



CHUS DT Progression of Knowledge & Skills



Knowledge	Year 3	Year 4	Year 5	Year 6
	<ul style="list-style-type: none"> -Understand where food comes from. Select appropriate joining techniques/resources including knowing which glue to use. -Understand the need for a seam allowance -Select the most appropriate techniques to decorate and attach objects to materials. -Show an awareness of faults in battery-operated devices such as low battery, water damage etc. -Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product such as levers, winding mechanisms, pulleys and gears. -Design products that have a clear purpose and an intended user. -Design with purpose by identifying opportunities to design. -Make products, refining the design as a work in progress, continually evaluating the product design. -Make products by working efficiently, carefully choosing materials. -Begin to evaluate their ideas and products against design criteria. Use software to design and represent product designs. -Explore objects and designs to identify likes and dislikes of the designs. -Suggest improvements to existing designs; improve on existing designs giving reasons for choice. -Explore how products have been created. -Identify some of the greatest designers (e.g. Mackintosh, Brunel etc.) Disassemble products to understand how they work. 			<ul style="list-style-type: none"> -Understand the importance of correct storage and handling of ingredients. (Hygiene link) -Understand how a variety of ingredients are grown, reared, caught and processed. -Understand and apply principles of a healthy and varied diet. -Show an understanding of qualities of materials to choose appropriate tools to cut and shape, appropriate and practical ways to attach materials. -Design with the user in mind. -Make products through stages of prototypes, making continual refinements. -Ensure products have a high quality finish, using art skills where appropriate. Use prototypes, cross-sectional diagrams and computer aide designs to represent designs. -Combine elements of design from a range of inspirational designers through history, giving reasons for choices. -Create innovative designs that improve upon existing products. Evaluate the design so as to suggest improvements to the user experience.

Skills	Year 3	Year 4	Year 5	Year 6
Food	<ul style="list-style-type: none"> -Prepare ingredients hygienically and safely using appropriate utensils. -Measure ingredients to the nearest gram accurately. -Follow a simple recipe Assemble or cook healthy ingredients			<ul style="list-style-type: none"> -Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. -Demonstrate skills in baking and cooking techniques. -Create and refine recipes, including healthy, seasonal ingredients/ methods/cooking times/temperatures.
Materials	<ul style="list-style-type: none"> -Cut materials accurately and safely by selecting appropriate tools. -Measure and mark out to the nearest mm. -Apply appropriate cutting and shaping techniques, including cuts inside the perimeter such as slots or cut-outs. 			<ul style="list-style-type: none"> -Cut materials with increasing precision and refine the finish with appropriate tools such as sanding wood or a more precise scissor cut after roughly cutting out.
Textiles	<ul style="list-style-type: none"> -Shape textiles using templates to cut out -Join textiles using appropriate stitching. 			<ul style="list-style-type: none"> -Create objects that need a seam allowance for example a cushion. -Join textiles with a combination of stitching techniques such as running stitch, backstitch for seams etc. -Use the qualities of the materials to create suitable visual and tactile effects in the decoration such as a soft decoration for comfort on a cushion.
Electronics		Create series and parallel circuits		<ul style="list-style-type: none"> -Create circuits using electronics kits that need a number of components such as LEDs, transistors and chips.
Computing		Control and monitor models using software designed for this purpose.		<ul style="list-style-type: none"> -Write code to control and monitor models or products.
Mechanics		-Create products using levers, wheels and winding mechanisms.		<ul style="list-style-type: none"> -Convert rotary motion to linear using cams. Use combinations of electronics or computing and mechanics in product designs.