




Design and Technology - National Curriculum Statements

	Y1	Y2	Y3	Y4	Y5	Y6
<p>Design</p> 	<p>Design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p>		<p>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</p>			
<p>Make</p> 	<p>Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].</p> <p>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p>		<p>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.</p> <p>Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.</p>			
<p>Evaluate</p> 	<p>Explore and evaluate a range of existing products.</p> <p>Evaluate their ideas and products against design criteria.</p>		<p>Investigate and analyse a range of existing products .</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work .</p> <p>Understand how key events and individuals in design and technology have helped shape the world.</p>			

Design and Technology - National Curriculum Statements

Y1

Y2

Y3

Y4

Y5

Y6

Cooking &
Nutrition



Use the basic principles of a healthy and varied diet to prepare dishes.

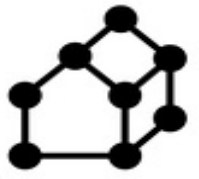
Understand where food comes from

Understand and apply the principles of a healthy and varied diet.

Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.

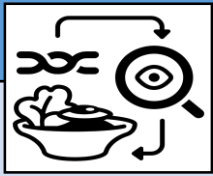
Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Progression of Skills –Structures



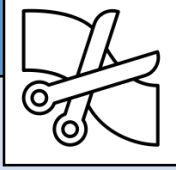
	Y1 Woodmill Construction	Y2 Baby Bear's Chair	Y3 Castle Construction	Y4 Pavilions	Y5 Bridges	Y6 Playgrounds
<p>Design</p>	<p>Learn the importance of a design criteria.</p> <p>Adding or stating individual preferences and requirements in a design.</p>	<p>Generating and sharing ideas using sketching and modelling.</p>	<p>Designing a structure with key features.</p> <p>Drawing and labelling a castle design using 2D shapes, labelling: -the 3D shapes that will create the features.</p>	<p>Building frame structures designed to support weight and appeals to a specific audience.</p>	<p>Designing a stable structure that is able to support weight.</p> <p>Creating a frame structure with a focus on triangulation.</p>	<p>Designing a playground featuring a variety of different structures, considering how the structures will be used, the effective and ineffective of their designs.</p>
<p>Make</p>	<p>Making stable structures from card, tape and glue.</p> <p>Following instructions to cut and make the supporting structure Making effective turbines and axles to assemble into a main supporting structure.</p>	<p>Making a structure following a design criteria.</p> <p>Creating joints and structures from paper/card and tape.</p> <p>Building a strong and stiff structure by folding paper.</p>	<p>Constructing a range of 3D geometric shapes using nets .</p> <p>Creating special features for individual designs.</p> <p>Making fronts from a range of recycled materials</p>	<p>Making a free standing frame structure of various shapes and sizes.</p> <p>Selecting materials to build a strong structure. Ensuring the design aligns with the plan.</p> <p>Create different textural effects with materials.</p>	<p>Using triangles to create truss bridges that span a distance support a load.</p> <p>Accurately measure and mark wood and using a saw correctly and safely. Identify and action where a structure needs reinforcement.</p> <p>Explaining why chosen materials are in the design process.</p>	<p>Measure, mark and cut wood to create different structures.</p> <p>Using a range of materials to reinforce and add decoration to structures.</p>
<p>Evaluate</p>	<p>Testing the strength of own structure and identifying the weakest part of a structure.</p> <p>Evaluating the strength and stability a structure.</p>	<p>Testing the strength of own structure and identifying the weakest part of a structure.</p> <p>Evaluating the strength and stability a structure.</p>	<p>Evaluating own and others work based on the aesthetic of the product and compare to the original design.</p> <p>Suggesting points for change of the individual designs.</p>	<p>Evaluating others structures.</p> <p>Describing what features made it the most effective.</p> <p>Bearing in mind the effective and ineffective designs.</p>	<p>Improving a structure based on peer feedback, making reinforcements where needed.</p> <p>Making points for next improvements.</p>	<p>Improving a structure based on peer feedback, making changes where needed.</p> <p>Identifying what makes a effective structure</p>

