## **EVPA Design and Technology Skills Progression**

KS1 National Curriculum	KS2 National Curriculum
Pupils should be taught to:	Pupils should be taught to:
Design	Design
• design purposeful, functional, appealing products for themselves and	design purposeful, functional, appealing products for themselves and
other users based on design criteria	other users based on design criteria
• generate, develop, model and communicate their ideas through	generate, develop, model and communicate their ideas through
talking, drawing, templates, mock-ups and, where appropriate,	talking, drawing, templates, mock-ups and, where appropriate,
information and communication technology	information and communication technology
Make	Make
• select from and use a range of tools and equipment to perform	select from and use a range of tools and equipment to perform
practical tasks [for example, cutting, shaping, joining and finishing]	practical tasks [for example, cutting, shaping, joining and finishing]
• select from and use a wide range of materials and components,	• select from and use a wide range of materials and components,
including construction materials, textiles and ingredients, according to	including construction materials, textiles and ingredients, according to
their characteristics	their characteristics
Evaluate	Evaluate
<ul> <li>explore and evaluate a range of existing products *</li> </ul>	explore and evaluate a range of existing products
evaluate their ideas and products against design criteria	evaluate their ideas and products against design criteria
Technical knowledge	Technical knowledge
<ul> <li>build structures, exploring how they can be made stronger, stiffer and more stable</li> </ul>	<ul> <li>build structures, exploring how they can be made stronger, stiffer and more stable</li> </ul>
<ul> <li>explore and use mechanisms [for example, levers, sliders, wheels and</li> </ul>	<ul> <li>explore and use mechanisms [for example, levers, sliders, wheels and</li> </ul>
axles], in their products.	axles], in their products.
Cooking and Nutrition	Cooking and Nutrition
<ul> <li>use the basic principles of a healthy and varied diet to prepare dishes</li> </ul>	<ul> <li>understand and apply the principles of a healthy and varied diet</li> </ul>
<ul> <li>understand where food comes from.</li> </ul>	<ul> <li>prepare and cook a variety of predominantly savoury dishes using a</li> </ul>
	range of cooking techniques
	<ul> <li>understand seasonality, and know where and how a variety of</li> </ul>
	ingredients are grown, reared, caught and processed.

	Years 1 and 2	Years 3 and 4	Years 5 and 6
	<ul> <li>Design <ul> <li>Design a functional and appealing product for a chosen user and purpose based on simple design criteria.</li> <li>Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mockups and information and communication technology.</li> </ul> </li> </ul>	<ul> <li>Design</li> <li>Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s.</li> <li>Produce annotated sketches, prototypes, final product sketches and pattern pieces.</li> </ul>	<ul> <li>Design</li> <li>Generate innovative ideas by carrying out research including surveys, interviews and questionnaires.</li> <li>Develop, model and communicate ideas through talking, drawing, templates, mockups and prototypes and, where appropriate, computeraided design.</li> <li>Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification.</li> </ul>
	<ul> <li>Make</li> <li>Select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing.</li> <li>Select from and use textiles according to their characteristics.</li> </ul>	<ul> <li>Make</li> <li>Plan the main stages of making.</li> <li>Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing.</li> <li>Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern.</li> </ul>	<ul> <li>Make</li> <li>Produce detailed lists of equipment and fabrics relevant to their tasks.</li> <li>Formulate step-by-step plans and, if appropriate, allocate tasks within a team.</li> <li>Select from and use a range of tools and equipment to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost.</li> </ul>
Textiles	<ul> <li>Evaluate</li> <li>Explore and evaluate a range of existing textile products relevant to the project being undertaken.</li> <li>Evaluate their ideas throughout and their final products against original design criteria.</li> </ul>	<ul> <li>Evaluate</li> <li>Investigate a range of 3-D textile products relevant to the project.</li> <li>Test their product against the original design criteria and with the intended user.</li> <li>Take into account others' views.</li> <li>Understand how a key event/individual has influenced the development of the chosen product and/or fabric.</li> </ul>	<ul> <li>Evaluate</li> <li>Investigate and analyse textile products linked to their final product.</li> <li>Compare the final product to the original design specification.</li> <li>Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</li> </ul>

