



Design Technology – PROGRESSION OF SKILLS AND KNOWLEDGE

	Research & Designing		Making		Evaluation		Technical Knowledge		Cooking & Nutrition	
KEY VO CAB	investigating, design, ideas, function, user, criteria, model, template		planning, make, materials, components, measure, cut, shape, tools, equipment, assemble, join, finishing		evaluate, purpose, criteria, product, user		structure, weak, strong, metal, wood, plastic, paper, cardboard, fabrics, pattern, characteristics		ingredients, slice, peel, cut, grate, healthy diet, sensory vocabulary (e.g. soft, juicy, crunchy, sweet,) hygiene, Eatwell	
YEAR	SKILLS	KNOWLEDGE	SKILLS	KNOWLEDGE	SKILLS	KNOWLEDGE	SKILLS	KNOWLEDGE	SKILLS	KNOWLEDGE
EYFS	- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function	<i>Research, internet, Google, design, solve problem</i>	- Select and use activities and resources, with help when needed, to achieve a goal they have chosen - Develop small motor skills so that they can use a range of tools competently, safely and confidently -Use a range of small tools, including scissors, paintbrushes and cutlery	<i>Plan, join, stick, fix, stronger Building, loose parts, construction, large, small</i>	- Share their creations, explaining the process they have used - Return to and build on their previous learning, refining ideas and developing their ability to represent them.	<i>Evaluate, improve, testing</i>	- Explore how things work	*Ramps - <i>Strong, weak</i> , *Winter Bottles – <i>insulate, warm, cold, freezing, melting, frozen, thaw, Insulated materials, layers, thick, thin, fabric, fur</i> *Other projects: Bridges, Space Rockets, Rescuing from a Tree	-Use a range of small tools, including scissors, paintbrushes and cutlery	*Bread - <i>Weighing, shopping list, ingredients, recipe, scales, temperature, hot, cold, rising, kneading, tasting</i>
ALL ASPECTS OF DT ARE COVERED THROUGHOUT LESSONS IN EYFS THESE ARE JUST SOME EXAMPLES										



