



DT Key Concepts Progression Map



Key Concept	EYFS	KS1		KS2			
	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Design and Research	<ul style="list-style-type: none"> -Children will look at African patterns on clothing - design a pattern. -Children will design a simple vehicle with support to label their work. -Children will use their knowledge of basic fruit and vegetables to design their own pizza bread. 	<ul style="list-style-type: none"> - Children will explore free standing structures around the classroom and/or school environment, as well as in the wider world. -Children will explore a range of existing books and everyday products that use simple sliders and levers. -Children will explore simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape. -Children will create ideas based on simple design criteria and their own experiences, explaining what they could make. -Children will develop, model and communicate their ideas through talking, simple mock-ups and simple drawings. 	<ul style="list-style-type: none"> -Children will investigate and evaluate existing products and materials linked to the chosen project. -Children will generate initial ideas and simple design criteria through talking and using own experiences. -Children will design a functional and appealing product for a chosen user and purpose based on simple design criteria. -Children will generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and ICT. 	<ul style="list-style-type: none"> -Children will investigate and analyse a range of existing products, identifying similarities and key features. -Children will identify the needs of the user, the function, the aesthetic, the purpose and user the product is intended for during the design phase. -Children will begin to identify and agree on a class design criterion. -Children will create multiple realistic sketches of possible product designs, which include annotations and follows the agreed upon design criteria. -Children will identify the main stages of making a product before assembling a high-quality product through talk, drawings, and prototypes. 	<ul style="list-style-type: none"> -Children will explore and analyse existing products using the 'Star Profile Evaluation'. -Children will use different criteria that the product will be judged on: colour, shape, child appeal, function, decoration. -Children will identify the intended purpose, user and retailer. To identify and agree on a class design brief following research stage. -Children will create annotated sketches and prototypes to develop, model and communicate ideas. - Generate realistic and appropriate ideas and their own design criteria through discussion, focusing on the needs of the user. 	<ul style="list-style-type: none"> -Children will create a survey to identify food preferences and use the result to inform future decisions. - Children will be able to carry out research (e.g. sensory evaluation) and evaluate their findings. -Children will carry out tests, such as a taste test to distinguish between the different flavours and different types of bread available on the market. - Children will generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification. -Children will explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose. -Children will create design sheets that will include annotated sketches, comprehensive ingredients list, method, brief explanation of choices and measurements where necessary. -Children will use words, annotated sketches and information and communication technology as appropriate to develop and communicate ideas. 	<ul style="list-style-type: none"> - Children will evaluate products already on the market to understand how important target audience, design and functionality are when designing and creating a product. -Children will prioritise the design criteria: designs should be authentic, considering the audience, function and visual quality of the product. -Children will develop their ideas through an annotated diagram and drawings from different perspectives. The drawings will indicate the design decisions made, including the location of the components, how they work as a system, methods of strengthening, the type of fabrics to be used and the types of stitching that will be incorporated and the appearance and finishing techniques for the product. -Children will produce detailed step-by-step plans and lists of tools, equipment and materials needed. -Children will use Microsoft Paint software to experiment with different design ideas, colours and features.

