



# Design and Technology

Oakhill Church School

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Our curriculum is designed and built upon children’s prior knowledge, and we use quality first-hand experiences to help unlock children's curiosity and invest in their cultural understanding and capital. The curriculum makes links and connections to establish purposeful learning which is relevant now and for life in the future.

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# DT - Skills and Knowledge Progression

Skills Progression				
	Year 1/2	Year 3/4	Year 4/5	Year 5/6
Designing	<ul style="list-style-type: none"> <li>Design appealing products for a particular user based on simple design criteria.</li> <li>Generate ideas based on simple design criteria and their own experiences, explaining what they could make.</li> <li>Develop, model and communicate their ideas through talking, mock-ups and drawings.</li> </ul>	<ul style="list-style-type: none"> <li>Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s.</li> <li>Generate and clarify ideas through discussion with peers to develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups.</li> <li>Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas.</li> <li>Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams.</li> </ul>	<ul style="list-style-type: none"> <li>Generate innovative ideas through research including surveys, interviews and questionnaires and discussion with peers to develop a design brief and criteria for a design specification.               <ul style="list-style-type: none"> <li>Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification.</li> </ul> </li> <li>Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views. and, where appropriate, computer-aided design</li> </ul>	<ul style="list-style-type: none"> <li>Use research using surveys, interviews, questionnaires and web-based resources. to develop a design specification for a range of functional products.</li> <li>Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost.</li> <li>Generate and develop innovative ideas and share and clarify these through discussion.</li> <li>Communicate ideas through annotated sketches, pictorial representations of electrical circuits or circuit diagrams.</li> </ul>
Making	<ul style="list-style-type: none"> <li>Select and use simple utensils, tools and equipment to perform a job e.g. peel, cut, slice, squeeze, grate and chop safely; marking out, cutting, joining and finishing; cut, shape and join paper and card.</li> <li>Select from a range of ingredients and materials according to their characteristics to create a chosen product.</li> <li>Plan by suggesting what to do next.</li> </ul>	<ul style="list-style-type: none"> <li>Plan the main stages of making.</li> <li>Select from and use a range of appropriate utensils, tools and equipment with some accuracy related to their product.</li> <li>Select from and use finishing techniques suitable for the product they are creating.</li> </ul>	<ul style="list-style-type: none"> <li>Order the main stages of making.</li> <li>Select and use appropriate tools to measure, mark out, cut, score, shape and combine with some accuracy related to their products. • Explain their choice of materials according to functional properties and aesthetic qualities.</li> </ul>	<ul style="list-style-type: none"> <li>Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components.</li> <li>Competently select from and use appropriate tools to accurately measure, mark, cut and assemble materials, and securely connect electrical</li> </ul>



# DT - Skills and Knowledge Progression

	<ul style="list-style-type: none"> <li>Select and use tools, equipment, skills and techniques to perform practical tasks, explaining their choices.</li> <li>Select new and materials, components, reclaimed materials and construction kits to build and create their products.</li> <li>Use simple finishing techniques suitable for the products they are creating.</li> </ul>		<ul style="list-style-type: none"> <li>Select from and use materials and components, including ingredients, construction and electrical components according to their function and properties.</li> <li>Produce detailed lists of equipment and fabrics relevant to their tasks</li> <li>Write a step-by-step plan, including a list of resources required.</li> <li>Select from and use, a range of appropriate utensils, tools and equipment accurately to measure and combine appropriate ingredients, materials and resources.</li> </ul>	<p>components to produce reliable, functional products.</p> <p>Use finishing and decorative techniques suitable for the product they are designing and making.</p>
Evaluating	<ul style="list-style-type: none"> <li>Taste, explore and evaluate a range of products to determine the intended user's preferences for the product</li> <li>Evaluate their ideas throughout and finished products against design criteria, including intended user and purpose.</li> <li>Explore a range of existing products related to their design criteria.</li> <li>Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.</li> </ul>	<ul style="list-style-type: none"> <li>Investigate a range of 3-D textile products, ingredients and lever and linkage products relevant to their project.</li> <li>Test their product against the original design criteria and with the intended user.</li> <li>Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.</li> </ul>	<ul style="list-style-type: none"> <li>Investigate and evaluate a range of products including the ingredients, materials, components and techniques that are used.</li> <li>Test and evaluate their own products against design criteria and the intended user and purpose.</li> <li>Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.</li> <li>Investigate and analyse products linked to their final product.</li> <li>Compare the final product to the original design specification and record the evaluations.</li> <li>Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</li> <li>Consider the views of others to improve their work</li> </ul>	<ul style="list-style-type: none"> <li>Continually evaluate and modify the working features of the product to match the initial design specification.</li> <li>Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests.</li> <li>Test the system to demonstrate its effectiveness for the intended user and purpose.</li> </ul>