Design Technology – PROGRESSION OF SKILLS AND KNOWLEDGE

1	<p>- I can state what product I am designing</p> <p>- I can say whether the product is for myself or someone else</p> <p>- I can generate ideas by drawing on my own experiences</p> <p>- I can use knowledge of existing products to help come up with ideas</p>	<p>*Children should be able to recall what they are designing if asked by an adult, knowing who they are making the product for</p> <p>*Children should be able to create simple representations of what they hope to achieve, and should begin to relate these ideas to existing products</p> <p>- <i>Design, drawing, represent, explain</i></p>	<p>- I can plan a making task by suggesting what I could do next</p> <p>- I can use a range of materials and components in my making</p> <p>- I can measure, mark out, cut and shape materials</p>	<p>*Children should be able to begin applying their existing knowledge to practical tasks (e.g. using scissors to cut out something on paper or card.)</p> <p>*Children should be able to begin demonstrating skills in marking out, cutting, shaping and basic measuring</p> <p>- <i>steps, plan, measure, cut, mark, shape</i></p>	<p>- I can talk about my design ideas and what I am making</p> <p>- I can discuss what products are, what products are for, who products are for and how products work</p>	<p>*Children should be expected to say what they like and don't like about the product they have made, and begin to give simple suggestions about what they could improve</p> <p>- <i>Improve, like, dislike</i></p>	<p>- I can understand the movement of simple mechanisms, such as levers, and sliders</p> <p>- I can understand that a 3D textiles product can be assembled from two identical fabric shapes</p>	<p>*Moving Pictures project for mechanisms – <i>slider, lever, pivot, bar, slot</i></p> <p>*Mechanism could be explained as a "challenge" word</p> <p>*Felt Puppet – <i>fabric, stitch, needle, wool, felt, glue, stick</i></p>	<p>- I can understand that all food comes from plants or animals</p> <p>- I can understand how to name and sort foods into the groups in the Eatwell Guide</p> <p>- I can explain that everyone should eat at least 5 portions of fruit and vegetables every day</p>	<p><i>*Fruit and Veg names</i></p> <p><i>*Names of equipment & utensils</i></p> <p><i>*Fruit Faces – Vegetables, Fruit, Carbohydrates, Fats, Protein, Dairy, Portion, Basic food preparation techniques – Chopping, cutting (linked to using cutlery in dinner hall)</i></p>
2	<p>- I can describe what/who my products are for</p> <p>- I can say how my products will work</p> <p>- I can use simple design criteria to help develop my ideas</p> <p>- I can develop and communicate ideas by talking about and drawing them</p> <p>- I can model my ideas by exploring materials, components, construction kits, making templates and mock-ups</p>	<p>*Children should be able to explain, with some detail, what they are designing and why, including basic descriptions of how their products work</p> <p>*Children should begin to work from a set of rules (Criteria) to help guide their design process</p> <p>*Children should continue to refine the way they represent their ideas, discussing them with others and creating small-scale models where appropriate</p> <p>- <i>Model, material, kit, component, design, drawing, represent, template, mock-up</i></p>	<p>- I can select a range of tools and equipment and explain my choices</p> <p>- I can assemble, join and combine materials and components</p> <p>- I can use finishing techniques, including those from Art and Design</p>	<p>*Children should build on existing knowledge of tools and skills, using this knowledge to explain why they are using specific things (e.g. using hot glue vs glue stick for different purposes)</p> <p>*Children should begin to form more concrete links between some of the techniques used in Art & Design and the ones used in Design Technology</p> <p>- <i>measure, cut, mark, shape, join, assemble, finish, colour, paint</i></p>	<p>- I can make simple judgements about my products and ideas against the design criteria</p> <p>- I can suggest how my products could be improved</p> <p>- I can describe how/where products are used</p> <p>- I can describe what materials products are made from</p> <p>- I can share what I like and dislike about certain products</p>	<p>*Children should be expected to say what they like and don't like about a product they have made, and other products they encounter, beginning to give simple reasons why they like it. They should be giving simple suggestions about what they could improve</p> <p>- <i>Improve, like, dislike</i></p>	<p>- I can explain how freestanding structures can be made stronger, stiffer and more stable</p> <p>- I can understand the simple working characteristics of materials and components</p> <p>- I can understand the movement of simple mechanisms, such as wheels and axles</p>	<p>*Castles – <i>materials, colours, features, characteristics, tools, resources, equipment, materials, components, cut, glue, stick, combine, strengthen, structure, stability, freestanding</i></p> <p>*Wheels & Axles – Garden Transport – <i>mechanism, pivot, rotate, rotary movement, wheel, axle, movement, guide</i></p>	<p>- I can understand that food has to be farmed or grown elsewhere (not at home) or caught</p> <p>- I can understand how to prepare simple dishes safely and hygienically, without using a heat source</p> <p>- I can understand how to use techniques such as cutting, peeling and grating safely</p>	<p><i>*Super Kebabs – farming, harvest, fishing, combine, chop, cut, peel, slice.</i></p>



