

Design and Technology Skills Progression

Designing

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>- Constructs with a purpose in mind, using a variety of resources (40-60 months).</p>	<p>- Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p>To design a 3D structure using pen and paper, based on a simple design criterion.</p> <p>To design purposeful, functional, appealing products for themselves and others based on design criteria.</p>	<p>- Design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>- Generate, develop, model and communicate their ideas through talking, drawing, template, mock-ups and, where appropriate, information and communication technology.</p> <p>To identify a purpose for what they intend to design and make.</p>	<p>- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</p> <p>To design a product using a brief, aimed at particular individuals or groups.</p>	<p>- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</p> <p>To design a product using a brief, using influence from research.</p>	<p>- Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer aided design.</p> <p>To design a product, using a brief, and taking inspiration from research and intended user to inform design.</p>	<p>- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</p> <p>- Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer aided design.</p> <p>To research related products, explain how they work and what this means for their construction. To design a product, using a design brief, with the user in mind.</p>

Making (including Technical Knowledge)

Area	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Textiles		<ul style="list-style-type: none"> - To cut material accurately. - To join two pieces of material together using glue or staples. - To use a stapler correctly. 	<ul style="list-style-type: none"> - To choose materials for a specific purpose. - To cut material more accurately. - To thread a needle - To sew a running stitch. 	<ul style="list-style-type: none"> - To measure and cut material accurately (nearest cm) - To sew a running stitch. - To sew a cross stitch. 	<ul style="list-style-type: none"> - To choose materials for a specific purpose. - To measure and cut accurately (nearest mm) allowing extra material for joins. - To sew a back stitch. - To sew using appropriate stitch. - To add appropriate detail for the intended user using stitching or glue. 	<ul style="list-style-type: none"> - To create a paper prototype. - To create objects that employ a seam allowance. - To choose an appropriate stitch for seams and decoration. - To sew using appropriate stitching. 	<ul style="list-style-type: none"> - To choose materials appropriately for both function, aesthetic and texture. - To measure and cut materials accurately. - To sew using appropriate stitches. - To add appropriate detail for the intended user using an appropriate joining technique.
Structures	<ul style="list-style-type: none"> - Beginning to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces. - Joins construction materials together to build and balance. - Selects tools and techniques needed to shape, assemble and join materials they are using. 	<ul style="list-style-type: none"> - To help mark out a tab. - To use scissors to help cut safely. - To join 2 materials together using glue. - To independently mark out and cut a tab. - To use a ruler to create a straight line. - To explore how to make a structure stronger. 	<ul style="list-style-type: none"> - To measure to the nearest cm. - With support make small cuts using a handsaw. - With support join 2 pieces of wood together using glue. - To reinforce the join using cardboard tabs. 	<ul style="list-style-type: none"> - To measure to the nearest cm. - To draw tabs on appropriate parts. - To cut accurately. - To score using appropriate tool. - To fold precisely along score lines. - To join product together using tabs and glue. 		<ul style="list-style-type: none"> - To measure with precision (nearest mm) - To cut materials with precision and refine the finish with appropriate tools (sanding or precise cutting with scissors). - To join materials using an appropriate method, taking into account aesthetics. - To reinforce where appropriate for rigidity and stability. 	

Mechanical Systems		<ul style="list-style-type: none"> - To understand what an axel is and how it works. - To construct a prototype of a car using Lego. - To make an axel using appropriate tools and materials. 	<ul style="list-style-type: none"> - To understand how a simple slider works. - To understand how a simple lever (flap) works. - To mark out and cut a lever and slider accurately. - To score to help form a lever using a Stanley knife (adult supported). 	<ul style="list-style-type: none"> - To measure, cut and join wood. - Attach axels appropriately. 	<ul style="list-style-type: none"> - To measure, cut and shape selected materials. - To mark out where the lever mechanism will be on the product. - To make a lever mechanism. - To join the lever mechanism to the product. 	<ul style="list-style-type: none"> - To measure, cut and join wood (including glue gun, nails). - To reinforce wood where appropriate for stability. - Attach axels appropriately. 	<ul style="list-style-type: none"> - To measure and cut wood to the nearest mm. - Sand to refine wood cuts. - Join wood using an appropriate technique (glue gun, nail). - To reinforce joins for stability. - To understand how a CAM works. - To use a CAM to convert rotary motion to linear.
Electrical Systems				<ul style="list-style-type: none"> - To understand how a circuit works. - To include a circuit in their vehicle to power a light. 		<ul style="list-style-type: none"> - To include a circuit in their vehicle including a motor and a switch. 	<ul style="list-style-type: none"> - To understand how to use a range of electrical systems in their products (series circuits incorporating switches, bulbs, buzzers and motors). - To apply their understanding of computing to program, monitor and control their products.
CAD (Computer Aided Design)				<ul style="list-style-type: none"> - To be introduced to Tinkercad (Computer Aided Design). - To explore how Tinkercad works. - To realise how CAD can be used to aid the design process. 			<ul style="list-style-type: none"> - To use knowledge of Tinkercad to design a product. - To explain how Tinkercad can be used to aid the design process.

