

Yr 1 & 2

Mechanisms Wheels and Axis	Mechanisms Sliders and Levers	Structures Free standing structures	Food Preparing fruit and vegetables	Textiles Templates and joining
<ul style="list-style-type: none"> • Use pictures and words to plan. • Use simple design criteria to help develop their ideas. • Explore and use wheels, axles and axle holders. • Distinguish between fixed and freely moving axles. • Model ideas by exploring materials, components, construction kits. • Use knowledge of existing products to create templates and mock ups. • Make judgements about their products and ideas against design criteria. • Know the correct technical vocabulary for their projects. • Suggest how their product could be improved. 	<ul style="list-style-type: none"> • Use simple design criteria to help develop their ideas. • Make judgements about their products and ideas against design criteria. • Know the correct technical vocabulary for their project. • Know about the simple working characteristics of materials and components. • Use simple levers, sliders, wheels and axles. • Use IT to develop and communicate ideas. • To cut, shape, and join paper / card. • Select and use tools, explaining their choices. 	<ul style="list-style-type: none"> • Use simple design criteria to help develop their ideas. • Select from a range of materials, components, tools and equipment explaining their choices. • Make judgements about their products and ideas against design criteria. • Suggest how their product could be improved. • Know the correct technical vocabulary for their projects. • Strengthen, stabilise and stiffen free standing structures. • Use IT to develop and communicate ideas. 	<ul style="list-style-type: none"> • Be able to make simple dishes safely and hygienically (no heat source). • Use simple design criteria to help develop their ideas. • Make judgements about their products and ideas against design criteria. • Know the correct technical and sensory vocabulary relevant to the project. • Be able to grate, peel and cut. • Name and sort foods into 5 groups. • To understand the basic principles of a healthy and varied diet (The Eatwell plate). 	<ul style="list-style-type: none"> • Design a functional and appealing product for a chosen user and purpose based on a simple design criteria. • To explore ideas and use templates. • Assemble and join textiles using glue, running stitch, over stitch and stapling. • Make judgements about their products and ideas against design criteria. • Know the correct technical vocabulary for their projects • Know that 3-D textiles products can be made from 2 identical fabric shapes. • Explore different finishing techniques e.g. painting, fabric crayons, sequins, buttons and ribbons.

Yr 3 & 4

Structures Shell and Structures	Mechanical Systems Levers and Linkages	Food Healthy and Varied Diet	Textiles 2d Shape to 3d Shape	Electrical Systems Simple circuits and switches	Electrical systems Simple programming and control
<ul style="list-style-type: none"> Describe the purpose of their product Generate realistic ideas, focussing on the needs of the user. Assemble, join and combine materials with some accuracy Evaluate construction method used. Evaluate how well product meets the needs of the user Use annotated sketches, cross sectional drawings, and exploded diagrams to develop and communicate ideas. Recognise and explain how to make strong, stiff shell structures 	<ul style="list-style-type: none"> Use annotated sketches, cross sectional drawings, and diagrams to develop and communicate ideas Measure, mark out, cut and shape materials and components with some accuracy Assemble, join and combine materials with some accuracy Apply a range of finishing techniques, including these from art and design, with some accuracy Evaluate how well products work and suggest improvements. Develop design criteria and use it to inform their ideas Distinguish between fixed and loose pivots. 	<ul style="list-style-type: none"> Order the main stages of making. Develop their own design criteria and use it to inform their ideas. Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including using a heat source Know a range of techniques e.g. peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Evaluate how well product has been designed and made. Select tools, equipment, materials and components for the task and explain their choices. 	<ul style="list-style-type: none"> Describe the purpose of their product Model ideas with pattern pieces and prototypes. Measure, mark out, cut and shape materials and components with some accuracy. Apply a range of finishing techniques, including these from art and design, with some accuracy. Know that a single fabric shape can make a 3-D textiles product. Evaluate the product against the original design criteria and the needs of the intended user. Develop their own design criteria and use it to inform their ideas. 	<ul style="list-style-type: none"> Describe the purpose of their product Model ideas with pattern pieces and prototypes Know that mechanical and electrical systems have an input, process and output Know how simple electrical circuits and components can be used to create functional products. Evaluate and analyse a range of existing battery – powered products. Select tools, equipment, materials and components for the task and explain their choices. Know how to use learning from science and maths to design and make products that work 	<ul style="list-style-type: none"> Describe the purpose of their product Model ideas with pattern pieces and prototypes Know that mechanical systems have an input, process and output Know how to program a computer to control their products Evaluate product and against their original design. Generate realistic ideas, focussing on the needs of the user. Select tools, equipment, materials and components for the task and explain their choices.