# DT - Skills and Knowledge Progression

## Knowledge Progression

	Year 1/2	Year 3/4	Year 4/5	Year 5/6
Food	<ul style="list-style-type: none"> <li>Understand and use basic principles of a healthy and varied diet to prepare dishes.</li> <li>Know and use technical and sensory vocabulary relevant to the project.</li> </ul>	<ul style="list-style-type: none"> <li>Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.</li> <li>Know and use relevant technical and sensory vocabulary appropriately.</li> </ul>	<ul style="list-style-type: none"> <li>Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.</li> <li>Know and use relevant technical and sensory vocabulary appropriately</li> <li>Understand about seasonality in relation to food products and the source of different food products.</li> <li>Know and use relevant technical and sensory vocabulary.</li> </ul>	<ul style="list-style-type: none"> <li>Understand about seasonality in relation to food products and the source of different food products.</li> <li>Know and use relevant technical and sensory vocabulary.</li> </ul>
Structures	<ul style="list-style-type: none"> <li>Know how to make freestanding structures stronger, stiffer and more stable.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<ul style="list-style-type: none"> <li>Develop and use knowledge of how to construct strong, stiff shell structures.</li> <li>Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<ul style="list-style-type: none"> <li>Develop and use knowledge of how to construct strong, stiff shell structures.</li> <li>Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.</li> <li>Know and use technical vocabulary relevant to the project.</li> <li>Understand how to strengthen, stiffen and reinforce 3-D frameworks.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<ul style="list-style-type: none"> <li>Understand how to strengthen, stiffen and reinforce 3-D frameworks.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>
Textiles	<ul style="list-style-type: none"> <li>Understand how simple 3-D textile products are made, using a template to create two identical shapes.</li> <li>Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling.</li> </ul>	<ul style="list-style-type: none"> <li>Know how to strengthen, stiffen and reinforce existing fabrics.</li> <li>Understand how to securely join two pieces of fabric together.</li> <li>Understand the need for patterns and seam allowances.</li> </ul>	<ul style="list-style-type: none"> <li>Know how to strengthen, stiffen and reinforce existing fabrics.</li> <li>Understand how to securely join two pieces of fabric together.</li> <li>Understand the need for patterns and seam allowances.</li> </ul>	<ul style="list-style-type: none"> <li>Produce a 3-D textile product from a combination of accurately made pattern pieces, fabric shapes and different fabrics.</li> </ul>