Design Technology – PROGRESSION OF SKILLS AND KNOWLEDGE

	Research & Designing		Making		Evaluation		Technical Knowledge		Cooking & Nutrition	
KEY VO CAB	investigating, design, ideas, function, user, criteria, model, template, innovative, appealing, design brief, annotated sketch, specification, diagram		planning, make, materials, components, measure, cut, shape, tools, equipment, assemble, join, finishing, prototype, accuracy, precision, mark out		evaluate, purpose, criteria, product, user, function, aesthetic, critique, objective, justification		structure, weak, strong, metal, wood, plastic, paper, cardboard, fabrics, pattern, characteristics, stability, stiffen, reinforce, temporary, permanent, fixings, fastenings, stitch, seam, mechanism, system, device		ingredients, slice, peel, cut, grate, healthy diet, sensory vocabulary (e.g. soft, juicy, crunchy, sweet,) hygiene, Eatwell, seasonality, intolerance, allergy, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble	
3	<ul style="list-style-type: none"> - I can gather information about the needs and wants of particular individuals or groups - I can describe the purpose of my products - I can generate realistic ideas that focus on the needs of the user - I can share and clarify my ideas through discussion 	<ul style="list-style-type: none"> *Children should begin to create designs based on what other people want by asking questions, rather than purely their own ideas. They should be able to use these to describe the what their products do and what they are for *Children should continue to refine their design work, taking into account how realistically their products could be created, discussing their choices in detail - <i>needs, wants, user, group, questions, purpose, discussion</i> 	<ul style="list-style-type: none"> - I can select tools and equipment suitable for a specific making task - I can measure, mark out, cut and shape materials and components with some accuracy 	<ul style="list-style-type: none"> *Children should begin to be more independent with their choice of tools and equipment, applying the knowledge gained in previous years to suggest solutions to problems *Children should be expected to apply measuring skills from maths with some accuracy, and begin to be more accurate with the making stage of their products - <i>tools, equipment, materials, accuracy</i> 	<ul style="list-style-type: none"> - I can refer to my design criteria as I design and make my product - I can share who designed and made certain products - I can discuss where certain products were designed and made - I can discuss why specific materials have been chosen for products 	<ul style="list-style-type: none"> *Children should be able to explain with some detail what they like and dislike about products, including some basic links to criteria. Their suggested improvements should be more critical, linked to their stated dislikes - <i>Improve, likes, pros, dislikes, cons, criteria, reasoning, critical, evaluation</i> 	<ul style="list-style-type: none"> - I can understand how mechanical systems, such as levers, linkages or pneumatic systems, create movement - I can understand how to make strong, stiff shell structures 	<ul style="list-style-type: none"> *Shell Structures – Survival Box – <i>net, tabs, shell, strong, stiff, structure, Names of 3D shapes, adhesive, lettering, text, graphics, font</i> *Pneumatic Monster Toy – <i>Pneumatic, mechanism, pivot, linear, rotary, linkage</i> 	<ul style="list-style-type: none"> - I can understand that seasons may affect the availability of certain foods - I can understand that food ingredients can be fresh, pre-cooked or processed - I can understand that, in order to be active and healthy, food and drink are needed to provide energy for the body - I can demonstrate how to prepare and cook a variety of savoury dishes safely and hygienically, including the use of a heat source where appropriate - I can understand that a healthy diet is made up from a variety and balance of different food and drink - I can understand how the Eatwell Guide is used to show this. 	<ul style="list-style-type: none"> *Fruit Pies – <i>Seasonality, peel, slice, cut, chop, shape, combine, mix, ingredients, equipment (and names) hygiene, Eatwell Guide. Protein, Fat, Carbohydrate, Dairy, Vitamins, Minerals, Vegetables, Fruit, salt, sugar</i>



