Design and Technology Skills, Knowledge and Vocabulary Progression Document

<table>
<tr><th></th><th>EY</th><th colspan="2">Y1</th><th colspan="2">Y2</th><th colspan="2">Y3</th><th colspan="2">Y4</th><th colspan="2">Y5</th><th>Y6</th></tr>
<tr><td rowspan="3">Design, Make, Evaluate and Improve</td><td>Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.</td><td colspan="4">Explain what they are making and which materials they are using.
Design products that have a clear purpose and an intended user.
Use pictures and words to convey what they want to make.
Make products, using a range of tools to cut, shape, join and finish.
Say what they like and don't like about their product and explain why.
Talk about how closely their finished product meets their design criteria.
Begin to use software to represent 2D designs</td><td colspan="4">Investigate existing products, including drawing them to analyse and understand how they are made.
Gather info about the needs & wants of particular groups.
Plan a sequence of actions to make a product.
Develop more than one design.
Develop prototypes.
Generate designs with annotated sketches
Refine work and techniques as work progresses, continually evaluating the product design.
Identify strengths and weaknesses of their design ideas.
Talk about how closely their finished product meets their design criteria and meets the need of the user.</td><td colspan="2">Undertake research to inform design process. This may include surveys and interviews.
Use prototypes, cross-sectional diagrams, exploded diagrams and CAD software to represent designs? - Google Sketchup?
Consider the views of others when evaluating their own work.
Ensure products have a high quality finish, using art skills where appropriate.
Justify their decisions about materials and methods of construction.
Make suggestions on how their design/product could be improved.
Analyse cost of a product.
Analyse how innovative a product is.</td></tr>
<tr><td>Vocabulary</td><td colspan="4">Vocabulary: materials, design, purpose, user, tools, cut, shape, join, finish, criteria, like/dislike</td><td colspan="4">Vocabulary: products, analyse, needs/wants, sequence, prototype, annotate, refine, evaluate, strengths/weaknesses, criteria, user</td><td colspan="2">Vocabulary: research, prototype, opinion, quality, justify, suggestion, improvement, analyse, innovate</td></tr>
<tr><td>Context</td><td colspan="2">Y1 DT Project – Make your own hero tools/medal.</td><td colspan="2">Y2 DT project – make your own model house/boat</td><td colspan="2"></td><td colspan="2">Y4 DT project – make your own Roman villa.</td><td colspan="2">Y5 DT project – make your own Greek Parthenon.</td><td></td></tr>
<tr><td rowspan="3">Cooking and nutrition</td><td></td><td colspan="4">Understand where food comes from
Group foods into the five groups in The Eatwell Plate.
Cut, grate or peel ingredients safely.
Prepare simple dishes-safely and hygienically - without using a heat source.
Measure or weigh using cups or electronic scales.</td><td colspan="4">Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs).
Measure ingredients using scales.
Prepare ingredients hygienically and using the appropriate utensils by following a recipe.
Follow procedures for safety & hygiene.</td><td colspan="2">Combine ingredients appropriately e.g. beating or rubbing.
Measure ingredients to the nearest gram and millilitre and calculate ratios of ingredients to scale up or down from a recipe.
Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed
Create and refine recipes, including ingredients, methods, cooking times and temperatures.
Follow procedures for safety & hygiene.</td></tr>
<tr><td>Vocabulary</td><td colspan="4">Vocabulary: group, cut, grate, peel, hygiene, measure, weigh</td><td colspan="4">Vocabulary: cut, shape, measure, hygiene, utensils, procedure</td><td colspan="2">Vocabulary: Combine, measure, ratio, seasonality, variety, refine, hygiene, procedure</td></tr>
<tr><td>Context</td><td colspan="2">Y1 DT Project – Make your own traditional tales recipe</td><td colspan="2"></td><td colspan="2">Y3 DT project – Make and refine your own Stone Age stewed fruit/salad</td><td colspan="2">Year 4 Project – Make your own chocolate</td><td colspan="2">Y5 DT Project – innovate your own Ancient Greek flatbread/dip.</td><td>Y6 DT Project – Make your own WW2 inspired meal</td></tr>
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Construction - Mechanics		• Use a range of materials to create models with wheels and axles e.g. tubes, dowel and cotton reels. • Use materials to practise drilling, screwing, nailing and gluing to strengthen products.		• Investigate how to make structures more stable e.g by widening the base • Begin to use mechanical systems in their products e.g. gears, pulleys and levers.			
	Vocabulary	**Vocabulary:** materials, wheels, axel, drill, screw, nail, glue, strengthen		**Vocabulary:** investigate, structures, stable, widening, mechanical, system, products, gear, pulley, lever.		**Vocabulary:** mechanical, structure, product, gear, pulley, lever, gears	
	Context		Y2 Project – Make your own moving car (Rolls Royce)		Year 4 Project – Make your own motorised car (Rolls Royce/Bloodhound)		
Construction - Electronics				• Create series and parallel circuits. • Strengthen frames using diagonal struts.		• Control a model using an ICT control model. • Use a glue gun with close supervision. • Join materials using appropriate methods. • Use a hand drill to drill tight and loose fit holes	
	Vocabulary			**Vocabulary:** series, parallel, circuit, strengthen, diagonal, strut		**Vocabulary:** control model, glue gun, join, material, appropriate, drill, tight/loose	
	Context			**Y3 Project – Make your own electronic/magnetic game**			**Year 6 Project – Make your own fairground ride**
Materials		• Fold, roll, tear and cut paper or card. • Investigate strengthening sheet materials. • Demonstrate a range of joining techniques such as gluing, taping or creating hinges. Measure and mark out lines. • Cut materials safely using tools provided • Demonstrate a range of cutting and shaping techniques such as tearing, cutting, folding and curling. • Use simple pop-ups.		• Cut materials accurately and safely by selecting appropriate tools. • Measure and mark out to the nearest mm. • Use and explore complex popups • Cut slots and internal shapes. • Create nets.		• Cut materials with precision. • Cut accurately and safely to a marked line. • Join/combine materials with temporary, fixed or moving joints.	
	Vocabulary	**Vocabulary:** fold, tear, cut, curl, strengthen, joining, materials, measure, tools, safely, pop-up		**Vocabulary:** cut, accurately, safely, appropriate, tools, measure, mark, complex popups, slots, internal shapes.		**Vocabulary:** cut, material, precision, accurate, safely, marked, join/combine, temporary/fixed/moving joints.	
	Context Card/paper	**Y2 DT Project – Make your own pop-up book for African facts**		**Y3 DT Project – Make your own pop-up rainforest**		**Y5 DT Project – Make your own pop-up Earth display using different materials, which are combined.**	
	Context Textiles	**Y1 DT Project– Make your own puppets (textiles)**		**Y4 – Roman stitching (Roman purse)**		**Y6 WW2 – embroidery make do and mend**	

Take inspiration from design throughout history		• Explore objects and designs to identify likes and dislikes. • Explore how products have been created.	• Disassemble products to understand how they work. • Improve on existing designs, giving reasons for choices. • Identify some of the great designers in different areas of study to generate ideas from their designs.	• Use knowledge of inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products to create their own innovative designs.
		Vocabulary: objects, design, identify, likes/dislikes, products, created	**Vocabulary:** disassemble, products, improve, existing, reason, identify, designers, generate, ideas	**Vocabulary:** knowledge, developed, ground-breaking, products, create, innovative, design