# DT - Skills and Knowledge Progression

	<ul style="list-style-type: none"> <li>Explore different finishing techniques</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<ul style="list-style-type: none"> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<ul style="list-style-type: none"> <li>Know and use technical vocabulary relevant to the project.</li> <li>Produce a 3-D textile product from a combination of accurately made pattern pieces, fabric shapes and different fabrics.</li> <li>Understand how fabrics can be strengthened, stiffened and reinforced where appropriate.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<ul style="list-style-type: none"> <li>Understand how fabrics can be strengthened, stiffened and reinforced where appropriate.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>
Mechanisms/Mechanical Systems	<ul style="list-style-type: none"> <li>Explore and use sliders and levers.</li> <li>Understand that different mechanisms produce different types of movement.</li> <li>Know and use technical vocabulary relevant to the project</li> <li>Explore and use wheels, axles and axle holders.</li> <li>Distinguish between fixed and freely moving axles.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<ul style="list-style-type: none"> <li>Understand and use lever and linkage mechanisms.</li> <li>Distinguish between fixed and loose pivots.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<ul style="list-style-type: none"> <li>Understand and use lever and linkage mechanisms.</li> <li>Distinguish between fixed and loose pivots.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<ul style="list-style-type: none"> <li>Understand that mechanical and electrical systems have an input, process and an output.</li> <li>Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. Know and use technical vocabulary relevant to the project.</li> </ul>
Electrical Systems			<ul style="list-style-type: none"> <li>Understand and use electrical systems in their products linked to science coverage.</li> <li>Apply their understanding of computing to program and control their products.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<ul style="list-style-type: none"> <li>Understand and use electrical systems in their products linked to science coverage.</li> <li>Apply their understanding of computing to program, monitor and control their products.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>



# EYFS: Granular Steps

## Stage 2 (2-3)

I can use a range of materials and make marks

I can make a handprint

I can make circular movements

I can mix paint colours together to make my own colours

I can use simple tools to make marks

I can make marks like the example below



## Art/Design and Technology in EYFS

**Expressing my Ideas** (*leading into Art/Design*)

**The knowledge I am learning;**

- To use tools to express my ideas and thoughts
- To mix colours for a purpose
- To use techniques such as observational drawing and printing
- To create different textures and combine materials for a purpose

## Stage 3 (3-4)

I can use glue to join two materials

I can paint on paper with increased control using a brush or sponge

I can draw straight lines and crosses

I can name primary colours

I can combine primary colours to make other colours

I can join together materials using different techniques to make a model

I can mix primary colour for a purpose and remember how to make secondary colours

I can draw like the example below adding expression to faces



## Stage 4 (4-5)

I can use a stapler to join materials

I can create a mono print

I can draw straight lines and crosses

I can draw a person with increased features

I can name secondary colours

I can combine primary colours to make secondary colours

I can hold a paint brush with my fingers and thumb, hand and arm pointing downwards

I can safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

I can share my creations, explaining the process I have used

I can add detail to my drawing that I create from observations or my imagination





# Curriculum Overview

	Art/DT	Cycle A/B	Autumn	Spring	Summer
Y1/2	Art	Cycle A	Henri Rousseau:	Super Sculptures:	Earth Art:
	DT	Cycle A	Textile Tree	Roly Poly	Loom Fish
	Art	Cycle B	Giuseppe Arcimboldo:	Colour Creations:	African Art:
	DT	Cycle B	Toast	Fridge Magnets	Class Loom
Y3/4	Art	Cycle A	William Morris:	Famous Buildings:	Plant Art
	DT	Cycle A	Class display	Baking Bread	Pop up book
	Art	Cycle B	Jewellery Designers	Warhol & Pop Art Movement	Aboriginal Art
	DT	Cycle B	Puppets	Toy for Bedridden child	Party Hats
Y4/5	Art	Cycle A	Street Art	Indian Art	Sonia Delaunay
	DT	Cycle A	Stitch a Sampler	Moving Buggy	Food and Nutrition
	Art	Cycle B	Express Yourself	Chinese Art	Vincent Van Gogh
	DT	Cycle B	Musical Instrument	Printed Cushion Cover	Food and Nutrition
Y5/6	Art	Cycle A	Art Illusion	Frida Kahol	Street Art 2
	DT	Cycle A	Sewing Repair Kit	Light and Torches	Statue
	Art	Cycle B	Sculpting Vases	Gustav Klimt	A Sense of Place
	DT	Cycle B	Treasure Box	Puppets	Beast with Moving Mouth



