Curriculum Progression – Design Technology

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Master Practical Techniques	**Materials** •Explore and begin to understand various joining techniques, such as gluing, sticking, stapling, zips and laces. •Develop fine motor skills so that children can use a range of tools competently, such as cutting, threading, making models, pouring and stirring **Structures** •Independently create structures for a range of purposes **Mechanisms** •With support, begin to incorporate	**Materials** •Cut materials safely using tools provided. •Measure and mark out to the nearest centimetre. •Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). •Demonstrate a range of joining techniques (such as gluing, using hinges or combining materials to strengthen). **Structures** •Practise drilling, screwing, gluing and nailing materials to make and strengthen products. **Mechanisms** •Create products using levers, wheels and winding mechanisms. **Food and nutrition** •Cut, peel and grate ingredients safely and hygienically. •Measure or weigh using measuring cups or electronic scales. •Assemble and cook ingredients. **Textiles** • Join materials using glue and/		**Materials** •Cut materials accurately and safely by selecting appropriate tools. •Measure and mark out to the nearest millimetre. •Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). •Select appropriate joining techniques. **Electrics and computing** •Create products with series and parallel circuits. •Control and monitor models using apps designed for this purpose. **Mechanisms** •Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as linked levers or pneumatics). **Structures** •Choose suitable techniques to construct products or to repair items. •Strengthen materials using suitable techniques. **Food and nutrition**		**Materials** •Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or using a more precise scissor cut after roughly cutting out a shape). •Show an understanding of the qualities of materials in order to choose appropriate tools to cut and shape (e.g. the nature of fabric may require sharper scissors than would be used to cut paper). **Electrics and computing** •Create products using electronics kits that employ a number of components (such as LEDs and resistors). •Write code to control and monitor models or products. **Structures** •Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding). **Mechanisms** •Convert rotary motion to linear using cams.	

	moving parts into models **Food and nutrition** •Understand different seasons and begin to explore the different things that grow in these seasons •Explore how to keep ourselves safe and hygienic •With support, create food products to enjoy	or a stitch. • Use dip dye techniques	•Prepare ingredients hygienically using appropriate utensils. •Measure ingredients accurately to the nearest gram. •Follow a recipe. •Assemble and cook ingredients (controlling the temperature of the hob, if cooking). **Textiles** • Shape and stitch materials. • Use basic cross stitch and back stitch. • Quilt, pad and gather fabric.	•Use innovative combinations of electronics (or computing) and mechanics in product designs. **Food and nutrition** •Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms). •Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. •Demonstrate a range of baking and cooking techniques. •Create and refine recipes, including ingredients, methods, cooking times and temperatures. **Textiles** • Show precision in techniques. • Choose from a range of stitching techniques. • Combine previously learned techniques to create pieces
<u>Take inspiration from design</u>	•Begin to explore different products and their intended users •Express likes and dislikes for products	•Explore objects and designs to identify likes and dislikes. •Suggest improvements to existing designs. •Explore how products have been created.	•Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. •Improve upon existing designs, giving reasons for choices. •Disassemble products to understand how they work.	•Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. •Create innovative designs that improve upon existing products. •Evaluate the design of products so as to suggest improvements to the user experience.

Design, make, evaluate and improve	•Make products to celebrate events throughout the year that have a clear purpose and intended user. •Begin to refine products as they progress •Begin to select their own tools in order to create products	•Design products that have a clear purpose and an intended user. •Make products, refining the design as work progresses. •Use software to design.		•Design with purpose by identifying opportunities to design. •Make products by working efficiently (such as by carefully selecting materials). •Refine work and techniques as work progresses, continually evaluating the product design. •Use apps to design and represent product designs.		•Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). •Make products through stages of prototypes, making continual refinements. •Ensure products have a high-quality finish, using art skills where appropriate. •Use prototypes, cross-sectional diagrams and computer-aided designs to represent designs.	
Electrics & Computing *Coding takes place in every year group from Y1-6 in Computing lessons*	Begin to explore how computers can be used for varying purposes				**App control** – Lifestyle helper (robot)	**Electronic motors** – motorised car	
Mechanisms	Begin to explore mechanisms e.g. slider mechanisms, through their story books	**Slider mechanisms** – Greeting cards	**Wheel & axle mechanisms** – wind-powered car		**Linked levers** – Informational products		**Cams** – Automaton toys
Structures	Various structures explored through Continuous Provision	**Frame structures** -Chair for soft toy		**Frame structures** – Truss bridge		**Arch structures** – Building with arch roof structure	

