



Skills							
Year	R	1	2	3	4	5	6
Design	<p>Children use what they have learnt about media and materials in original ways, thinking about uses and purposes.</p> <p>They represent their own ideas, thoughts and feelings through design and technology</p>	<p>Design appealing products for a particular user based on simple design criteria.</p> <p>Draw on their own experiences to generate multiple ideas.</p> <p>Suggest and explain their ideas and how they are going to create them.</p> <p>Communicate ideas through discussion, drawings, labels and mock-ups where relevant</p>	<p>Generate ideas based on simple design criteria and their own experiences, explaining what they could make.</p> <p>Identify the purpose or multiple purposes for what they will design and make.</p> <p>Develop and modify ideas through discussion, observation, drawing, labels and mock-ups.</p>	<p>Use discussion and design criteria to generate realistic ideas for an appealing, functional product that is fit for purpose for a specific user.</p> <p>Develop and communicate ideas through annotated sketches, prototypes, final product sketches and pattern pieces; communication technology, such as web-based recipes.</p> <p>Identify and plan the order of work.</p> <p>Explain how parts of the product will work.</p>	<p>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.</p> <p>Gather information about the demographic of the user.</p> <p>Consider the purpose of the product, evaluate similar products and assimilate ideas for their on design.</p> <p>Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams from different perspectives.</p>	<p>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.</p> <p>Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification.</p> <p>Develop and explain ideas with clear design objectives.</p> <p>Plan a sequence of actions, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail.</p>	<p>Use research including surveys, interviews, questionnaires and web-based resources to develop a design specification for a range of functional products.</p> <p>Develop a simple design specification to guide the development of their products, taking account of constraints including time, resources and cost.</p> <p>Generate and develop innovative ideas and share and clarify these through discussion.</p> <p>Communicate ideas through detailed annotated sketches, pictorial representations of electrical circuits or circuit diagrams.</p> <p>Plan the order of their work, choosing appropriate materials, tools and techniques.</p>

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<b>Make</b>	<p>Choose the resources they need for their chosen activities</p> <p>Handle equipment and tools effectively</p> <p>Know how to hold scissors and use them effectively.</p> <p>Explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p>	<p>Select and use simple utensils, tools and equipment to perform a job e.g. peel, cut, slice, squeeze, grate and chop safely; measure, mark out, cut, join, shape and finish a range of materials.</p> <p>Select from a range of ingredients and materials according to their characteristics to create a chosen product.</p> <p>Use basic food handling, hygienic practices and personal hygiene.</p>	<p>Plan by suggesting what to do next.</p> <p>Select and safely use tools, equipment, skills and techniques to perform practical tasks, explaining their choices.</p> <p>Select new and reclaimed materials or components and construction kits to build and create their products.</p> <p>Use simple finishing techniques suitable for the products they are creating.</p> <p>Measure, cut and score with some accuracy.</p> <p>Follow safe procedures for food safety and hygiene.</p>	<p>Plan the main stages of making.</p> <p>Select from and use a range of appropriate utensils, tools and equipment with some accuracy related to their product.</p> <p>Select from and use finishing techniques suitable for the product they are creating.</p> <p>Measure, tape or pin, cut and join fabric with some accuracy.</p> <p>Demonstrate safe and hygienic food preparation and storage.</p>	<p>Order the main stages of making.</p> <p>Select and use appropriate tools related to their products.</p> <p>Select from, use and explain choice of materials and components, including ingredients, construction and electrical components according to their functional properties and aesthetic qualities</p> <p>Measure, mark out, cut and shape a range of materials, join and combine materials and components accurately in temporary and permanent ways.</p> <p>Sew using a range of different stitches, weave and knit a range of materials.</p>	<p>Produce detailed lists of equipment and fabrics relevant to their tasks</p> <p>Write a step-by-step plan, including a list of resources required.</p> <p>Select from and use, a range of appropriate utensils, tools and equipment accurately to measure and combine appropriate ingredients, materials and resources.</p> <p>Measure, mark out, cut and join accurately to ensure a good quality finish to the product..</p>	<p>Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components.</p> <p>Competently select from and use appropriate tools to accurately measure, mark, cut and assemble materials, and securely connect electrical components to produce reliable, functional products.</p> <p>Use finishing and decorative techniques suitable for the product they are designing and making.</p>
<b>Evaluate</b>	<p>Checking how well their activities are going</p> <p>Changing strategy as needed</p> <p>Reviewing how well the approach worked</p>	<p>Taste, explore and evaluate a range of products to determine the intended user's preferences for the product</p> <p>Evaluate their ideas throughout and finished products against design criteria, including intended user and purpose</p>	<p>Explore a range of existing products related to their design criteria.</p> <p>Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria</p>	<p>Investigate a range of 3-D textile products, ingredients and lever and linkage products relevant to their project.</p> <p>Test their product against the original design criteria and with the intended user.</p> <p>Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.</p>	<p>Investigate and evaluate a range of products including the ingredients, materials, components and techniques that are used.</p> <p>Test and evaluate their own products against design criteria and the intended user and purpose.</p> <p>Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.</p>	<p>Investigate and analyse products linked to their final product.</p> <p>Compare the final product to the original design specification and record the evaluations.</p> <p>Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</p> <p>Consider the views of others to improve their work</p>	<p>Continually evaluate and modify the working features of the product to match the initial design specification.</p> <p>Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests.</p> <p>Test the system to demonstrate its effectiveness for the intended user and purpose.</p>