# Skills and Knowledge Mapping

Y1/2 (DT)						
	Cycle A			Cycle B		
	Textile Tree	Roly Poly	Loom Fish	Toast	Fridge Magnets	Class Loom
Designing, Making, Evaluating						
Food	Covered as part of topic					
Structures						
Textiles						
Mechanisms						
Electrical Systems	This will be covered as part of KS2 Science/Computing curriculum					

Y3/4 (DT)						
	Cycle A			Cycle B		
	Class Display	Baking Bread	Pop-Up Book	Puppets	Toy for Bedridden	Party Hats





# Skills and Knowledge Mapping

Designing, Making, Evaluating						
Food				Covered as part of topic		
Structures						
Textiles						
Mechanisms						
Electrical Systems	This will be covered as part of KS2 Science/Computing curriculum					

Y4/5 (DT)						
	Cycle A			Cycle B		
	Stitch a Sampler	Moving Buggy	Roman Banquet	Musical Instrument	Cushion Cover	Roman Banquet
Designing, Making, Evaluating						
Food						
Structures						
Textiles						



# Skills and Knowledge Mapping

Mechanisms					
Electrical Systems	This will be covered as part of KS2 Science/Computing curriculum				

Y5/6 (DT)						
	Cycle A			Cycle B		
	Sewing Repair Kit	Light and Torches	Statue	Puppets	Beast with Moving Mouth	Treasure Box
Designing, Making, Evaluating						
Food	Covered as part of topic			Covered as part of topic		
Structures						
Textiles						
Mechanisms						
Electrical Systems						



# Skills and Knowledge Mapping

## CUE assessment:

**Content:** *With teacher support and encouragement, I can produce creative work, explore my ideas and record my experiences.*

**Understanding:** *I know about great artists, craft makers and designers, and understand the historical and cultural development of their art forms and can use them as inspiration for my own artwork.*

**Evaluating:** *I can evaluate and analyse creative works using the language of art, craft and design within the context of my previous learning and the techniques of notable artists are evident in my artwork.*

### Year ½ CUE Assessment

Learning Objective	Key Indicator	Content: <i>Experience the curriculum</i>	Understanding: <i>Learnt intended curriculum</i>	Evaluating: <i>Deeply learnt intended curriculum</i>
To design, make, evaluate and improve	<ul style="list-style-type: none"> <li>Design products that have a clear purpose and an intended user.</li> </ul>	When supported by a teacher, designs to meet a purpose are created.	With growing independence, designs that have a clear purpose and intended user are created.	With a high level of independence and a good understanding that designs require a purpose and user, very good designs are created.
	<ul style="list-style-type: none"> <li>Make products, refining the design as work progresses.</li> </ul>	When encouraged by a teacher, designs are improved as the making process develops.	Generally, good-quality products are made by a process	High-quality products are made through a process of constant



## Skills and Knowledge Mapping

			of refinement during the making process.	refinement throughout the making process.
To master practical skills - FOOD	<ul style="list-style-type: none"> <li>Cut, peel or grate ingredients safely and hygienically.</li> </ul>	With the support of a teacher, ingredients are prepared safely and hygienically.	There is a growing awareness of safety and hygiene procedures when preparing food.	There is a good understanding of the need to work safely and hygienically when preparing food.
	<ul style="list-style-type: none"> <li>Measure or weigh using measuring cups or electronic scales.</li> </ul>	With the support of a teacher, weighing and measuring is accurate.	There is a growing ability to weigh and measure accurately.	There is a good understanding of how to weigh and measure accurately using a range of scales
To master practical skills - STRUCTURES	<ul style="list-style-type: none"> <li>Cut materials safely using tools provided.</li> </ul>	With the support of a teacher, materials are cut safely.	There is a growing ability to cut materials safely.	There is a good level of control of tools so that materials are cut safely.
	<ul style="list-style-type: none"> <li>Measure and mark out to the nearest centimetre.</li> </ul>	When supported by a teacher, maths skills are sometimes used to help measure and mark to the nearest centimetre.	Maths skills are often used to help measure and mark to the nearest centimetre.	There is a good application of maths skills to help measure and mark to the nearest centimetre.
	<ul style="list-style-type: none"> <li>Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling).</li> </ul>	During structured activities, a range of cutting and shaping techniques are used.	There is a growing use of a range of cutting and shaping techniques.	There is a wide use of a range of cutting and shaping techniques.