Progression of Skills – Cooking & Nutrition



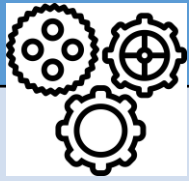
	Y1 Smoothies	Y2 Balanced Diet	Y3 Eating Seasonally	Y4 Adapting a Recipe	Y5 Developing a Recipe	Y6 Come Dine with Me
<p>Design</p>	<p>Designing carton packaging by-hand or on ICT software.</p>	<p>Designing a healthy wrap based on a food combination which works well together.</p>	<p>Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish.</p>	<p>Designing a biscuit within a given budget, drawing upon previous taste testing judgements.</p>	<p>Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients.</p>	<p>Writing a recipe, explaining the key steps, method and ingredients.</p> <p>Including facts and drawings from research undertaken.</p>
<p>Make</p>	<p>Chopping fruit and vegetables safely to make a smoothie.</p> <p>Learning where and how fruits and vegetables grow.</p>	<p>Slicing food safely using the bridge or claw grip.</p> <p>Creating a wrap that meets a design brief.</p>	<p>Following given instructions within a recipe.</p> <p>Learn to prepare themselves and a work space to cook safely.</p> <p>Learning basic rules of food preparation to avoid food contamination.</p>	<p>Following a baking recipe, including the preparation of ingredients.</p> <p>Following basic hygiene rules.</p> <p>Adapting a recipe to improve it or change it to meet new criteria</p>	<p>Using equipment safely such as knives, hot pans and hobs.</p> <p>Knowing how to avoid cross-contamination.</p> <p>Following a step by step method carefully to make a recipe.</p>	<p>Following a recipe, including using the correct quantities of each ingredient.</p> <p>Adapting a recipe based on research.</p> <p>Safely work to a given timescale hygienically and with independence.</p>
<p>Evaluate</p>	<p>Suggesting information to be included on packaging.</p>	<p>Taste testing food combinations and final products.</p> <p>Describing the information that should be included on a label.</p> <p>Evaluating which grip was most effective.</p>	<p>Describing the benefits of seasonal fruits and vegetables and the impact on the environment.</p> <p>Suggesting points for improvement when making a seasonal tart.</p>	<p>Describing the impact of the budget on the selection of ingredients.</p> <p>Evaluating and comparing a range of food products.</p>	<p>Identifying the nutritional differences between different products and recipes.</p> <p>Identifying and describing healthy benefits of food groups.</p>	<p>Considering taste, smell, texture and origin of the food group. Taste testing and scoring final products.</p> <p>Suggesting and writing up points of improvements when scoring others' dishes, and when evaluating their own.</p>

Progression of Skills – Textiles



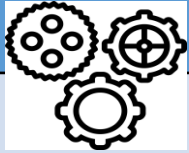
	Y1 Puppets	Y2 Pouches	Y3 Cushions or Collars	Y4 Fastenings	Y5 Stuffed Toys	Y6 Waistcoats
<p style="text-align: center;">Design</p>	Using a template to create a design for a puppet.	Designing a pouch.	Design and make a template from an existing cushion and creating an individual design criteria.	<p>Writing design criteria for a product, articulating decisions made.</p> <p>Designing a personalised book sleeve.</p>	Design a stuffed toy, considering the main shapes required to make a template	Design a waistcoat in accordance to a specification linked to set of design criteria.
<p style="text-align: center;">Make</p>	<p>Cut fabric neatly with scissors.</p> <p>Learn to use joining methods to decorate a puppet.</p> <p>Discuss sequencing steps for construction.</p>	<p>Select and cut fabrics for sewing.</p> <p>Decorating a pouch using fabric glue or running stitch.</p> <p>Sewing running stitch, with evenly spaced, neat, even stitches to join fabric.</p>	<p>Select and cut fabrics with using fabric scissors. Thread needles with, tie knots, sew cross and stitch to join fabric. Decorate fabric using appliqué.</p> <p>Completing design ideas with stuffing and sewing the edges.</p>	<p>Make and test a paper template with accuracy, in keeping with the criteria. Measure , mark and cut fabric using a paper template. Select a stitch style to join fabric.</p> <p>Incorporate a fastening to a design.</p>	<p>Create a 3D stuffed toy from a 2D design. Measure mark and cut fabric independently . Create a strong , secure blanket stitches and joining fabric and threading needles independently Apply blanket stitch so the spaces between stitches are even.</p>	<p>Use pins to secure a template to fabric . Marking and cutting fabric accurate from a design. Sew a running stitch, making small, neat stitches and following the edge. Attach features using thread. Learn different decorative stitches. Sew with evenly spaced, neat stitches.</p>
<p style="text-align: center;">Evaluate</p>	Reflect on a finished product, explaining likes and dislikes.	<p>Evaluate the quality of stitching on others' work.</p> <p>Discussing the success of their stitching against a success criteria.</p> <p>Identifying aspects of their peers' work they like and why.</p>	Evaluating an end product and thinking of other ways in which to create similar items.	<p>Refer to criteria to decide when the product is successful. Suggest changes for improvement.</p> <p>State the advantages and disadvantages of different fastening types.</p>	Test and evaluate an end product and give points for further improvements.	Reflect on their work throughout the design, make and evaluate process.