	<ul style="list-style-type: none">• <i>Understand and use lever and linkage mechanisms.</i>• <i>Evaluate materials used.</i>		<ul style="list-style-type: none">• <i>Understand the need for patterns and seam allowances.</i>• <i>Use annotated sketches, cross sectional drawings, and exploded diagrams to develop and communicate ideas.</i>• <i>Generate realistic ideas, focussing on the needs of the user.</i>• <i>Assemble, join and combine materials with some accuracy</i>		
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Yr 5 & 6					
Textiles Combining different fabric shapes inc. Computer Aided Design	Electrical systems Monitoring and control (following Electrical science unit)	Mechanical systems Pulleys and Gears (following Forces science unit)	Mechanical Systems CAMs	Structures Frame Structures	Food Celebrating culture and seasonality
<ul style="list-style-type: none"> • Use computer aided design to develop an communicate their ideas • Generate innovative ideas, drawing on research • Accurately measure, mark out, cut and shape materials and components • Accurately assemble, join and combine materials and components • Accurately apply a range of finishing techniques, including those from art and design. • Use techniques that involve a number of steps. • Know how to program a computer to monitor changes in the environment and control their products. 	<ul style="list-style-type: none"> • Develop a simple design specification to guide their thinking • Share and clarify ideas through discussion. • Know that mechanical and electrical systems have an input, process and output • Know how more complex electrical circuits and components can be used to create functional products • Use construction materials and kits, mechanical and electrical components • Identify the needs, wants, preferences and values of specific individuals and groups. 	<ul style="list-style-type: none"> • Generate innovative ideas, drawing on research. • Identify the needs, wants, preferences and values of specific individuals and groups. • Develop a simple design specification to guide their thinking. • Use construction materials and kits, mechanical and electrical components • Use techniques that involve a number of steps • Demonstrate resourcefulness when tackling practical problems • Know that mechanical and electrical systems 	<ul style="list-style-type: none"> • Use computer aided design to develop an communicate their ideas • Use construction materials and kits, mechanical and electrical components • Know that mechanical and electrical systems have an input, process and output • Know how mechanical systems create movement • Know how to program a computer to monitor changes in the environment and control their products • Demonstrate resourcefulness when tackling practical problems 	<ul style="list-style-type: none"> • Generate innovative ideas, drawing on research. • Develop a simple design specification to guide their thinking • Share and clarify ideas through discussion. • Model ideas with pattern pieces and prototypes. • Use annotated sketches, cross sectional drawings, and diagrams to develop and communicate ideas. • Know that materials can be combined and mixed to create more useful characteristics • Evaluate how innovative products are 	<ul style="list-style-type: none"> • Use annotated sketches to communicate ideas. • Formulate step by step plans as a guide to making Follow procedures for safety and hygiene. • Know that seasons affect the food available. • Know how food is processed into ingredients to use or eat • Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including using a heat source. • Know a range of techniques e.g. peeling, chopping, slicing, grating, mixing, spreading,

<ul style="list-style-type: none"> • Know that 3D textile product can be made from a combination of fabric shapes. • Evaluate products against initial design. • Identify the needs, wants, preferences and values of specific individuals and groups • Demonstrate resourcefulness when tackling practical problems. • Know about inventors, designers, engineers, chefs and manufacturers who have developed ground breaking products. • Know that materials can be combined and mixed to create more useful characteristics. • Evaluate how well products achieve their purpose. • Evaluate how sustainable materials are. 	<ul style="list-style-type: none"> • Model ideas with pattern pieces and prototypes • Use annotated sketches, cross sectional drawings, and diagrams to develop and communicate ideas. • Demonstrate resourcefulness when tackling practical problems • Evaluate how innovative products are • Evaluate how sustainable the materials are. • Evaluate the impact products have beyond their intended purpose 	<p>have an input, process and output.</p> <ul style="list-style-type: none"> • Share and clarify ideas through discussion. • Model ideas with pattern pieces and prototypes. • Use annotated sketches, cross sectional drawings, and diagrams to develop and communicate ideas. • Evaluate how innovative products are • Evaluate how sustainable the materials are. • Evaluate what impact products 	<ul style="list-style-type: none"> • Investigate and analyse how well products have been designed and made • Evaluate what impact products have beyond their intended purpose 	<ul style="list-style-type: none"> • Evaluate how sustainable the materials are • Evaluate what impact products have beyond their intended purpose • Identify the needs, wants, preferences and values of specific individuals and groups. • Demonstrate resourcefulness when tackling practical problems. • Evaluate construction methods against initial design. 	<p>kneading and baking</p> <ul style="list-style-type: none"> • Know that recipes can be adapted to change the taste, appearance, texture and aroma. • Evaluate finished product and consider how much item costs to make. • Know about inventors, designers, engineers, chefs and manufacturers who have developed ground breaking products. • Accurately measure ingredients • Identify the needs, wants, preferences and values of specific individuals and groups. • Develop a simple design specification to guide their thinking. • Share and clarify ideas through discussion.
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