



## Callowell Primary School - Progression of DT skills

| Year            | Design, Make, Evaluate   | Textiles   | Structures   | Cooking and Nutrition  | The Digital World | Mechanisms  |
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| Birth to 3      | <p>Explore different materials, using all their senses to investigate them.</p> <p>Manipulate and play with different materials.</p> <p>Use their imagination as they consider what they can do with different materials.</p> <p>Make simple models which express their ideas.</p>   |  |  |  |                   |   |
| 3 & 4 Year olds | <p>Explore different materials freely, to develop their ideas about how to use them and what to make.</p> <p>Develop their own ideas and then decide which materials to use to express them.</p> <p>Join different materials and explore different textures.</p> <p>Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park.</p> |  |  |  |                   |   |
| Reception       | <p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>Share their creations, explaining the process they have used.</p>  | <p>Know that different materials and fabrics are used for different purposes e.g. wool for a jumper, rubber for wellies.</p> <p>Use a variety of textiles and fabric.</p> <p>Decorate a piece of Fabric.</p> <p>Use simple weaving techniques: paper, Twigs.</p> <p>Make a fabric collage:</p> | <p>Think and talk about what they are going to make before they do it.</p> <p>Plan what they are going to make by drawing it first.</p> <p>Use a tick list to say what resources they are going to need to make their product or outcome.</p> <p>Choose the resources needed for the activity.</p> <p>Handle simple hand tools and equipment</p> | <p>Use a knife safely to chop a range of soft food.</p> <p>Use jugs, scoops and spoons in cooking.</p> |                   | <p>Represent own ideas, thoughts and feelings through design and technology.</p> <p>Use a split pin to create a mechanism that opens and closes (a simple hinge).</p> |

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|  |  | <p>layering fabrics.</p> <p>Join two pieces of fabric together with glue.</p> | <p>effectively.</p> <p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>Select appropriate materials to make my outcome based on the given task.</p> <p>Use junk modelling materials to create outcomes.</p> |  |  |  |
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| <p><b>Year 1</b></p> | <p><b><u>Design</u></b><br/>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><b><u>Make</u></b><br/>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</p> | <p>Use a template to create shapes.</p> <p>Begin to identify different forms of textiles/fabric e.g. felt, velvet, cotton.</p> <p>Continue to develop understanding weaving techniques.</p> <p>Use different fabrics and materials in collages.</p> <p>Join two pieces of fabric together with pins or staples.</p> | <p>Learn the importance of clear design criteria.</p> <p>Include individual preferences and requirements in a design.</p> <p>Make stable structures from card, tape and glue.</p> <p>Follow instructions to cut and assemble the structure.</p> | <p>Chop ingredients safely with a knife.</p> <p>Group similar types of food.</p> <p>Understand where food comes from.</p>   |  | <p>Explain how to adapt mechanisms, using bridges or guides to control the movement.</p> <p>Design a moving story book for a given audience.</p> <p>Create clearly labelled drawings which illustrate movement.</p> <p>Follow a design to create moving models that use levers sliders.</p> <p>Adapt simple mechanisms.</p> |
| <p><b>Year 2</b></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</p>   |   | <p>Generate and communicate ideas using sketching and modelling.</p> <p>Learn about different types of structures found in the natural world and in everyday objects.</p> <p>Make a structure according to given design criteria.</p>           | <p>Design a healthy snack based on a food combination which works well together.</p> <p>Slice food safely using the bridge or the claw grip.</p> <p>Peel and grate food safely.</p> <p>Construct a healthy snack that meets a</p> |  | <p>Create class design criteria for a moving structure.</p> <p>Design a moving structure for a specific audience in accordance with design criteria.</p> <p>Select a suitable linkage system to produce the desired motions.</p>  |

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|               | <p>and ingredients, according to their characteristics.</p> <p><b>Evaluate</b><br/>Explore and evaluate a range of existing products.</p> <p>Evaluate their ideas and products against design criteria</p> |  | <p>Create joints and structures from paper or card and tape or glue.</p>                       | <p>design brief.</p>   |  | <p>Design a vehicle that includes wheels, axles and axle holders, which will allow the wheels to move.</p> <p>Select appropriate materials based on their properties.</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>Select materials according to their characteristics.</p> <p>Follow a design brief.</p> <p>With support, use a hot glue gun.</p> |
| <b>Year 3</b> | <p><b>Design</b><br/>Use research and develop design criteria to inform</p>  | <p>Design and make a template from an existing product and apply individual design</p> | <p>Design a structure e.g. one linked to the learning project, with key features to appeal</p> | <p>Create a healthy and nutritious recipe for a savoury meal using seasonal ingredients,</p> |  |   |