# Skills and Knowledge Mapping

	<ul style="list-style-type: none"> <li>Demonstrate a range of joining techniques (such as gluing, using hinges or combining materials to strengthen).</li> </ul>	During structured activities, a range of joining techniques are used.	There is a growing use of a range of joining techniques.	There is a wide use of a range of joining techniques.
To master practical skills - TEXTILES	<ul style="list-style-type: none"> <li>Shape textiles using templates.</li> </ul>	With the support of a teacher, textiles are shaped using templates.	Templates are beginning to be created and used to shape textiles.	Templates are created to a good standard and used to shape textiles effectively
	<ul style="list-style-type: none"> <li>Join textiles using running stitch.</li> </ul>	With the support of a teacher, textiles are joined with a basic running stitch.	A basic running stitch is used well to join textiles.	A controlled running stitch is used to securely join textiles
	<ul style="list-style-type: none"> <li>Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing).</li> </ul>	With the support of a teacher, a number of decoration techniques are experienced.	A growing number of decoration techniques are used.	Effective decoration techniques are chosen and applied to good effect.
To master practical skills - MECHANICS	<ul style="list-style-type: none"> <li>Create products using levers and winding mechanisms.</li> </ul>	With the support of a teacher, products using levers and winding mechanisms are made.	With growing independence, and a developing understanding of mechanisms, products using levers and winding mechanisms are made.	With a high level of independence and a good understanding of mechanisms, good-quality products using levers and winding mechanisms are made.



# Skills and Knowledge Mapping

## Year 3/4 CUE Assessment

Learning Objective	Key Indicator	Content: <i>Experience the curriculum</i>	Understanding: <i>Learnt intended curriculum</i>	Evaluating: <i>Deeply learnt intended curriculum</i>
To design, make, evaluate and improve	<ul style="list-style-type: none"> <li>Design with purpose by identifying opportunities to design.</li> </ul>	During structured activities, opportunities for design are realised.	Generally, there is a good understanding of opportunities for design.	Excellent examples of suggestions for design show an in-depth understanding of the need for design.
	<ul style="list-style-type: none"> <li>Make products by working efficiently (such as by carefully selecting materials).</li> </ul>	When supported by a teacher, appropriate materials are selected.	Planning of workflows and careful selection of materials means work is generally carried out efficiently.	Very efficient workflows and well-reasoned choices of materials make work very efficient.
	<ul style="list-style-type: none"> <li>Refine work and techniques as work progresses, continually evaluating the product design.</li> </ul>	When encouraged, techniques are refined throughout a project to improve the design.	Generally, designs are evaluated and refined throughout a project.	Designs are continually evaluated and improved throughout a project, resulting in high-quality products.
To master practical skills - FOOD	<ul style="list-style-type: none"> <li>Prepare ingredients hygienically using appropriate utensils.</li> </ul>	When reminded, appropriate utensils are chosen to safely and hygienically prepare food.	Appropriate utensils are generally chosen to safely and hygienically prepare food.	Appropriate utensils are chosen to safely and hygienically prepare food, with clear explanations for the choices made.