Design Technology – PROGRESSION OF SKILLS AND KNOWLEDGE

4	<p>- I can develop my own design criteria and use them to inform my ideas</p> <p>- I can indicate the design features of my products that will appeal the intended users</p> <p>- I can make design decisions that consider the availability of resources</p> <p>- I can model my ideas using prototypes and pattern pieces</p>	<p>*Children should begin creating their own criteria for their products, rather than using ones provided by a teacher. They should take into account resources and user needs to inform these choices</p> <p>*Children should refine their model making skills, creating accurate, working prototypes to showcase a design</p> <p>- <i>criteria, resources, needs, wants, user, model, prototype, pattern, accuracy, representation</i></p>	<p>- I can order the main stages of making my product</p> <p>- I can explain my choice of tools and equipment in relation to the skills/techniques being used.</p> <p>- I can assemble, join and combine materials and components with some accuracy</p> <p>- I can apply a range of finishing techniques to my product</p>	<p>*Children should be able to apply their knowledge of making by ordering a given set of instructions, explaining the tools and equipment to be used in each step with increasing detail</p> <p>*Children should continue to improve and refine the accuracy of their work, using a range of finishing techniques to do so</p> <p>- <i>Order, justify, tools, equipment, skills, techniques, accuracy, finishing</i></p>	<p>- I can use my design criteria to evaluate my completed product</p> <p>- I can discuss when certain products were designed and made</p> <p>- I can discuss how well certain products were designed</p> <p>- I can discuss whether certain products can be recycled or reused</p>	<p>*Children should evaluate their products using the design criteria they have created for themselves. Answers should continue to be detailed and critical.</p> <p>*Children should begin to suggest whether products, both existing and their own, can be recycled.</p> <p>- <i>Design criteria, evaluation, recycle, reuse, repurpose,</i></p>	<p>- I can understand that a single fabric shape can be used to make a 3D textiles product</p> <p>- I can use learning from maths/science to help design and make products that work</p> <p>- I can understand how to reinforce and strengthen a 3D model</p>	<p>*Pencil Case project – <i>pattern, stitch, pattern, prototype, running stitch, blanket stitch, buttonhole stitch, fastener, finish, resist, dye, seams</i></p> <p>*WW2 Junk Toys – <i>prototype, model, join, combine, recycle, reuse, repurpose, strengthen, reinforce</i></p>	As Above	<p>*Egyptian Bread – <i>ingredients, kneading, seasonality, combining, proving, baking using a heat source, hygiene</i></p> <p>*WW2 Ration meals – Eatwell guide, <i>rationing, scarcity, seasonality, Eatwell Guide. Protein, Fat, Carbohydrate, Dairy, Vitamins, Minerals, Vegetables, Fruit, salt, sugar</i></p>
----------	---	--	---	---	---	---	--	---	-----------------	---



Design Technology – PROGRESSION OF SKILLS AND KNOWLEDGE

5	<p>- I can carry out user research using surveys, interviews, questionnaires and web based resources</p> <p>- I can explain how particular parts of my product work</p> <p>- I can generate innovative ideas that draw on my research</p> <p>- I can use annotated sketches, cross-sectional drawings and exploded diagrams to communicate my ideas</p>	<p>*Children should further develop their research skills, creating their own designs that have been thought through using information gathered straight from intended users outside of the classroom or from the internet.</p> <p>*Children should apply their understanding of products in their design work, using labels and diagrams to explain how their designs will function</p> <p>- <i>research, questionnaire, survey, annotate, label, sketch, cross-section, diagram, communicate</i></p>	<p>- I can produce an appropriate list of tools, equipment and materials I need to make my product</p> <p>- I can select materials and components suitable to a task</p> <p>- I can accurately measure, mark out, cut and shape materials/components</p> <p>- I can accurately assemble, join and combine materials/components</p>	<p>*Victorian Wooden Toy – <i>research, accuracy, components, instructions, joining, adhesive, marking, shape, tools, equipment, finishing</i></p> <p>*Children should begin suggesting tools, materials and equipment to use for a making task, rather than being given one by a teacher, taking into account their suitability for each stage of the project.</p> <p>*Children should continue to improve and refine the accuracy of their work, using a range of finishing techniques to do so</p>	<p>- I can critically evaluate the quality of the design, manufacture and “fitness for purpose” of my product as I design/make it</p> <p>- I can understand how much products cost to make</p> <p>- I can understand how innovative certain products are</p> <p>- I can discuss what methods of construction have been used in a particular product</p>	<p>*Children should begin to evaluate their products more critically and objectively, stating things that are “good” about their products, and how they fit the purpose they have, rather than what “they like” about them.</p> <p>*Children should begin to gather an understanding of products themselves, how they are made and the impact of their production.</p> <p>- <i>Evaluation, critical, objective, pros, cons, positive, negative, impact, cost, materials, components, purpose, function</i></p>	<p>- I can understand how mechanical systems, such as cams, pulleys or gears, create movement</p> <p>- I can understand that mechanical and electrical systems have an input, process and output</p> <p>- I can understand how simple electrical circuits and components can be used to create functional products</p>	<p>*Crumble Controlled Models – <i>input, process, output, program, debug, microcontroller, cams, gears, pulleys, mechanical, electrical, system, motor, buzzer, LED (Light Emitting Diode) function, aesthetic</i></p>	<p>- I can understand how food is processed into ingredients that can be eaten or used in cooking</p> <p>- I can understand that food is grown (such as tomatoes, wheat and potatoes,) reared (such as pigs, chickens and cattle,) or caught (such as fish) in the UK, Europe and the wider world</p> <p>- I can understand that different foods and drinks contain different substances, such as nutrients, water and fibre, that are needed to be healthy</p> <p>- I can demonstrate a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</p> <p>- I can understand that recipes can be adapted to change the appearance, taste, texture and aroma by adding or substituting one or more ingredients</p>	<p>*Viking Bread - <i>kneading, seasonality, combining, proving, baking using a heat source, hygiene, substituting, adding, adapting, taste, texture, appearance, ingredients</i></p>
---	---	--	--	---	---	--	--	---	---	---