Food & nutrition *Seasonality and food hygiene takes place in every year group*	Bread	Portable snacks	Couscous dish	Dips	Vegetable soup	Bread	Fiver Food Festival
Textiles	Puppets		Purses	Pencil Cases			Cushions
Key vocabulary	Build, construct, product, purpose, user, inspiration, materials, describe, change, explain, decide, make, food, stir, strong, stable, seasons, safe, hygienic, clean, cut, thread, glue, stick, pour	Product, purpose, intended user, inspiration, materials, features, techniques, constructed, prototype, collect, describe, list, experiment, adapt, refine, compare, contrast, explain, apply, decide, organise, make, design diagram, product outline, mood board, structure, nature, combined, manufactured, connected, balanced, stable, base, free-	Product, purpose, intended user, inspiration, materials, features, techniques, constructed, prototype, collect, describe, list, experiment, adapt, refine, compare, contrast, explain, apply, decide, organise, make, design diagram, product outline, mood board, mechanism, rotating, force, attach, chassis, automatically, fluency, inspiration,	Product, purpose, intended user, inspiration, materials, features, techniques, constructed, prototype, collect, describe, list, experiment, adapt, refine, compare, contrast, explain, apply, decide, organise, make, design diagram, product outline, mood board, rigid, truss, distribute, strut, joining plate, pioneered, Jinks corners, chord, pier, interlocking,	Product, purpose, intended user, inspiration, materials, features, techniques, collect, describe, list, experiment, adapt, refine, compare, contrast, explain, apply, decide, organise, make, design diagram, product outline, mood board, constructed, device, app-enabled, respond, internal app, external app, annotate, automatically,	Product, purpose, intended user, inspiration, materials, features, techniques, constructed, prototype, mood board, collect, describe, list, experiment, adapt, refine, compare, contrast, explain, apply, decide, organise, make, design diagram, product outline, test, modify, rotary, propeller, combined, mounted, pulleys, gears, fan, axles, wheels, annotated,	Product, purpose, intended user, inspiration, materials, features, techniques, constructed, prototype, collect, describe, list, experiment, adapt, refine, compare, contrast, explain, apply, decide, organise, make, design diagram, product outline, mood board, test, modify, automatically, fluency, cams, linear reciprocating, vice versa, dwell, rise,

		standing, anchor, properties, construct, beam, column, slab, automatically, fluency, accurate, inspiration, purpose, user, spreading, grating, peeling, weighing, snipping, stirring, sprinkle, seasonal food, harvest, hygiene, food poisoning, prepared, stored, ingredients, fillings, pastries	purpose, user, nutritious, ingredients, peeling, slicing, chopping, snipping, weighing, stirring, grams, millilitres, tablespoon, teaspoon, seasonal food, harvest, garnish, presentation, food poisoning, stored, prepared, hygiene, cotton, needle, thread, sewing, fastenings, Velcro, zips, buttons, felt, stitch, dip dye	strength, stability, deck, measuring, cutting, assembling, joining, blended, spoonable consistency, scoop, creamy, vegetarians, weighing, stirring, blending, juicing, crushing, starter course, grams, teaspoon, tablespoon, garnish, sprinkled, accompaniments, ingredients, mood board, product overview, diagrams, pictures, sketches, balanced diet, nutrients, pulses, whole grain, vitamins, carbohydrates, protein, fibre, fat, safe storage,	fluency, motors, app coding, Bluetooth control hub, motors, levers, programming, debugging, algorithms, prototype, constructed, pivot, fulcrum, linear, rotary, moving pivot, fixed pivot, reciprocating, oscillating, input, output, measuring, cutting, estimating, assembling, joining, lentils, blended, accurate, food preparation, sliced, diced, chopping, claw grip, crushing, juicing, peeling, snipping, stirring, measuring, frying, simmering, nutritious, inexpensive, seasonal,	automatically, fluency, attach, clip, chassis, measuring, estimating, joining, cutting, groove, engineering, mechanism, perfected, ellipse, parabola, keystone, voussoir, impost, abacus, topmost, carved, masonry, cement, transferred, catenary, elliptical, parabolic, rigid, steel, brick, wood, timber, glass, arch, stability, structure, strength, shape, measuring, cutting, estimating, assembling, joining, series, sourdough, tea cake, loaf, kneading, accurate,	fall, eccentric circle, pear shaped, snail shaped, follower, mechanism, annotated, automaton, pulleys, assembling, crank, handle, axle, measuring, cutting, joining, estimating, kneading, accurate, weighing, sieving, sautéing, crushing, chopping, stirring, blending, adaptable, convenient, portable, traditional, cultural, fry, lentils, teaspoon, tablespoon, grams, yeast, millilitres, litres, sprinkle, preheat, degrees Celsius, Gas mark, fan oven, baking sheet, oven gloves,

				Preserve, bacteria, refrigerated, perish, freshly prepared, leftovers, containers, use by dates, cotton, needle, thread, sewing, fastenings, Velcro, zips, cross stitch, back stitch, buttons, felt	saucepan, millilitres, ingredients, mood board, product overview, diagrams, pictures, sketches, balanced diet, Preserve, bacteria, refrigerated, perish, freshly prepared, leftovers, containers nutrients, pulses, wholegrain, use by dates	weighing, sieving, teaspoon, tablespoon, grams, yeast, millilitres, carbohydrates, sprinkle, preheat, degrees Celsius, Gas mark, fan oven, baking sheet, oven gloves, food safety, hygiene, perishable, infectious, disinfected	food safety, hygiene, perishable, infectious, disinfected, binca, thread, sewing, needle, back stitch, cross stitch, over stitch, appliqué, embroidery, felt, cotton, fibres, polyester, filling