

## Design and Technology Skills Progression

### Structures

	Year 1 Constructing windmills	Year 2 Baby Bear's Chair	Year 3 Constructing a castle	Year 4 Pavilions	Year 5 N/A	Year 6 Playgrounds
<b>Design</b>	<ul style="list-style-type: none"> <li>I can learn the importance of a clear design criteria.</li> <li>I can include individual preferences and requirements in a design.</li> </ul>	<ul style="list-style-type: none"> <li>I can generate and communicate ideas using sketching and modelling</li> </ul>	<ul style="list-style-type: none"> <li>I can design with key features to appear to a specific person/user.</li> <li>I can draw and label my design using 2D shapes, labelling: the 3D shapes that will create features- the materials needed and colours.</li> <li>I can design and/or decorate a castle tower on CAD software.</li> </ul>	<ul style="list-style-type: none"> <li>I can design a stable pavilion that is aesthetically pleasing and select materials to create a desired effect.</li> <li>I can build a frame structure designed to support weight.</li> </ul>		<ul style="list-style-type: none"> <li>I can design a playground featuring a variety of different structures, considering how structures will be used, effective and ineffective designs.</li> </ul>
<b>Make</b>	<ul style="list-style-type: none"> <li>I can make stable structures from card, tape and glue.</li> <li>I can learn how to turn 2D nets into 3D structures.</li> <li>I can follow instructions to cut and</li> </ul>	<ul style="list-style-type: none"> <li>I can make a structure according to a design criteria.</li> <li>I can create joints and structures from paper/card and tape.</li> <li>I can build strong and stiff structures by folding paper.</li> </ul>	<ul style="list-style-type: none"> <li>I can construct a range of 3D geometric shapes using nets.</li> <li>I can create special features for individual designs.</li> <li>I can make facades from a range of</li> </ul>	<ul style="list-style-type: none"> <li>I can create a range of different shaped frame structures.</li> <li>I can make a variety of free-standing frame structures of different shapes and sizes.</li> <li>I can select appropriate materials to build a strong</li> </ul>		<ul style="list-style-type: none"> <li>I can build a range of play apparatus structures drawing upon new and prior knowledge of structures.</li> <li>I can measure, mark and cut wood to create a range of structures.</li> <li>I can use a range of materials to reinforce</li> </ul>

	<p>assemble the supporting structure of a windmill.</p> <ul style="list-style-type: none"> <li>I can make functioning turbines and axles which are assembled into a main supporting structure.</li> </ul>		recycled materials.	<p>structure and cladding.</p> <ul style="list-style-type: none"> <li>I can reinforce corners to strengthen a structure.</li> <li>I can create a design in accordance with a plan.</li> <li>I can learn to create different textural effects with materials.</li> </ul>		<p>and add decoration to structures.</p>
<b>Evaluate</b>		<ul style="list-style-type: none"> <li>I can test the strength of my own structure.</li> <li>I can identify the weakest part of a structure.</li> <li>I can evaluate the strength, stiffness and stability of my own structure.</li> </ul>	<ul style="list-style-type: none"> <li>I can evaluate my own work and the work of others based on the aesthetic of the finished product and in comparison, to the original design.</li> <li>I can suggest points for modification of the individual designs.</li> </ul>	<ul style="list-style-type: none"> <li>I can evaluate structures made by the class.</li> <li>I can describe what characteristics of a design and construction made it most effective.</li> <li>I can consider effective and ineffective designs.</li> </ul>		<ul style="list-style-type: none"> <li>I can improve a design plan based on peer evaluation.</li> <li>I can test and adapt a design to improve it as it is developed.</li> <li>I can identify what makes a successful structure.</li> </ul>

Textiles						
	Year 1 Puppets	Year 2 N/A	Year 3 N/A	Year 4 N/A	Year 5 N/A	Year 6 Waistcoats
<b>Design</b>	<ul style="list-style-type: none"> <li>I can use a template to create a design for a puppet.</li> </ul>					<ul style="list-style-type: none"> <li>I can design a waistcoat in accordance with a specification linked to set of design criteria.</li> </ul>

						<ul style="list-style-type: none"> <li>I can annotate designs, to explain their decisions.</li> </ul>
<p><b>Make</b></p>	<ul style="list-style-type: none"> <li>I can cut fabric neatly with scissors.</li> <li>I can use joining methods to decorate a puppet.</li> <li>I can sequence steps for construction.</li> </ul>					<ul style="list-style-type: none"> <li>I can use a template when cutting fabric to ensure they achieve the correct shape.</li> <li>I can use pins effectively to secure a template to fabric without creases or bulges.</li> <li>I can mark and cut fabric accurately, in accordance with their design.</li> <li>I can sew a strong running stitch, making small, neat stitches and following the edge.</li> <li>I can tie strong knots.</li> <li>I can decorate a waistcoat, attaching features (such as appliqué) using thread.</li> <li>I can finish the waistcoat with a secure fastening (such as buttons).</li> <li>I can learn different decorative stitches.</li> <li>I can sew accurately with evenly spaced, neat stitches.</li> </ul>
<p><b>Evaluate</b></p>	<ul style="list-style-type: none"> <li>I can reflect on a finished product explaining likes and dislikes.</li> </ul>					<ul style="list-style-type: none"> <li>I can reflect on my work continually throughout the design, make and evaluate process.</li> </ul>