Progression of Skills – Mechanisms / Mechanical Systems

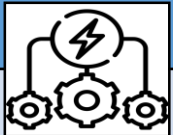


	Y1 Moving Story Book / Wheels and Axles		Year 2 Fairground Wheel / Moving Monster	
<p>Design</p>	<p>Explain how to adapt mechanisms. Design a moving story book for a given audience..</p>	<p>Design a vehicle that includes wheels, axles and axle holders, that will allow the wheels to move.</p> <p>Create labelled drawings that illustrate movement.</p>	<p>Select a suitable linkage system to produce the wanted movement.</p> <p>Design a wheel.</p>	<p>Create a class design criteria for a moving monster.</p> <p>Designing a moving monster for a specific audience with a design criteria.</p>
<p>Make</p>	<p>Follow a design to create moving models that use levers and sliders.</p>	<p>Adapt mechanisms, when:</p> <ul style="list-style-type: none"> • they do not work as they should. • to fit their vehicle design. • to improve how they work after testing their vehicle. 	<p>Select materials according to their characteristics.</p> <p>Follow a design brief.</p>	<p>Make linkages using card for levers and split pins for pivots.</p> <p>Experiment with linkages, adjusting the widths, lengths and thicknesses of card used.</p> <p>Cut and assemble components neatly</p>
<p>Evaluate</p>	<p>Test a finished product to see whether it moves as planned. If not, explain why and how it can be fixed.</p>	<p>Test wheel and axle mechanisms, identifying what stops the wheels from turning.</p> <p>Recognising that a wheel needs an axle in order to move.</p>	<p>Evaluate different designs.</p> <p>Test and adapt a design.</p>	<p>Use peer feedback to modify a final design.</p> <p>Evaluate own designs against design criteria.</p>