<p>Make and Build</p>	<ul style="list-style-type: none"> -Children will use a variety of construction equipment, such as Lego, K'Nex, large bricks, wooden blocks, marble run etc. to make and build a variety of models (e.g. London Land, The Great Wall of China, Fairy Tale Village, mini-beast habitats etc.) -Children will follow a simple design to create a simple product e.g. African Tiles to print onto cloth. -Children will use a variety of junk model materials to craft their own vehicle. -Children will have early experiences of using a variety of materials to make and build with. E.g. to make bird feeders, minibeast hotels, split pin Santa's etc. 	<ul style="list-style-type: none"> -Children will plan by suggesting what to do next. -Children will select and use tools, skills and techniques, explaining their choices to cut, shape and join paper and card. - Children will select new and reclaimed materials and construction kits to build their structures. -Children will use simple finishing techniques suitable for the product they are creating. 	<ul style="list-style-type: none"> -Children will select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing. -Children will select from and use textiles according to their Characteristics. -Children will use simple joining and finishing techniques to create a product. -Children will select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing. -Children will select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics. 	<ul style="list-style-type: none"> -Children will plan the order of the main stages of making. -Children will select and use appropriate tools and software to measure, mark out, cut, score, and shape and assemble with some accuracy. Children will explain their choice of materials according to functional properties and aesthetic qualities. Children will use computer-generated finishing techniques suitable for the product they are creating. 	<ul style="list-style-type: none"> -Children will create simple prototypes and create simple templates and paper patterns, cutting out simple shapes with increasing accuracy. - Children will order the main stages of making. -Children will select from and use appropriate tools with some accuracy to cut and join materials and components such as tubing, syringes and balloons. -Children will select from and use finishing techniques suitable for the product they are creating. -Children will select from and use materials and components, including construction materials and electrical components according to their functional properties and aesthetic qualities. 	<ul style="list-style-type: none"> -Children will use survey data to inform their designs, as well as the aesthetics and design criteria. -Children will make, decorate and present the food product appropriately for the intended user and purpose. -Children will competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks. -Children will use finishing and decorative techniques suitable for the product they are designing and making. 	<ul style="list-style-type: none"> -Children will make a simple model using card, paper and split pins to look more closely at the movement made by a cam. -Children will make high quality products, applying the knowledge, understanding and skills they have gathered so far. -Children will measure, cut and join with accuracy to ensure a good-quality finish to the product, use tools and equipment safely and test the mechanisms at each stage and make adjustments where necessary. -Children will make fabric templates, marking measurements on paper rather than fabric and correct when necessary. -Children will use a range of decorative finishing techniques to ensure a well finished final product that matches the intended user and purpose
<p>Points of Reflection and Improvements</p>	<ul style="list-style-type: none"> -With support, children will verbally begin to make simple reflections e.g. I liked ... -Children will have opportunities to return to the construction/DT areas to continue to develop their knowledge and recreate their models. 	<ul style="list-style-type: none"> -Children will evaluate work by testing their freestanding structures. Reflect verbally on given prompt questions. -Children will evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria. - Children will make simple, verbal reflections to suggest what they could do differently next time. 	<ul style="list-style-type: none"> -Children will evaluate ideas and finished products against design criteria, including intended user and purpose. -Children will explore and evaluate a range of existing textile products relevant to the project being undertaken. 	<ul style="list-style-type: none"> -Children will evaluate the series of levers they have made, including possible future improvements, their personal preferences and how they would work for different purposes. -Children will evaluate the final products against the intended purpose, the intended user, the success of their design drawing on design criteria previously agreed. -Children will test and evaluate their own products against design criteria and the intended user and purpose. 	<ul style="list-style-type: none"> -Children will take into account of others' views through group discussions, focussing on which have successfully met the design criteria. -Children will use the agreed upon design criteria to evaluate final products, identifying future improvements. -Children will test their chosen fillings and decide which is the best choice according to their functional characteristics, e.g. strength, and aesthetic qualities e.g. pattern. - Children will begin to review the design criteria and identify any improvements to be made following product analysis. 	<ul style="list-style-type: none"> -Children will be able to evaluate and analyse existing products using surveys and taste tests. -Children will make comparisons with their own research and consider possible alterations. -Children will consider the process used, design specification and intended purpose to evaluate their products. -Children will peer evaluate each other's work. Children make comparisons between existing products and their own. -Children will consider alterations to develop their final products. 	<ul style="list-style-type: none"> -Children will monitor progress and evaluate the final product against the intended purpose and user, reflecting on the design criteria previously agreed. -Children will consider what others think of the product when considering how the work might be improved. -Children where possible, will test their products with the intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. -Children will reflect on the sewing skills they have practised/learnt and select the best for their final design. -Children will critically evaluate the quality of the design, the manufacture, functionality, innovation shown and fitness for the intended user and purpose