			• Consider the views of others to improve their work.
<ul> <li>Und produ create</li> <li>Und differe</li> <li>over s</li> <li>Expl using sequin</li> <li>Kno</li> </ul>	hical knowledge and understanding derstand how simple 3-D textile acts are made, using a template to e two identical shapes. derstand how to join fabrics using rent techniques e.g. running stitch, glue, stitch, stapling. lore different finishing techniques e.g. painting, fabric crayons, stitching, ns, buttons and ribbons. ow and use technical vocabulary relevant e project.	<ul> <li>Technical knowledge and understanding</li> <li>Know how to strengthen, stiffen and reinforce existing fabrics.</li> <li>Understand how to securely join two pieces of fabric together.</li> <li>Understand the need for patterns and seam allowances.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<ul> <li>Technical knowledge and understanding</li> <li>A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics.</li> <li>Fabrics can be strengthened, stiffened and reinforced where appropriate.</li> </ul>
	Knowledge lored and used different fabrics.	<ul><li>Prior Knowledge</li><li>Have joined fabric in simple ways by gluing</li></ul>	<ul><li>Prior knowledge</li><li>Experience of basic stitching, joining textiles</li></ul>
	and joined fabrics with simple iques. •	<ul><li>and stitching.</li><li>Have used simple patterns and templates</li></ul>	<ul><li>and finishing techniques.</li><li>Experience of making and using simple</li></ul>
	ght about the user and purpose of	for marking out. • Have evaluated a range of textile products.	pattern pieces.

	Years 1 and 2	Years 3 and 4	Years 5 and 6
	Design	Design	Design
ical Systems	N/A – two Mechanism units of work.	<ul> <li>Gather information about needs and wants, and develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups.</li> <li>Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated</li> </ul>	<ul> <li>Use research to develop a design specification for a functional product that responds automatically to changes in the environment. Take account of constraints including time, resources and cost.</li> <li>Generate and develop innovative ideas and share and clarify these through discussion.</li> </ul>
llectr		sketches, cross-sectional and exploded	
Ш		diagrams.	

		• Communicate ideas through annotated sketches, pictorial representations of electrical circuits or circuit diagrams.
Make	<ul> <li>Make</li> <li>Order the main stages of making.</li> <li>Select from and use tools and equipment to cut, shape, join and finish with some accuracy.</li> <li>Select from and use materials and components, including construction materials and electrical components according to their functional properties and aesthetic qualities</li> </ul>	<ul> <li>Make</li> <li>Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components.</li> <li>Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product.</li> <li>Create and modify a computer control program to enable an electrical product to work automatically in response to changes in the environment.</li> </ul>
Evaluate	<ul> <li>Evaluate</li> <li>Investigate and analyse a range of existing battery-powered products.</li> <li>Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.</li> </ul>	<ul> <li>Evaluate</li> <li>Continually evaluate and modify the working features of the product to match the initial design specification.</li> <li>Test the system to demonstrate its effectiveness for the intended user and purpose.</li> <li>Investigate famous inventors who developed ground-breaking electrical systems and components.</li> </ul>
Technical knowledge and understanding	<ul> <li>Technical knowledge and understanding</li> <li>Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers.</li> <li>Apply their understanding of computing to program and control their products.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<ul> <li>Technical knowledge and understanding</li> <li>Understand and use electrical systems in their products.</li> <li>Apply their understanding of computing to program, monitor and control their products.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>

Prior Knowledge	Prior Knowledge	Prior knowledge
	Constructed a simple series electrical circuit	<ul> <li>Understanding of the essential</li> </ul>
	in science, using bulbs, switches and buzzers.	characteristics of a series circuit and
	<ul> <li>Cut and joined a variety of construction</li> </ul>	experience of creating a battery powered,
	materials, such as wood, card, plastic,	functional, electrical product.
	reclaimed materials and glue.	• Initial experience of using computer control
		software and an interface box or a
		standalone box, e.g. writing and modifying a
		program to make a light flash on and off.

	Years 1 and 2 (covered in two units)	Years 3 and 4	Years 5 and 6
	Design	Design	Design
Mechanisms	<ul> <li>Generate ideas based on simple design criteria and their own experiences, explaining what they could make.</li> <li>Develop, model and communicate their ideas through drawings and mock-ups with card and paper.</li> <li>Generate initial ideas and simple design criteria through talking and using own experiences.</li> <li>Develop and communicate ideas through drawings and mock-ups.</li> </ul>	<ul> <li>Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user.</li> <li>Use annotated sketches and prototypes to develop, model and communicate ideas.</li> </ul>	<ul> <li>Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources.</li> <li>Develop a simple design specification to guide their thinking.</li> <li>Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views.</li> </ul>
	Make	Make	Make
	<ul> <li>Plan by suggesting what to do next.</li> <li>Select and use tools, explaining their choices, to cut, shape and join paper and card.</li> <li>Use simple finishing techniques suitable for the product they are creating.</li> </ul>	<ul> <li>Order the main stages of making.</li> <li>Select from and use appropriate tools with some accuracy to cut, shape and join paper and card.</li> <li>Select from and use finishing techniques suitable for the product they are creating.</li> </ul>	<ul> <li>Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team.</li> <li>Select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work</li> </ul>

