

DT: Progression — Materials & Mechanisms

Strand	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Structures	—	Playground Equipment - Know that triangulation and base structures help a structure stand freely and stably. - Design, make and evaluate a stable free-standing structure such as a swing or slide.	—	Biscuit Box Packaging - Know that packaging can be strengthened/stiffened using laminating, ribbing and corrugation. - Design a net for packaging using CAD, then assemble a strengthened biscuit box. <i>↑ Builds on Y2: adds laminating/corrugation and first use of CAD</i>	Bird Shelters - Know that triangulation and trusses strengthen a framework structure; use CAD to design a bird box. - Cut and join wood accurately (hacksaw, bench hook) to build and decorate a shelter. <i>↑ Builds on Y4: adds trusses, real wood-joining tools and outdoor durability</i>	—
Mechanisms	Sliders and Levers: Moving Pictures - Know that a slider, lever and wheel mechanism each create different types of movement. - Design and make a moving picture using a chosen mechanism, and evaluate it against a brief.	Wheels and Axles: Moving Vehicles - Know the parts of a moving vehicle (wheels, axle, chassis, axle holder, wheel stopper). - Design, make and evaluate a moving vehicle toy made from recycled materials. <i>↑ Builds on Y1: single mechanisms combine into a multi-part moving product</i>	Puppets with Moving Parts - Know how lever and linkage mechanisms create oscillating and reciprocating movement. - Make lever and linkage mechanisms using fixed and loose pivots. <i>↑ Builds on Y2: single mechanisms become linked, multi-pivot systems</i>	—	—	—
Mechanical Systems	—	—	—	—	—	Mechanical Toy - Know that a cam mechanism converts rotary motion into reciprocating or oscillating motion. - Identify the four main cam types; use CAD and tools to build, position and decorate a toy. <i>↑ Draws on mechanisms knowledge from Years 1–3; adds rotary-motion conversion</i>
Textiles	Puppets - Know that fabric can be joined using appliqué, fabric paint and embellishment. - Thread a needle and use a running stitch safely to join felt shapes.	Bendy Bags - Know temporary (pins, chalk) and permanent (running stitch, oversew) joining techniques. - Create a paper pattern and join felt shapes into a bag. <i>↑ Builds on Y1: adds a second stitch (oversew) and first use of a paper pattern</i>	Phone Holder - Know the functions of different stitches (running, blanket, oversew) and fastenings. - Design a prototype phone holder and create a fabric pattern. <i>↑ Builds on Y2: adds fastenings, a third stitch and first use of CAD in textiles</i>	—	—	Utility Belts - Know and use the ACCESS FM framework to write a design specification. - Select fastenings and stitches (cross stitch, blanket stitch) to construct a belt. <i>↑ Builds on Y3: adds a decorative stitch and an independent specification framework</i>
Food	Fruit Salads - Know that fruit forms part of a balanced diet; use the bridge hold to chop fruit safely. - Design, make and evaluate a fruit salad against a design brief.	—	Healthy Diet; Super Salad - Know that seasonality affects which fruits/vegetables are available; use claw and bridge cuts. - Design, make and evaluate a salad and dressing against set criteria. <i>↑ Builds on Y1: adds seasonality, a second cutting technique and nutritional labelling</i>	Healthy Wrap; Healthy Pizza - Recall the recommended proportions of food groups in a balanced diet. - Design, make and evaluate a healthy wrap or pizza, including packaging. <i>↑ Builds on Y3: adds food-group proportions and product packaging</i>	Soups - Explain seasonality and describe flavour profiles using the five basic tastes. - Follow and refine a recipe, applying weighing, cutting and simmering techniques. <i>↑ Builds on Y4: adds flavour science, simmering and designing within a budget</i>	Bread Making - Know that yeast ferments to make dough rise; kneading develops gluten strength. - Design, make and evaluate a loaf, considering seasonal ingredients and shape. <i>↑ Builds on Y5: adds fermentation science and dough-strengthening technique</i>
Electrical Systems	—	—	—	Night Lights - Know that a complete circuit needs a power source, wires and a switch. - Design and make a night light with a working circuit and suitable casing.	Alarming Vehicles - Know how input devices (switches, sensors) and outputs connect in a control system. - Use the Crumble micro-controller to programme an alarm system. <i>↑ Builds on Y4: a manual switch circuit becomes a programmable control system</i>	—

DT: Progression — Designing, Making, Evaluating

Strand	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Designing	Given Design Brief - Follow a fully teacher-specified design brief. - Communicate ideas through simple talk and drawing.	Audience-Aware Ideas - Understand who a product is for and why. - Generate ideas through labelled drawings.	Research-Informed; First CAD - Select own criteria and research materials/fastenings before designing. - Use CAD for the first time to design a product.	Needs vs Wants - Distinguish a user's needs from their wants. - Use CAD to design nets and circuit layouts.	Specification & Planning - Use annotated sketches and CAD; write a design specification. - Formulate a step-by-step plan listing tools, materials and components.	Structured Frameworks - Use ACCESS FM and CAFQUEES to write an independent design specification. - Understand that the design process is iterative, not linear.
Making	Basic Tools & Stitching - Use scissors and rulers for simple practical tasks. - Practise a running stitch with adult support.	Accurate Measuring & Joining - Measure and join accurately (flange, L brace, tabs). - Use temporary and permanent joining stitches.	Safe Cutting; Linkages - Use the claw and bridge techniques to cut safely. - Construct lever and linkage mechanisms with fixed/loose pivots.	Strengthening; Circuits - Strengthen/stiffen materials (laminating, ribbing, corrugation). - Build a working electrical circuit with a switch.	Woodwork; Programming - Use a hacksaw, bench hook and hand drill safely and accurately. - Programme the Crumble micro-controller to control components.	Precision & Independence - Combine multiple joining/finishing techniques with precision. - Position a cam and follower mechanism correctly and independently.
Evaluating	Guided Questions Say what they like or would change, guided by given questions.	Prototype Testing - Know what a prototype is for and what it tells you. - Carry out self and peer evaluation.	Own Criteria - Evaluate against their own selected criteria. - Identify potential next steps for development.	Evaluating Existing Products Evaluate pre-existing products for aesthetics, function, structure and material.	Continuous Evaluation Continually evaluate and modify while making, not only at the end.	Structured Frameworks (FACE) - Evaluate independently using the FACE framework. - Understand how key figures in design history have shaped the world.