<p>Technical Knowledge</p>	<p>-Children will begin to explore different methods of joining two materials together when making a simple model. E.g. By using PVA glue or masking tape.</p> <p>-Children will begin to explore using different construction materials to create walls and towers.</p> <p>-Children will begin to experience using basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card.</p> <p>-Children will have early experiences of working with paper and card to make simple flaps and hinges.</p> <p>Also, early experiences of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape.</p>	<p>-Children will know how to make freestanding structures stronger, stiffer, and more stable.</p> <p>-Children will explore and use sliders and levers.</p> <p>-Children will understand that different mechanisms produce different types of movement</p> <p>-Children will know and use technical vocabulary relevant to the mechanisms and freestanding structures.</p>	<p>-Children will understand how simple 3-D textile products are made, using a template to create two identical shapes.</p> <p>-Children will understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling.</p> <p>-Children will explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons.</p> <p>-Children will understand where a range of fruit and vegetables come from e.g. farmed or grown at home.</p> <p>-Children will understand and use basic principles of a healthy and varied diet to prepare dishes.</p> <p>-Children will explore and use wheels, axles and axle holders.</p> <p>-Children will distinguish between fixed and freely moving axles.</p> <p>-Children will know and use technical vocabulary relevant to textiles, food and mechanisms.</p>	<p>-Children will know the difference between fixed and loose pivots.</p> <p>-Children will know the purpose of the slot, pivot, bridge, level linkage on lever and linkage mechanism</p> <p>-Children will know that levers can move in a linear, reciprocal, oscillating or rotating movement.</p> <p>-Children will know that levers have an input (pushing) and output movement.</p> <p>-Children will accurately measure, mark out, cut, join and finishing skills and techniques to replicated demonstrated mechanisms.</p> <p>-Children will know how to use appropriate equipment and utensils to prepare and combine food.</p> <p>-Children know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.</p> <p>-Children will know and use technical vocabulary relevant to mechanical systems, shell structures using CAD and healthy & varied diets.</p>	<p>-Children will understand how to securely join two pieces of fabric using different techniques, such as running stitch, catch, back and hemming.</p> <p>To know how to strengthen, stiffen and reinforce existing fabrics.</p> <p>-Children will explore different finishing techniques e.g. using dyes, fabric paints, silk paints, patchwork, applique, quilting, embroidery, printing, ribbons, beads, sequins, buttons, fringes, studs, tassels, pleating and many more.</p> <p>-Children to understand and use pneumatic mechanisms.</p> <p>-Children to understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers.</p> <p>-Children will know and use technical vocabulary relevant to textiles, pneumatics and electrical systems.</p>	<p>- Children to know how to use utensils and equipment including heat sources to prepare and cook food.</p> <p>- Children to understand about seasonality in relation to food products and the source of different food products.</p> <p>-Children to know and use relevant technical and sensory vocabulary.</p> <p>-Children to understand how to strengthen, stiffen and reinforce 3D frameworks.</p> <p>-Children to understand that mechanical and electrical systems have an input, process and an output.</p> <p>-Children to understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.</p>	<p>-Children to understand that mechanical systems have an input, process and an output.</p> <p>Children to understand how cams can be used to produce different types of movement and change the direction of movement.</p> <p>- Children will know and use technical vocabulary relevant to the project.</p> <p>-Children will know a 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics.</p> <p>Children will know fabrics can be strengthened, stiffened and reinforced where appropriate.</p> <p>-Children to understand and use electrical systems in their products.</p> <p>-Children will apply their understanding of computing to program, monitor and control their products.</p> <p>Children to know and use technical vocabulary relevant to the project.</p>
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<p>Food and Nutrition</p>	<ul style="list-style-type: none"> -Children will explore where basic fruits and vegetables come from, from the local environment and from Africa. -With support children will be able to sort foods into healthy and unhealthy -Children will use fruits grown in the school grounds to make jam and apple crumble -Children will develop their fine motor skills – cutting and spreading using a knife and understand why we need to be safe when using a knife. -Children will have early experiences of simple cooking methods/ techniques, such as kneading, rolling, mixing and pouring etc. 		<ul style="list-style-type: none"> -Children will generate initial ideas and design criteria through investigating a variety of fruit and vegetables. -Children will communicate these ideas through talk and drawings. -Children will use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. -Children will select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product. -Children will taste and evaluate a range of fruit and vegetables to determine the intended user's preferences. 	<ul style="list-style-type: none"> -Children to generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. -Children will use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas. -Children will plan the main stages of a recipe, listing ingredients, utensils and equipment. -Children will select and use appropriate utensils and equipment to prepare and combine ingredients. -Children to select from a range of ingredients to make appropriate food products, thinking about sensory characteristics. -Children to carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. 		<ul style="list-style-type: none"> -Children will explore how seasons affect food availability and consider similarities and differences between fresh, pre-cooked and processed foods, as well as the importance of location relating to food preferences. -Children will understand what foods can be sourced locally and where foods originate from. -Children will use cooking methods and techniques with developing precision e.g. needing, grating, cutting, chopping, mixing, pouring and measuring. -Children will be able to make a savoury product following a recipe, ie. Bread roles. 	
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