Evaluating

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Adapts work where necessary. (40-60 months)	<p>To evaluate how well the product fits its purpose.</p> <p>To evaluate product against the design criteria.</p> <p>To compare product with someone else's.</p> <p>To evaluate product with an existing product.</p> <p>To evaluate by explaining one thing that could be changed.</p> <p>Evaluate own skills.</p>	<p>To explore and evaluate a range of existing products.</p> <p>Evaluate their ideas and products against design criteria.</p> <p>Evaluate own product explaining how to make it even better.</p> <p>To evaluate own skills.</p> <p>Understand how key events and design and technology has helped to shape the world (Bazalgette).</p> <p>To use first-hand experience to evaluate current products.</p>	<p>To evaluate their ideas and products against their design.</p> <p>Understand how key events in design and technology have helped shape the world (Brunel).</p> <p>Evaluate product, identifying what they did well and what they would change next time.</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>Evaluate their product, saying what they like and dislike.</p> <p>Revisit their product using their evaluation to improve it.</p> <p>Investigate and analyse a range of existing products to inform their own evaluation.</p>	<p>Evaluate their product, saying what they could improve for next time.</p> <p>Evaluate their product, taking into account of others' views of others to improve their work.</p> <p>Understand how key events and design and technology has helped to shape the world (Roman Aqueducts).</p>	<p>To evaluate their ideas and products against a design brief, based on aesthetic qualities.</p> <p>Evaluate their product, saying how it can be improved.</p> <p>Understand how key events and individuals have shaped the world (Industrial revolution).</p> <p>Evaluate product, taking the views of others into account when suggesting improvements.</p>	<p>To investigate and analyse a range of existing products.</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>Evaluate their product, saying what has and hasn't been successful as well as suggesting improvements.</p> <p>Revisit their product using their evaluation to improve it.</p>

Food Preparation

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Crush *Soft fruit with a potato masher or fork	Juice *Using a juicer to extract juice <i>orange</i>			Press *Using a garlic press		
Peel *By hand <i>banana, satsuma</i>	Peel *With a swivel peeler with adult support <i>apple</i>		Peel *With a swivel peeler with adult support			Peel *With a swivel peeler to create food ribbons to be used in a dish, with supervision <i>courgette, carrot</i>
		Spread *Soft ingredients <i>hummus, butter</i>		Spread *Ingredients evenly over another food		
Shape *By hand or with a rolling pin		Shape *Use a rolling pin *With accuracy for a desired effect eg basic bread roll			Shape and mould *To create visually appealing products eg mini cottage loaf or plait	
Mix/Stir *To loosely combine ingredients *Mash ingredients together using a fork		Mix/Stir *With increasing thoroughness to combine ingredients *Whisk foods using a fork *Rub in fat to flour *Knead dough	Mix/Stir *Whisk foods using a hand whisk	Mix/Stir *Any ingredients thoroughly		Mix/Stir *Fold ingredients together carefully
Spoon *Ingredients between containers		Spoon *Ingredients into different containers with increasing accuracy and minimal spillage	Spoon *Be able to use 2 spoons to transfer ingredients into different size/shape containers with minimal spillage			Spoon *Be able to gauge the quantities spooned to ensure an equal amount of ingredients in each container
Measure *Using a spoon <i>dried fruit, herbs</i> *Count ingredients	Measure *Refer to ingredients in simple fractions eg half, quarter	Measure *Using different size measuring spoons		Measure *Using a measuring jug with support to gain accuracy	Measure *Using digital and analogue scales	Measure *Use a measuring jug independently with accuracy

		*Refer to ingredients in simple fractions eg half, quarter		*Using digital scales with support to gain accuracy	accurately and independently	
Cut out *Ingredients with a cutter eg dough for scones		Cut out *Ingredients neatly with a cutter *Use a table knife to cut dough into equal portions	Cut out *Placing the cutter in positions to make good of the material available and avoid waste			
				Grate *Soft and firmer foods carrots, apples, cheese, cucumber	Grate *Using the zesting part of a grater oranges, lemons *Use a nutmeg grater	
Tear *Fresh herbs				Snip *Fresh herbs, spring onions	Snip *With greater dexterity and control shred lettuce or cabbage	
		Sift *Flour into a bowl				
	Thread *Soft food onto cocktail sticks fruit kebabs		Thread *Medium resistance foods onto a stick mushrooms, courgettes			Thread *Higher resistance foods peppers, onions
Cut *Soft foods with butter knife banana, tinned peaches	Cut *Low resistance foods with a table knife into equal size pieces/slices canned pineapple, sticks of pepper Use a fork to secure foods			Cut *Medium resistance foods with a table knife, using a fork or the claw grip to secure foods cucumber *Medium resistance or partly prepared foods with a bridge hold cut half a tomato		Cut *Higher resistance food with a vegetable knife, using the claw grip celery, carrots *Higher resistance foods from whole using the bridge hold halve an apple, raw potato