Design Technology – PROGRESSION OF SKILLS AND KNOWLEDGE

6	<p>- I can identify the needs, wants, preferences and values of particular individuals or groups</p> <p>- I can develop a simple design specification to guide my thinking</p> <p>- I can make design decisions considering time, resource and cost constraints</p> <p>- I can use Computer-Aided Design to develop and communicate my ideas</p>	<p>*Children should further refine their researching skills, using a wide range of different methods, creating specifications to guide their thinking</p> <p>*Children should design their products based on the information they have gathered, recording what makes their products suitable for the intended user</p> <p>*Children should be introduced to Computer Aided Design software, such as Google Sketchup, as a method of further representing their ideas with accurate dimensions</p> <p>- <i>wants, needs, values, preferences, specification, time, resource, cost, restraints, CAD, dimensions, accuracy</i></p>	<p>- I can create a step-by-step plan to guide my making process</p> <p>- I can explain my choice of materials/components according to functional properties or aesthetic qualities</p> <p>- I can accurately apply a wide range of finishing techniques, including those from Art and Design</p> <p>- I can use techniques that involve a number of steps</p>	<p>Canal Boat – <i>Specification, Size, Aesthetics, Consumer, Function, Quality, Cost, Materials, Safety, Environment, Sustainability, impact, recycle, reuse, repurpose.</i></p> <p>*Children should be able to apply their knowledge to create their own plans for making projects, rather than using one given by a teacher. They should continue to explain choices they make in detail</p> <p>*Children should continue to improve and refine the accuracy of their work, using a range of finishing techniques to do so</p>	<p>- I can evaluate my ideas and products against my original design specification</p> <p>- I can identify the strengths and areas for development in my ideas and products</p> <p>- I can understand the sustainability of the materials used in products</p> <p>- I can understand the impact products have beyond their intended purpose</p> <p>- I can understand how well products have been designed by different inventors, designers, engineers, chefs and manufacturers</p>	<p>*Children should be evaluating their products critically and objectively, giving detailed explanations of how their products are fit for purpose within their design specification and identifying strengths and weaknesses in their designs, suggesting improvements to correct these</p> <p>*Children should have an understanding of how products, both theirs and others, have an impact beyond their use in the world, and how to minimise this where possible</p> <p>- <i>Evaluation, critical, objective, pros, cons, positive, negative, impact, specification, development, purpose</i></p>	<p>- I can understand that a 3D textiles product can be made from a combination of 2D fabric shapes</p> <p>- I can understand how more complex electrical circuits and components can be used to create functional products</p> <p>- I can understand how to program a computer to monitor changes in the environment and control my products</p>	<p>*Batik Cushion – <i>pattern, stitch, pattern, prototype, blanket stitch, invisible stitch, stuffing, wax resist, seam, machine sewing.</i></p> <p>*Electrical Product – <i>circuit diagram, names of components, circuit, series, parallel, open, closed, short circuit.</i></p> <p>*BBC Microbit Project – <i>input, process, output, program, debug, microcontroller, monitor, sensor</i></p>	As Above	<p>*Baking Cakes <i>baking using a heat source, hygiene, substituting, adding, adapting, taste, texture, appearance, ingredients</i></p> <p><i>Eatwell Guide. Protein, Fat, Carbohydrate, Dairy, Vitamins, Minerals, Vegetables, Fruit, salt, sugar, combining, mix</i></p>
---	--	--	--	---	--	---	---	--	-----------------	---