

Generating skills and ideas – designing						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>Design appealing products for a particular user based on simple design criteria.</p> <p>Generate initial ideas and design criteria through own experiences.</p> <p>Develop and communicate these ideas through talk and drawings and mock ups where relevant.</p>	<p>Generate ideas based on simple designs criteria and their own experiences, explaining what they could make.</p> <p>Develop, model and communicate their ideas through talking, mock ups and drawings.</p>	<p>Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s.</p> <p>Use annotated sketches, prototypes, final product sketches and pattern pieces; communication technology, such as web based recipes, to develop and communicate ideas.</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>Use annotated sketches and appropriate information and communication technology, such as web based recipes, to develop and communicate ideas.</p> <p>Generate, develop, model and communicate realistic ideas through discussion and as appropriate, annotated sketches, cross sectional and exploded diagrams.</p>	<p>Generate innovative ideas through research including surveys, interviews and questionnaire 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 communicate ideas through discussion, annotated drawings exploded drawings and drawings from different views, and where appropriate, computer aided design.</p>	<p>Use research using 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 ideas and 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 annotated sketches, pictorial representations of electrical circuits or circuit diagrams.</p>
Making						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>Select and use simple utensils, tools and equipment to perform a job eg. Peels, cut, slice, squeeze, grate and chop safely, marking put, cutting, joining and finishing, cut shape and join paper and card.</p>	<p>Plan by suggesting what to do next.</p> <p>Select and use tools equipment, skills and techniques to perform practical tasks, explaining their choices.</p> <p>Select new and materials, components, reclaimed materials and</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 and use simple finishing techniques</p>	<p>Order the main stages of making.</p> <p>Select and use appropriate tools to measure, mark out, cut, score, shape, and combine with some accuracy related to their products.</p> <p>Explain their choice of materials according to</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</p>	<p>Formulate a step by step plan to guide marking, listening tools, equipment, materials and components.</p> <p>Competently select from and sue appropriate tools to accurately measure, mark, cut, assemble materials, and securely connect electrical components to produce reliable, functional products.</p>

	Select from a range of ingredients and materials according to their characteristics to create chosen product.	construction kits to build and create their products.  Use simple finishing techniques suitable for the products they are creating.	suitable for the products they are creating.	functional properties and aesthetic qualities.  Select from and use materials and comments, including ingredients, construction and electrical components according to their function properties.	appropriate ingredients, materials and resources.	Use finishing and decorative techniques suitable for the product they are designing and making.
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## Evaluating

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>Taste, explore and evaluate a range of products to determine the intended users 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 3D textile products, ingredients and lever and linkage products relevant to their product.</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 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 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 – food						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<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 diet to prepare dishes, including how fruit and vegetable are part of the 'Eat well plate'.</p> <p>Know and use technical and sensory vocabulary relevant to the project.</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 diet to prepare dishes, including how fruit and vegetable are part of the 'Eat well plate'.</p> <p>Know and use technical and sensory vocabulary relevant to the project.</p>	<p>Know and use appropriate equipment 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 technical and sensory vocabulary relevant to the project.</p>	<p>Know and use appropriate equipment 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 technical and sensory vocabulary relevant to the project.</p>	<p>Know and use utensils and equipment including heat sources to prepare and cook food.</p> <p>Understand about seasonality in relation to food and products and the source of different food products.</p> <p>Know and use technical and sensory vocabulary relevant to the project.</p>	<p>Know and use utensils and equipment including heat sources to prepare and cook food.</p> <p>Understand about seasonality in relation to food and products and the source of different food products.</p> <p>Know and use technical and sensory vocabulary relevant to the project.</p>
Food - Vocabulary						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>Fruits and vegetables names, names of equipment and utensils.</p> <p>Sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients.</p>	<p>Fruits and vegetables names, names of equipment and utensils.</p> <p>Sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients.</p>	<p>Name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet.</p>	<p>Name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet.</p>	<p>Ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs, fat, sugar, carbohydrates, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality, utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble.</p>	<p>Ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs, fat, sugar, carbohydrates, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality, utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble.</p>

Structures						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		<p>Know how to make free standing structures stronger, stiffer and more stable.</p> <p>Know how to 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, 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 3d frameworks.</p> <p>Know and use technical vocabulary relevant to the project.</p>
Vocabulary						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		<p>Cut, fold, join, fix, Structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cuboid, cube, cylinder.</p>		<p>Shell structure, three dimensional (3D), shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breath, capacity, marking out, scoring and shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating, font, lettering, text, graphics, decision.</p>		<p>Frame structure, stiffen, strengthen, reinforce, triangulation, stability, shapes, join, temporary, permanent.</p>

Textiles						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>Understand how simple 3D textile products are made, using template to create two identical shapes.</p> <p>Understand how to join fabrics using different techniques eg running stitch, glue, over stitch, stapling.</p> <p>Explore different finishing techniques.</p> <p>Know and use technical vocabulary relevant to the project.</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>Produce a 3D textile product made from 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>	
Textiles - Vocabulary						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>Joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish.</p>		<p>Fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance.</p>		<p>Seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces, name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings.</p>	

## Mechanisms/mechanical systems

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<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>Explore and use wheels, axles and axle holders.</p> <p>Distinguish between fixed and freely moving axis.</p> <p>Know and use technical vocabulary relevant to the project.</p>	<p>Understand and use lever linkage mechanisms.</p> <p>Distinguish between fixed and loose pivots.</p> <p>Know and use technical vocabulary relevant to the project.</p>		<p>Understand mechanical and electrical systems have an input, process and an output.</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>	

## Mechanisms/mechanical systems – Vocabulary

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>Slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push up, down, straight, curve, forwards, backwards.</p>	<p>Vehicle, wheel, axle holder, chassis, body, cab assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism names of tools, equipment and materials used.</p>	<p>Mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output, linear, rotary, oscillating, reciprocating.</p>		<p>Pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axis, motor, circuit, switch, circuit diagram, annotated drawings, exploded diagrams, mechanical system, electrical system, input, process, output.</p>	

Electrical systems						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				<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>
Electrical – Vocabulary						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				<p>Series, circuit, fault, connection, toggie, switch, push to make switch, push to break, switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, control program, system, input device, output device.</p>		<p>Reed switch, toggle switch, push to make switch, push to make break switch, light dependent resistor (LDR), tilt switch, light emitting diode, (LED), bulb, bulb holder, battery, battery holder, USB cable wire, insulator, conductor, crocodile clip control, program, system, input device, output device, series circuit, parallel circuit.</p>