**Cooking and nutrition**

	<b>Year 1 Fruit and Vegetables</b>	<b>Year 2 N/A</b>	<b>Year 3 Eating seasonally</b>	<b>Year 4 N/A</b>	<b>Year 5 What could be healthier?</b>	<b>Year 6 N/A</b>
<b>Design</b>	<ul style="list-style-type: none"> <li>I can design a smoothie carton packaging by hand or on ICT software.</li> </ul>		<ul style="list-style-type: none"> <li>I can create a healthy and nutritional recipe for a savoury tart using seasonal ingredients, considering taste, texture, smell and appearance of the dish.</li> </ul>		<ul style="list-style-type: none"> <li>I can adapt a traditional recipe, understand that the nutritional value of a recipe alters if you remove it, substitute or add additional ingredients.</li> <li>I can write an amended method for a recipe to incorporate the relevant changes to ingredients.</li> <li>I can design appealing packaging to reflect a recipe.</li> </ul>	
<b>Make</b>	<ul style="list-style-type: none"> <li>I can chop fruit and vegetables safely to make a smoothie.</li> <li>I can identify if a food is a</li> </ul>		<ul style="list-style-type: none"> <li>I can prepare myself and my workspace to cook safely in and learn the basic rules to avoid food contamination.</li> </ul>		<ul style="list-style-type: none"> <li>I can cut and prepare vegetable safely.</li> <li>I can use equipment safely, including</li> </ul>	

	fruit or vegetable. <ul style="list-style-type: none"> <li>I can suggest information to be included on packaging.</li> </ul>		<ul style="list-style-type: none"> <li>I can follow the instructions within a recipe.</li> </ul>		knives, hot pans and hobs. <ul style="list-style-type: none"> <li>I can avoid cross-contamination.</li> <li>I can follow a step-by-step method carefully to make a recipe.</li> </ul>	
<b>Evaluate</b>	<ul style="list-style-type: none"> <li>I can taste and evaluate different food combinations.</li> <li>I can describe appearance, smell and taste.</li> <li>I can suggest information to be included on packaging.</li> </ul>		<ul style="list-style-type: none"> <li>I can establish and use a design criteria to help test and review dishes.</li> <li>I can describe the benefits of seasonal fruits and vegetables and the impact on the environment.</li> <li>I can suggest points for improvement when making a seasonal tart.</li> </ul>		<ul style="list-style-type: none"> <li>I can identify the nutritional differences between different products and recipes.</li> <li>I can identify and describe healthy benefits of food groups.</li> </ul>	

<b>Mechanisms (KS1 only)</b>		
	<b>Year 2 (A) Making a moving monster</b>	<b>Year 2 (B) Fairground wheel</b>
<b>Design</b>	<ul style="list-style-type: none"> <li>I can create a class design criteria for a moving monster.</li> <li>I can design a moving monster for a specific audience in accordance with a design criteria.</li> </ul>	<ul style="list-style-type: none"> <li>I can select a suitable linkage system to produce the desired motion.</li> <li>I can design a wheel.</li> </ul>
<b>Make</b>	<ul style="list-style-type: none"> <li>I can make linkages using card for levers and split pins for pivots.</li> <li>I can experiment with linkages adjusting the widths, lengths and thicknesses of card used.</li> </ul>	<ul style="list-style-type: none"> <li>I can select materials according to their characteristics.</li> <li>I can follow a design brief.</li> </ul>

	<ul style="list-style-type: none"> <li>I can cut and assemble components neatly.</li> </ul>	
Evaluate	<ul style="list-style-type: none"> <li>I can evaluate own designs against design criteria.</li> <li>I can use peer feedback to modify a final design.</li> </ul>	<ul style="list-style-type: none"> <li>I can evaluate different designs.</li> <li>I can test and adapt a design.</li> </ul>