<ul> <li>Select from and use a range of tools a equipment to perform practical tasks su cutting and joining to allow movement a finishing.</li> <li>Select from and use a range of materia and components such as paper, card, pl and wood according to their characteris</li> <li>Evaluate <ul> <li>Explore a range of existing books and everyday products that use simple slide levers.</li> <li>Evaluate their product by discussing hwell it works in relation to the purpose a the user and whether it meets design cr</li> <li>Explore and evaluate a range of produwith wheels and axles.</li> </ul> </li> </ul>	ch as andEvaluateals astic tics.• Investigate and analyse books and, where available, other products with lever and linkage mechanisms. • Evaluate their own products and ideas against criteria and user needs, as they design and make.ow and iteria.• Evaluate their own products and ideas against criteria and user needs, as they design and make.	<ul> <li>within the constraints of time, resources and cost.</li> <li>Evaluate <ul> <li>Compare the final product to the original design specification.</li> <li>Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</li> <li>Consider the views of others to improve their work.</li> <li>Investigate famous manufacturing and engineering companies relevant to the project.</li> </ul> </li> </ul>
<ul> <li>Technical knowledge and understandin</li> <li>Explore and use sliders and levers.</li> <li>Understand that different mechanism produce different types of movement.</li> <li>Know and use technical vocabulary related to the project.</li> <li>Explore and use wheels, axles and axles holders.</li> <li>Distinguish between fixed and freely moving axles.</li> <li>Know and use technical vocabulary related to the project.</li> </ul>	<ul> <li>Understand and use lever and linkage mechanisms.</li> <li>Distinguish between fixed and loose pivots.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<ul> <li>Technical knowledge and understanding</li> <li>Understand that mechanical and electrical systems have an input, process and an output.</li> <li>Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>
Prior Knowledge	Prior Knowledge	Prior knowledge

<ul> <li>Early experiences of working with paper and card to make simple flaps and hinges.</li> <li>Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape.</li> <li>Assembled vehicles with moving wheels using construction kits.</li> <li>Explored moving vehicles through play.</li> <li>Gained some experience of designing, making and evaluating products for a specified user and purpose.</li> <li>Developed some cutting, joining and finishing skills with card.</li> </ul>	<ul> <li>Explored and used mechanisms such as flaps, sliders and levers.</li> <li>Gained experience of basic cutting, joining and finishing techniques with paper and card.</li> </ul>	<ul> <li>Experience of axles, axle holders and wheels that are fixed or free moving.</li> <li>Basic understanding of electrical circuits, simple switches and components.</li> <li>Experience of cutting and joining techniques with a range of materials including card, plastic and wood.</li> <li>An understanding of how to strengthen and stiffen structures.</li> </ul>
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	Years 1 and 2	Years 3 and 4	Years 5 and 6
Structures	<ul> <li>Design</li> <li>Generate ideas based on simple design criteria and their own experiences, explaining what they could make.</li> <li>Develop, model and communicate their ideas through talking, mock-ups and drawings.</li> </ul>	<ul> <li>Design</li> <li>Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and purpose of the product.</li> <li>Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas.</li> </ul>	<ul> <li>Design</li> <li>Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources.</li> <li>Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost.</li> <li>Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches.</li> </ul>
	<ul> <li>Make</li> <li>Plan by suggesting what to do next.</li> <li>Select and use tools, skills and techniques, explaining their choices.</li> </ul>	<ul> <li>Make</li> <li>Order the main stages of making.</li> <li>Select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy.</li> </ul>	<ul> <li>Make</li> <li>Formulate a clear plan, including a step-by- step list of what needs to be done and lists of resources to be used.</li> </ul>

<ul><li>construction kits to build their structures.</li><li>Use simple finishing techniques suitable for the structure they are creating.</li></ul>	<ul> <li>Explain their choice of materials according to functional properties and aesthetic qualities.</li> <li>Use finishing techniques suitable for the product they are creating.</li> </ul>	<ul> <li>Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks.</li> <li>Use finishing and decorative techniques suitable for the product they are designing and making.</li> </ul>
<ul> <li>Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings.</li> <li>Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design</li> </ul>	<ul> <li>Evaluate</li> <li>Investigate and evaluate a range of existing shell structures including the materials, components and techniques that have been used.</li> <li>Test and evaluate their own products against design criteria and the intended user and purpose.</li> </ul>	<ul> <li>Evaluate</li> <li>Investigate and evaluate a range of existing frame structures.</li> <li>Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests.</li> <li>Research key events and individuals relevant to frame structures.</li> </ul>
<ul> <li>Know how to make freestanding structures stronger, stiffer and more stable.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<ul> <li>Technical knowledge and understanding</li> <li>Develop and use knowledge of how to construct strong, stiff shell structures.</li> <li>Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<ul> <li>Technical knowledge and understanding</li> <li>Understand how to strengthen, stiffen and reinforce 3 D frameworks.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>
<ul> <li>Experience of using construction kits to build walls, towers and frameworks.</li> <li>Experience of using of basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card.</li> <li>Experience of different methods of joining</li> </ul>	<ul> <li>Prior knowledge</li> <li>Experience of using different joining, cutting and finishing techniques with paper and card.</li> <li>A basic understanding of 2-D and 3-D shapes in mathematics and the physical properties and everyday uses of materials in science.</li> </ul>	<ul> <li>Prior knowledge</li> <li>Experience of using measuring, marking out, cutting, joining, shaping and finishing techniques with construction materials.</li> <li>Basic understanding of what structures are and how they can be made stronger, stiffer and more stable.</li> </ul>