# Skills and Knowledge Mapping

	<ul style="list-style-type: none"> <li>Measure ingredients to the nearest gram accurately.</li> </ul>	With support from a teacher, accurate measurement, to the nearest gram, is experienced.	There is generally accurate measurement to the nearest gram.	There is accurate measurement to the nearest gram using a variety of scales.
To master practical skills - STRUCTURES	<ul style="list-style-type: none"> <li>Cut materials accurately and safely by selecting appropriate tools.</li> </ul>	When reminded, appropriate tools are chosen to safely cut materials	Appropriate tools are generally chosen to safely cut materials.	Appropriate utensils are chosen to safely cut materials, with clear explanations for the choices made.
	<ul style="list-style-type: none"> <li>Measure and mark out to the nearest millimetre.</li> </ul>	With support from a teacher, accurate measurement and marking, to the nearest millimetre, is experienced.	There is generally accurate measurement and marking to the nearest millimetre.	There is accurate measurement and marking to the nearest millimetre using a variety of scales.
	<ul style="list-style-type: none"> <li>Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut-outs).</li> </ul>	With support from a teacher, appropriate techniques are used to cut and shape materials.	Appropriate techniques are generally chosen to cut and shape materials.	Appropriate techniques are chosen to cut and shape materials, with clear explanations for the choices made.
	<ul style="list-style-type: none"> <li>Select appropriate joining techniques.</li> </ul>	When reminded, appropriate joining techniques are used.	Appropriate joining techniques are generally selected and used well.	Appropriate joining techniques are selected and used to good effect, with reasons for choices clearly explained.



## Skills and Knowledge Mapping

	<ul style="list-style-type: none"> <li>Choose suitable techniques to construct products or to repair items.</li> </ul>	When reminded by a teacher, suitable techniques are used to construct products or repair items.	Suitable techniques are generally used to construct or repair items.	Suitable techniques are chosen and justified when constructing or repairing items.
To master practical skills - TEXTILES	<ul style="list-style-type: none"> <li>Understand the need for a seam allowance.</li> </ul>	When demonstrated by a teacher, and support provided, appropriate allowances are made when joining fabrics.	Generally, appropriate allowances for joining fabrics are used.	Accurate and well-planned allowances for joining fabrics are used.
	<ul style="list-style-type: none"> <li>Join textiles with appropriate stitching.</li> </ul>	When demonstrated by a teacher, appropriate stitching is attempted with some good effects.	Generally, stitching is appropriate to the product and effective.	Confident and carefully chosen stitching, suitable for the product's purpose, is well executed.
	<ul style="list-style-type: none"> <li>Select the most appropriate techniques to decorate textiles.</li> </ul>	When reminded, appropriate techniques are used to decorate textiles.	Generally, interesting and appropriate techniques are used to decorate textiles.	Excellent choices of appropriate techniques provide interesting and eye-catch
To master practical skills - MECHANICS	<ul style="list-style-type: none"> <li>Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding</li> </ul>	When reminded, knowledge of science is applied to creating mechanism products.	Generally, knowledge of science is applied to creating mechanism products.	Knowledge of science is readily applied when creating mechanism products.





# Skills and Knowledge Mapping

	mechanisms, pulleys and gears).			
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## Year 5/6 CUE Assessment

Learning Objective	Key Indicator	Content: <i>Experience the curriculum</i>	Understanding: <i>Learnt intended curriculum</i>	Evaluating: <i>Deeply learnt intended curriculum</i>
To design, make, evaluate and improve	<ul style="list-style-type: none"> <li>Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).</li> </ul>	With guidance, products are designed with some reference to the user experience.	Generally, the user experience is used as a rationale for design choices. The experience of the user drives the design process.	There are many excellent examples and explanations of how choices improve the user experience.
	<ul style="list-style-type: none"> <li>Make products through stages of prototypes, making continual refinements.</li> </ul>	With support, prototypes are made and later developed.	Generally improvements are continual throughout the making process, with initial prototypes often changed radically through a number of refinements.	Initial prototypes and alternative designs are thoroughly explored and explained. Refinements are continually made throughout the making process.
	<ul style="list-style-type: none"> <li>Ensure products have a high quality finish, using art skills where appropriate.</li> </ul>	When reminded, a high-quality finish is achieved by applying art skills.	Art skills are generally applied and, along with attention to detail, create a high-quality finish.	Impeccable attention to detail and the extremely effective application of art skills create a professional quality finish.