### Digital World (KS2 only)

	Year 3 Wearable technology	Year 4 N/A	Year 5 N/A	Year 6 Navigating the world
Design	<ul style="list-style-type: none"> <li>I can problem solve by suggesting potential features on a Micro: bit and justify my ideas.</li> <li>I can draw and manipulate 2D shapes, using computer aided design to produce a point-of-sale badge.</li> <li>I can develop design ideas through annotated sketches to create a product concept.</li> <li>I can develop design criteria to respond to a design brief.</li> </ul>			<ul style="list-style-type: none"> <li>I can write a design brief from information submitted by a client.</li> <li>I can develop design criteria to fulfil the client's request.</li> <li>I can consider and suggest additional functions for my navigation tool.</li> <li>I can develop a product idea through annotated sketches.</li> <li>I can plan and manoeuvre 3D objects using CAD.</li> <li>I can change the properties of, or combine one or more 3D objects, using CAD.</li> </ul>
Make	<ul style="list-style-type: none"> <li>I can follow a list of design requirements.</li> <li>I can write a program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm.</li> </ul>			<ul style="list-style-type: none"> <li>I can consider materials and their functional properties, especially those that are sustainable and recyclable (for example cork and bamboo).</li> <li>I can explain material choices and why they were chosen as part of a product concept.</li> <li>I can programme an N,E,S,W cardinal compass.</li> </ul>

<b>Evaluate</b>	<ul style="list-style-type: none"> <li>• I can analyse and evaluate wearable technology.</li> <li>• I can use feedback from peers to improve a design.</li> </ul>			<ul style="list-style-type: none"> <li>• I can explain how my program fits the design criteria and how it would be useful as part of a navigation tool.</li> <li>• I can develop an awareness of sustainable design.</li> <li>• I can identify key industries that utilise 3D CAD modelling and explaining why.</li> <li>• I can describe how the product fits the client's request and how it will benefit the customers.</li> <li>• I can explain the key functions in my program, including any additions.</li> <li>• I can explain how my program fits the design criteria and how it would be useful as part of a navigation tool.</li> <li>• I can explain the key functions and features of my navigation tool to the client as part of a product concept pitch.</li> <li>• I can demonstrate a functional program as part of a product concept pitch.</li> </ul>
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<b>Electrical Systems (KS2 only)</b>				
	<b>Year 3 N/A</b>	<b>Year 4 Torches</b>	<b>Year 5 Doodlers</b>	<b>Year 6 N/A</b>
<b>Design</b>		<ul style="list-style-type: none"> <li>• I can design a torch, considering the target audience and creating both design and success criteria</li> </ul>	<ul style="list-style-type: none"> <li>• I can identify factors that could be changed on existing products and explaining how these would</li> </ul>	

		focusing on features of individual design ideas.	alter the form and function of the product. <ul style="list-style-type: none"> <li>I can develop design criteria based on findings from investigating existing products.</li> <li>I can develop design criteria that clarifies the target user.</li> </ul>	
<b>Make</b>		<ul style="list-style-type: none"> <li>I can make a torch with a working electrical circuit and switch.</li> <li>I can use appropriate equipment to cut and attach materials.</li> <li>I can assembly a torch according to the design and success criteria.</li> </ul>	<ul style="list-style-type: none"> <li>I can identify factors that could be changed on existing products and explaining how these would alter the form and function of the product.</li> <li>I can develop a design criteria based on findings from investigating existing products.</li> <li>I can develop a design criteria that clarifies the target user.</li> </ul>	
<b>Evaluate</b>		<ul style="list-style-type: none"> <li>I can evaluate electrical products.</li> <li>I can test and evaluate the success of a final product.</li> </ul>	<ul style="list-style-type: none"> <li>I can alter a product's form and function by tinkering with its configuration.</li> <li>I can make a functional series circuit, incorporating a motor.</li> <li>I can construct a product with consideration for the design criteria.</li> </ul>	

<b>Mechanical Systems (KS2 only)</b>				
	<b>Year 3</b> N/A	<b>Year 4</b> <b>Making a slingshot car</b>	<b>Year 5</b> <b>Making a pop-up book</b>	<b>Year 6</b> N/A
<b>Design</b>		<ul style="list-style-type: none"> <li>I can design a shape that reduces air resistance.</li> <li>I can draw a net to create a structure from.</li> </ul>	<ul style="list-style-type: none"> <li>I can design a pop-up books which uses a mixture of structures and mechanisms.</li> </ul>	

		<ul style="list-style-type: none"> <li>I can choose shapes that increase or decrease speed because of air resistance.</li> <li>I can personalise a design.</li> </ul>	<ul style="list-style-type: none"> <li>I can name each mechanism, input and output accurately.</li> <li>I can storyboard ideas for a book.</li> </ul>	
<b>Make</b>		<ul style="list-style-type: none"> <li>I can measure, mark, cut and assemble with increased accuracy.</li> <li>I can make a model based on a chosen design.</li> </ul>	<ul style="list-style-type: none"> <li>I can follow a design brief to make a pop-up book, neatly and with focus on accuracy.</li> <li>I can make mechanisms and/or structures using sliders, pivots and folds to produce movement.</li> <li>I can use layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing results.</li> </ul>	
<b>Evaluate</b>		<ul style="list-style-type: none"> <li>I can evaluate the speed of a final product based on the effect of shape on speed and the accuracy of workmanship on performance.</li> </ul>	N/A	