	Years 1 and 2	Years 3 and 4	Years 5 and 6
	Design	Design	Design
	<ul> <li>Design appealing products for a particular</li> </ul>	<ul> <li>Generate and clarify ideas through</li> </ul>	<ul> <li>Generate innovative ideas through research</li> </ul>
	user based on simple design criteria.	discussion with peers and adults to develop	and discussion with peers and adults to
	<ul> <li>Generate initial ideas and design criteria</li> </ul>	design criteria including appearance, taste,	develop a design brief and criteria for a
	through investigating a variety of fruit and	texture and aroma for an appealing product	design specification.
	vegetables.	for a particular user and purpose.	<ul> <li>Explore a range of initial ideas, and make</li> </ul>
(2	<ul> <li>Communicate these ideas through talk and</li> </ul>	Use annotated sketches and appropriate	design decisions to develop a final product
cles	drawings.	information and communication technology,	linked to user and purpose.
Š		such as web-based recipes, to develop and	Use words, annotated sketches and
oth		communicate ideas.	information and communication technology
р Г			as appropriate to develop and communicate
hgu			ideas.
Cooking and Nutrition (taught both cycles)	Make	Make	Make
ion	<ul> <li>Use simple utensils and equipment to e.g.</li> </ul>	Plan the main stages of a recipe, listing	Write a step-by-step recipe, including a list
trit	peel, cut, slice, squeeze, grate and chop safely.	ingredients, utensils and equipment.	of ingredients, equipment and utensils
Ž	• Select from a range of fruit and vegetables	<ul> <li>Select and use appropriate utensils and</li> </ul>	Select and use appropriate utensils and
pu	according to their characteristics e.g. colour,	equipment to prepare and combine	equipment accurately to measure and
е Ю	texture and taste to create a chosen product.	ingredients.	combine appropriate ingredients.
kin		<ul> <li>Select from a range of ingredients to make</li> </ul>	<ul> <li>Make, decorate and present the food</li> </ul>
ö		appropriate food products, thinking about	product appropriately for the intended user
-		sensory characteristics.	and purpose.
	Evaluate	Evaluate	Evaluate
	• Taste and evaluate a range of fruit and	• Carry out sensory evaluations of a variety	• Carry out sensory evaluations of a range of
	vegetables to determine the intended user's	of ingredients and products. Record the	relevant products and ingredients. Record
	preferences.	evaluations using e.g. tables and simple	the evaluations using e.g.
		graphs.	tables/graphs/charts such as star diagrams.

• Evaluate ideas and finished products against design criteria, including intended user and purpose.	• Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.	<ul> <li>Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements.</li> <li>Understand how key chefs have influenced eating habits to promote varied and healthy diets.</li> </ul>
<ul> <li>Technical knowledge and understanding <ul> <li>Understand where a range of fruit and vegetables come from e.g. farmed or grown at home.</li> <li>Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of the eat well plate.</li> <li>Know and use technical and sensory vocabulary relevant to the project.</li> </ul> </li> </ul>	<ul> <li>Technical knowledge and understanding</li> <li>Know how to use appropriate equipment and utensils to prepare and combine food.</li> <li>Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.</li> <li>Know and use relevant technical and sensory vocabulary appropriately.</li> </ul>	<ul> <li>Technical knowledge and understanding</li> <li>Know how to use utensils and equipment including heat sources to prepare and cook food.</li> <li>Understand about seasonality in relation to food products and the source of different food products.</li> <li>Know and use relevant technical and sensory vocabulary.</li> </ul>
<ul> <li>Prior knowledge</li> <li>Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell.</li> <li>Experience of cutting soft fruit and vegetables using appropriate utensils.</li> </ul>	<ul> <li>Prior knowledge</li> <li>Know some ways to prepare ingredients safely and hygienically.</li> <li>Have some basic knowledge and understanding about healthy eating and the eat well plate.</li> <li>Have used some equipment and utensils and prepared and combined ingredients to make a product.</li> </ul>	<ul> <li>Prior knowledge</li> <li>Have knowledge and understanding about food hygiene, nutrition, healthy eating and a varied diet.</li> <li>Be able to use appropriate equipment and utensils, and apply a range of techniques for measuring out, preparing and combining ingredients.</li> </ul>