**Knowledge**

Year	R	1	2	3	4	5	6
<b>Food and nutrition</b>	<p>Know the importance for good health of a healthy diet</p> <p>Understand the importance of hand washing before touching foods.</p>	<p>Understand where a range of fruit and vegetables come from e.g. farmed or grown at home</p> <p>Understand and use basic principles of a healthy and varied diet to prepare dishes.</p> <p>Know and use technical and sensory vocabulary relevant to the project.</p>		<p>Know how to use appropriate equipment and utensils to prepare and combine food.</p> <p>Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.</p> <p>Know and use relevant technical and sensory vocabulary appropriately.</p>		<p>Know how to use utensils and equipment including heat sources to prepare and cook food.</p> <p>Understand about seasonality in relation to food products and the source of different food products.</p> <p>Know and use relevant technical and sensory vocabulary</p>	
<b>Structures</b>	<p>Create freestanding structures from repurposed materials</p>		<p>Know how to make freestanding structures stronger, stiffer and more stable.</p> <p>Know and use technical vocabulary relevant to the project.</p>		<p>Develop and use knowledge of how to construct strong, stiff shell structures.</p> <p>Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.</p> <p>Know and use technical vocabulary relevant to the project.</p>	<p>Understand how to strengthen, stiffen and reinforce 3-D frameworks.</p> <p>Know and use technical vocabulary relevant to the project.</p>	
<b>Textiles</b>	<p>Name different decorative items eg. Button, sequin, bead</p> <p>Understand how to join and decorate fabrics using glue</p>	<p>Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling.</p> <p>Know how to thread a needle</p> <p>Decorate fabrics with attached items e.g. buttons, beads, sequins, braids, ribbons.</p> <p>Know and use technical vocabulary relevant to the project.</p>	<p>Colour fabrics using a range of techniques e.g. fabric paints, printing, painting.</p> <p>Join fabric using appropriate techniques.</p> <p>Explore different finishing techniques</p> <p>Know and use technical vocabulary relevant to the project.</p>	<p>Understand how simple 3-D textile products are made, using a template to create two identical shapes.</p> <p>Know how to strengthen, stiffen and reinforce existing fabrics.</p> <p>Understand how to securely join two pieces of fabric together.</p> <p>Understand the need for patterns and seam allowances.</p> <p>Know and use technical vocabulary relevant to the project.</p>	<p>Explore different decorative stitching techniques</p> <p>Know and use technical vocabulary relevant to the project</p>	<p>Securely join two pieces of fabric together using different techniques eg, running stitch, blanket stitch</p>	<p>Produce a 3-D textile product from a combination of accurately made pattern pieces, fabric shapes and different fabrics.</p> <p>Understand how fabrics can be strengthened, stiffened and reinforced where appropriate.</p> <p>Know and use technical vocabulary relevant to the project</p>

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<b>Mechanical</b>		<p>Explore and use wheels, axles and axle holders.</p> <p>Distinguish between fixed and freely moving axles.</p> <p>Know and use technical vocabulary relevant to the project.</p>	<p>Explore and use sliders and levers.</p> <p>Understand that different mechanisms produce different types of movement.</p> <p>Know and use technical vocabulary relevant to the project.</p>	<p>Understand and use lever and linkage mechanisms.</p> <p>Distinguish between fixed and loose pivots.</p> <p>Know and use technical vocabulary relevant to the project.</p>	<p>Describe how objects use air to make them work.</p> <p>Create simple effective pneumatic systems.</p> <p>Investigate ways of using pneumatic systems with other materials to control movement.</p> <p>Know and use technical vocabulary relevant to the project.</p>	<p>Understand that mechanical systems have an input, process and an output.</p> <p>Understand how cams can be used to produce different types of movement and change the direction or movement.</p> <p>Know and use technical vocabulary relevant to the project.</p>	<p>Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.</p> <p>Know and use technical vocabulary relevant to the project.</p>
<b>Electrical</b>					<p>Understand and use electrical systems in their products linked to science coverage.</p> <p>Apply their understanding of computing to program and control their products.</p> <p>Know and use technical vocabulary relevant to the project.</p>		<p>Understand and use electrical systems in their products linked to science coverage.</p> <p>Apply their understanding of computing to program, monitor and control their products.</p> <p>Know and use technical vocabulary relevant to the project.</p>