

Design and Technology- skills progression

- These milestones outline the skills that the pupils will develop through the school in order to secure the key knowledge outlined on the enhanced long term subject plans.
 - Long term planning ensures that these are developed at regular intervals within each class, meaning that they will be secure by the time the pupils transition to the next class
- Pupils with SEND, through carefully planned support and resources, are expected to achieve these in line with their peers.

Area	Class 1 Skills Milestones	Class 2 Skills Milestones	Class 3 Skills Milestones
Food	<ul style="list-style-type: none"> • Cut, peel or grate ingredients safely and hygienically. • Measure or weigh using measuring cups or electronic scales. • Assemble or cook ingredients. 	<ul style="list-style-type: none"> • Prepare ingredients hygienically using appropriate utensils. • Measure ingredients to the nearest gram • Follow a recipe. • Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking). 	<ul style="list-style-type: none"> • Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms). • Measure accurately/calculate ratios of ingredients to scale up/down from a recipe • Demonstrate a range of baking and cooking techniques. • Create and refine recipes, including ingredients, methods, cooking times and temperatures.
Materials	<ul style="list-style-type: none"> • Cut materials safely using tools provided • Measure and mark out. • Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). • Demonstrate a range of joining techniques 	<ul style="list-style-type: none"> • Cut materials accurately and safely by selecting appropriate tools. • Measure and mark out accurately. • Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (eg slots/cut outs). • Select appropriate joining techniques. 	<ul style="list-style-type: none"> • 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). • 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).
Textiles	<ul style="list-style-type: none"> • Shape textiles using templates. • Join textiles using running stitch. • Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing). 	<ul style="list-style-type: none"> • Understand the need for a seam allowance. • Join textiles with appropriate stitching. • Select the most appropriate techniques to decorate textiles. • explain what a template is and demonstrate how to use one. 	<ul style="list-style-type: none"> • Create objects (such as a cushion) that employ a seam allowance. • Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration). • Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion).
Electricals and electronics	<ul style="list-style-type: none"> • Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage) 	<ul style="list-style-type: none"> • Explore where sensors are used to monitor surroundings • Suggest where these might also be used to prepare for natural events or man-made events 	<ul style="list-style-type: none"> • Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips).
Computing	<ul style="list-style-type: none"> • Model designs using software. 	<ul style="list-style-type: none"> • model and evaluate designs using software designed for this purpose. 	<ul style="list-style-type: none"> • Develop more detailed, scale models using CAD software. Compare and contrast the effectiveness of programs used • Write code to control and monitor models or products.
Construction	<ul style="list-style-type: none"> • Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products. 	<ul style="list-style-type: none"> • Choose suitable techniques to construct products or to repair items. • Strengthen materials using suitable techniques 	<ul style="list-style-type: none"> • Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding).
Mechanics	<ul style="list-style-type: none"> • Create products using levers, wheels and winding mechanisms. 	<ul style="list-style-type: none"> • Use appropriate mechanisms for a product (such as axles, levers and linkages) 	<ul style="list-style-type: none"> • Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, pulleys and gears). • Use innovative combinations of electronics/computing/mechanics in product design
Design, make, evaluate and improve	<ul style="list-style-type: none"> • Design with purpose • Make products, refining the design • Explain what is good about the finished design • Suggest something which could be improved. • Use software to design. 	<ul style="list-style-type: none"> • Design products that have a clear purpose and an intended user. • Refine work and techniques as work progresses, continually evaluating the product design. • Evaluate finished products to see if they meet the design brief • Use software to design and represent designs. 	<ul style="list-style-type: none"> • Design with the user in mind, motivated by the service a product will offer • Make products through stages of prototypes, making continual refinements. • Ensure products have a high quality finish, using art skills where appropriate. • Use prototypes, diagrams or computer aided designs to represent designs. • Evaluate own and others' designs to suggest where the design brief has been met or where further refinements are required
Take inspiration from design throughout history	<ul style="list-style-type: none"> • Explore objects and designs to identify likes and dislikes of the designs. • Suggest improvements to existing designs • Explore how products have been created 	<ul style="list-style-type: none"> • Identify some of the great designers in all of the areas of study to generate ideas for designs. • Improve upon existing designs, giving reasons for choices. • Disassemble products to understand how they work. 	<ul style="list-style-type: none"> • Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. • Create innovative designs that improve upon existing products. • Evaluate the design of products so as to suggest improvements to the user experience.