## Skills and Knowledge Mapping

To master practical skills - FOOD	<ul style="list-style-type: none"> <li>Understand the importance of correct storage and handling of ingredients (using knowledge of microorganisms).</li> </ul>	There is some awareness of the principles and practices of safe food storage and handling.	Science knowledge is applied to the safe storage and handling of ingredients.	A thorough scientific understanding of microorganisms is rigorously applied to the practices of storage and handling of ingredients.
	<ul style="list-style-type: none"> <li>Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.</li> </ul>	When reminded, mathematical knowledge is applied to accurately calculate ratios of ingredients.	Mathematical knowledge is generally applied to calculate ratios of ingredients.	Knowledge of mathematics is readily applied to calculate ratios of ingredients.
	<ul style="list-style-type: none"> <li>Demonstrate a range of baking and cooking techniques.</li> </ul>	When guided, a range of baking and cooking techniques is demonstrated.	A developing range of baking and cooking techniques is demonstrated.	A good range of baking and cooking techniques is demonstrated
	<ul style="list-style-type: none"> <li>Create and refine recipes, including ingredients, methods, cooking times and temperatures.</li> </ul>	With support from a teacher, a range of recipes are created.	A developing range of interesting recipes is created.	A wide repertoire of recipes with interesting combinations of ingredients is created.
To master practical skills - STRUCTURES	<ul style="list-style-type: none"> <li>Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after</li> </ul>	There are some good examples of precision cutting.	There are many good examples of precision cutting using a growing range of cutting implements.	There are widespread examples of precision cutting using a wide variety of cutting implements.



## Skills and Knowledge Mapping

	roughly cutting out a shape).			
	<ul style="list-style-type: none"> <li>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).</li> </ul>	When reminded, the qualities of materials are considered when selecting tools.	The properties of materials are generally considered in choosing tools.	An in-depth understanding of the properties of materials is used to carefully select appropriate tools.
	<ul style="list-style-type: none"> <li>Develop a range of practical skills to create products and repair items (such as cutting, drilling and screwing, nailing, gluing, filling and sanding).</li> </ul>	With support, a range of practical skills are emerging to help create or repair products.	A growing range of practical skills are used effectively to make or repair products.	A wide range of practical skills are put to very effective use to make or repair a wide variety of products
To master practical skills - TEXTILES	<ul style="list-style-type: none"> <li>Join textiles with a combination of stitching techniques (such as back stitch for seams and running</li> </ul>	There are some good examples of effective joins.	There is a growing range of examples of effective joining techniques that show control and some precision.	There is a wide range of very effective joining techniques that show a high level of precision and control.



# Skills and Knowledge Mapping

To master practical skills - MECHANICS	stitch to attach decoration).			
	<ul style="list-style-type: none"> <li>Convert rotary motion to linear using cams.</li> </ul>	With support, cams are created.	A range of differently shaped cams are created.	Combinations of differently shaped cams are used to create interesting and useful movement.
To master practical skills – ELECTRICALS AND ELECTRONICS	<ul style="list-style-type: none"> <li>Use innovative combinations of electronics (or computing) and mechanics in product designs.</li> </ul>	With support, combinations of design components are used in product designs.	There is some interesting experimentation with combinations of design components in product designs.	There are some innovative combinations of design components in product designs.
	<p>Create circuits using electronics kits</p> <ul style="list-style-type: none"> <li>that employ a number of components (such as LEDs, resistors, transistor and chips).</li> </ul>	With support, and reminders of science knowledge, a range of circuits is created and used in products.	Science knowledge is generally applied to the design process to create products that employ a range of electronic components.	Science knowledge is readily applied to the design process, creating high-quality products that employ a broad range of electronic components.