Progression of Skills – Mechanisms / Mechanical Systems



	Y3 Pneumatic Toys	Y4 Slingshot Car	Y5 Pop-up Book	Y6 Automata Toys
Design 	<p>Learn that different types of drawings are used in design to explain ideas clearly.</p> <p>Design a toy which uses a pneumatic system.</p> <p>Develop a design criteria from a design brief.</p> <p>Generate ideas using thumbnail sketches and exploded diagrams.</p>	<p>Design a shape that reduces air resistance.</p> <p>Draw a net to create a structure from.</p> <p>Choose shapes that increase or decrease speed as a result of air resistance.</p> <p>Personalise a design</p>	<p>Design a pop-up book which uses a mixture of structures and mechanisms.</p> <p>Name each mechanism, input and output accurately.</p> <p>Generate storyboarding ideas for a book.</p>	<p>Experiment with a range of cams, creating a design for an automata toy based on a choice of cam to create a desired movement.</p> <p>Understand how linkages change the direction of a force.</p> <p>Understanding and drawing cross-sectional diagrams to show the inner-workings of my design.</p>
Make 	<p>Create a pneumatic system for a desired motion.</p> <p>Build secure housing for a pneumatic system.</p> <p>Use syringes and balloons to make a functional and appealing pneumatic toy.</p> <p>Select materials due to their functional and aesthetic characteristics.</p>	<p>Measure, mark, cut and assemble with increasing accuracy.</p> <p>Make a model based on a chosen design.</p>	<p>Follow a design brief to make a pop up book with focus on accuracy.</p> <p>Make mechanisms and/or structures using sliders, pivots and folds to produce movement.</p> <p>Use layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result.</p> <p>Measure, mark and check the accuracy of the jelutong and dowel pieces required.</p>	<p>Measure, mark and cut components accurately using a ruler and scissors.</p> <p>Assemble components accurately to make a stable frame.</p> <p>Understanding that for the frame to function effectively, the components must be cut accurately and the joints of the frame secured at right angles.</p> <p>Select appropriate materials based on the materials being joined and the speed at which the glue needs to set.</p>
Evaluate 	<p>Refer to others to improve designs.</p> <p>Test and modify the outcome, suggesting improvements.</p>	<p>Evaluate the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance.</p>	<p>Evaluate the work of others and receiving feedback on own work.</p>	<p>Apply points of improvement to their own and others' toys.</p> <p>Describe changes they would make/do if they were to do the project again.</p>



Progression of Skills – Electrical Systems (KS2 Only)

	Y3 Electronic Poster	Y4 Torches	Y5 Doodlers	Y6
<p>Design</p>	<p>Carry out research based on a given topic to develop a range of initial ideas.</p> <p>Generate a final design for the electric poster with consideration to the client's needs and design criteria.</p> <p>Design an electric poster that fits the requirements of a given brief</p>	<p>Plan the positioning of the bulb (circuit component) and its purpose.</p> <p>Design a torch, considering the target audience and creating both design and success criteria focusing on features of individual design ideas.</p>	<p>Develop criteria based on findings from investigating existing products and clarifies users.</p>	<p>Design a steady hand game - identifying and naming the components required.</p> <p>Draw a design from three different perspectives.</p> <p>Generate ideas through sketching and discussion.</p> <p>Understanding the purpose of products (toys), including what is meant by 'fit for purpose' and 'form over function'.</p>
<p>Make</p>	<p>Create a final design for the electric poster.</p> <p>Mount the poster onto corrugated card to improve its strength and allow it to withstand the weight of the circuit on the rear.</p> <p>Learn ways to give the final product a higher quality finish (e.g. framing to conceal a roughly cut edge).</p>	<p>Make a torch with a working electrical circuit and switch.</p> <p>Use appropriate equipment to cut and attach materials.</p> <p>Assemble a torch according to the design and success criteria.</p>	<p>Alter a product's form and function by tinkering with its configuration.</p> <p>Making a functional series circuit that incorporates a motor.</p> <p>Construct a product with consideration for the design criteria. Break down the construction process into steps so others can make the product.</p>	<p>Construct a stable base for a game.</p> <p>Decorate the base of the game to a high quality finish.</p> <p>Making and testing a circuit.</p> <p>Incorporating a circuit into a base.</p>
<p>Evaluate</p>	<p>Learn to give and accept constructive criticism on own and others' work.</p> <p>Test success of initial ideas against criteria and justifying opinions. Revisit requirements of the client to review and check they fulfil their needs.</p>	<p>Evaluating electrical products.</p> <p>Test and evaluate the success of a final product.</p>	<p>Carry out a product analysis. Determine which parts of a product affect its function and form.</p> <p>Analyse whether changes in configuration positively or negatively affect a product.</p> <p>Peer evaluating a set of instructions to build a product.</p>	<p>Test own and others finished games, identifying what went well and making suggestions for improvement.</p> <p>Gathering images and information about existing children's toys.</p> <p>Analysing a selection of existing children's toys.</p>