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|               | <p>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>criteria.</p> <p>Begin to thread a needle independently.</p> <p>Continue to use a running stitch and introduce a back stitch.</p> <p>Apply decoration using beads, buttons, feathers etc.</p> <p>Begin to modify threads and fabrics, knotting, fraying, fringing, pulling threads, twisting, plaiting.</p> | <p>to a specific person or purpose.</p> <p>Draw and label a design for the structure using 2D shapes, labelling: - the 3D shapes that will create the features - the materials needed and its colours.</p> <p>Construct a range of 3D geometric shapes using nets.</p> <p>Create special features for individual designs.</p> <p>Make facades from a range of recycled materials.</p> | <p>considering the taste, texture, smell and appearance of the dish.</p> <p>Know how to prepare themselves and a workspace to cook safely in.</p> <p>Learn the basic rules to avoid food contamination.</p> <p>Follow the instructions in a recipe.</p> |  |   |
| <b>Year 4</b> | <p><b>Make</b></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</p>  | <p>Write design criteria for a product, articulating decisions made.</p> <p>Create a paper prototype.</p> <p>Thread a needle independently.</p> <p>Use a running and back stitch.</p> <p>Apply decoration using needle and thread:</p>   | <p>Design a stable structure, linked to the learning project or scheme unit, that is aesthetically pleasing, and select materials to create a desired effect.</p> <p>Build frame structures designed to support weight.</p> <p>Create a range of different shaped frame structures.</p>   | <p>Design a meal within a given budget, drawing upon previous taste tastings.</p> <p>Cook safely, following basic hygiene rules.</p> <p>Follow a baking recipe.</p> <p>Adapt a recipe.</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 because of air resistance.</p> <p>Personalise a design.</p> <p>Measure, mark, cut</p> |

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|                      | <p>use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.</p> <p><b>Evaluate</b><br/>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>buttons, sequins.</p> <p>Gain experience in applying colour by printing and using fabric crayons/ paints.</p> <p>Change and modify threads and fabrics.</p> <p>Introduce a cross stitch in embroidery.</p> | <p>Make a variety of free-standing frame structures of different shapes and sizes.</p> <p>Select appropriate materials to build a strong structure.</p> <p>Reinforce corners to strengthen a structure.</p> <p>Learn to create different textural effects with materials.</p> <p>Use a hot glue gun safely to create their structure.</p> |  |  | <p>and assemble with increasing accuracy.</p> <p>Make a model based on a chosen design.</p>  |
| <p><b>Year 5</b></p> | <p>Understand how key events and individuals in design and technology have helped shape the world.</p>  |   | <p>Design a stable structure that can support weight.</p> <p>Create a frame structure with a focus on triangulation.</p> <p>Make a range of different shaped beam bridges.</p> <p>Use triangles to create truss bridges that span a given distance and support a load.</p>  | <p>Adapt a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients.</p> <p>Write an amended method for a recipe to incorporate the relevant changes to ingredients.</p> <p>Design appealing packaging to reflect a recipe.</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>Storyboard ideas for a book.</p> <p>Follow a design brief to make a pop-up book, neatly and with a focus on accuracy.</p> |

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|                      |  |  |   | <p>Cut and prepare vegetables safely.</p> <p>Use equipment safely, including knives, hot pans and hobs.</p> <p>Know how to avoid food cross- contamination.</p> <p>Follow a step-by-step method carefully to make a recipe.</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><b>Year 6</b></p> |  | <p>Design a fabric piece in accordance with specification linked to a set of design criteria and a theme.</p> <p>Annotate designs and explain any changes made.</p> <p>Design, plan and decorate a fabric piece.</p> <p>Experiment with a variety of techniques.</p> <p>Use a number of different stitches creatively to produce different patterns and textures.</p> <p>Recognise different</p> | <p>Design a scenario featuring a variety of different structures, considering how the structures will be used, and what are effective and ineffective designs based on prior knowledge and experience.</p> <p>Build a range of structures drawing upon new and prior knowledge of structures.</p> <p>Measure, mark and cut wood to create a range of structures.</p> <p>Use a range of materials to reinforce</p> | <p>Write a recipe, explaining the key steps, method and ingredients.</p> <p>Include facts and drawings from research undertaken.</p> <p>Measure accurately to ensure the correct quantities of each ingredient.</p> <p>Adapt a recipe based on research.</p> <p>Work to a given timescale.</p> <p>Work safely and hygienically with increasing independence.</p> | <p>Write a design brief from information submitted by a client.</p> <p>Develop design criteria to fulfil the client's request.</p> <p>Consider and suggest additional functions for my navigation tool.</p> <p>Develop a product idea through annotated sketches.</p> <p>Place and manoeuvre 3D objects, using CAD.</p> <p>Change the properties of, or combine one or more 3D objects, using CAD.</p> |  |

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|  |  | forms of textiles and express opinions on them. | and add decoration to structures. |  | Consider materials and their functional properties, especially those that are sustainable and recyclable e.g. cork and bamboo.<br><br>Explain material choices and why they were chosen as part of a product concept. |  |
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