. Refine product and techniques as work progresses, continually evaluating the product design	1. Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose and designed with the user in mind 2. Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. 3. Develop ideas e.g. through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
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Impact					
Pupils who have <u>not</u> met the National Curriculum Statements for the cycle objectives taught so far <i>(please reference appropriate objective numbers which have not been met e.g. objective 2.4)</i>		Pupils who have met the National Curriculum Statements for the cycle objectives taught so far		Pupils who consistently work beyond cycle objectives taught so far	
Cycle 1	Cycle 2	Cycle 1	Cycle 2	Cycle 1	Cycle 2