

Long Term Overview — Sequence and Rationale

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
1	Mechanisms: Sliders and Levers – Moving Pictures • Know that a slider, lever and wheel mechanism each create different types of movement. • Evaluate existing moving pictures against a design brief.	Mechanisms: Sliders and Levers (continued) • Refine skills in using a ruler and scissors safely and accurately. • Redesign and make a final moving picture book, then evaluate it.	Food: Fruit Salads • Know that fruit forms part of a balanced diet and name its different parts. • Use the bridge hold to chop fruit safely and design an initial fruit salad.	Food: Fruit Salads (continued) • Refine skills in grating, peeling and changing flavour with condiments. • Redesign, make and evaluate a final fruit salad against the design brief.	Textiles: Puppets • Know how appliqué, fabric paint and embellishment can decorate a puppet. • Design a puppet and practise a running stitch on felt.	Textiles: Puppets (continued) • Redesign the puppet after investigation and apply a running stitch to join fabric. • Create and evaluate a final animal hand puppet.
2	Mechanisms: Wheels and Axles • Know the parts of a moving vehicle: wheels, axle, chassis, axle holder, wheel stopper. • Sort recycled materials for suitability and design an emergency vehicle toy.	Mechanisms: Moving Vehicles • Refine skills in measuring, joining (flange, L brace, tabs) and redesigning. • Make and evaluate a final moving vehicle against the design brief.	Textiles: Bendy Bags • Know that fabric can be joined using different techniques and create a paper pattern. • Practise temporary (pins, chalk) and permanent (running stitch) joining techniques.	Textiles: Bendy Bags (continued) • Use an oversew stitch to join fabric and explore decoration through embroidery. • Redesign, make and evaluate a final bendy bag.	Structures: Playground Equipment • Know that triangulation and base structures help playground equipment stand freely and stably. • Investigate materials and joining mechanisms, then make a swing structure.	Structures: Playground Equipment (continued) • Redevelop a design idea and make a slide, swing or monkey bars structure. • Evaluate playground equipment using wind, weight and flex tests.
3	Food: Healthy Diet • Know that a healthy diet includes all food groups in the correct proportions. • Use the claw and bridge techniques to cut vegetables safely and design a salad.	Food: Super Salad • Know how nutritional labelling and ingredient lists inform healthy choices. • Refine measuring and cutting skills to design, make and evaluate a salad dressing.	Textiles: Phone Holder • Know the functions of different stitches (running, blanket, oversew) and fastenings. • Design a prototype phone holder and create a fabric pattern.	Textiles: Phone Holder (continued) • Use appliqué and strengthening techniques, then redesign the product using CAD. • Make and evaluate a final phone holder against the design brief.	Textiles: Puppets with Moving Parts • Know how lever and linkage mechanisms create oscillating and reciprocating movement. • Make a range of lever and linkage mechanisms using fasteners, card and Blu-tac.	Textiles: Puppets with Moving Parts (continued) • Plan the stages of making a puppet and construct its mechanism. • Decorate the puppet and evaluate the final product against the design brief.

Long Term Overview (continued)

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Year	Autumn 1 →	Autumn 2 →	Spring 1 →	Spring 2 →	Summer 1 →	Summer 2
4	Structures: Biscuit Boxes • Know that packaging can be strengthened using laminating, ribbing and corrugation. • Test the strength of different nets and design packaging using CAD.	Structures: Biscuit Boxes (continued) • Refine strengthening skills and design a logo to represent a brand. • Make and evaluate a final biscuit box packaging design.	Electrical Systems: Night Lights • Know that a complete circuit needs a power source, wires and a switch. • Research suitable transparent/translucent materials for a night light casing.	Electrical Systems: Night Lights (continued) • Build a circuit with a switch and create a fabric or card casing. • Evaluate the final night light's functionality against the design brief.	Food: Healthy Wrap • Know the recommended proportions of food groups in a balanced diet. • Identify healthy sandwich fillings and design a wrap to fit a brief.	Food: Healthy Pizza • Know that a pizza's healthiness depends on its base, cheese and toppings. • Make pizza dough and design appealing, informative packaging for the product.
5	Food: Soups • Know how seasonality affects produce and describe the five basic tastes. • Follow a recipe applying cutting and weighing techniques to design a soup.	Food: Soups (continued) • Refine cutting and measuring skills and understand how the Eatwell Guide informs recipes. • Redesign, make and evaluate a final soup against a budget and design brief.	Structures: Bird Shelters • Know that triangulation and trusses help to strengthen a framework structure. • Investigate suitable materials and joining techniques, then design using CAD.	Structures: Bird Shelters (continued) • Cut and join wood safely using a hacksaw and bench hook. • Decorate and evaluate a final bird shelter against the design specification.	Electrical Systems: Alarming Vehicles • Know how input devices (switches, sensors) and output devices connect in an electrical circuit. • Use the Crumble micro-controller to programme components for an alarm.	Electrical Systems: Alarming Vehicles (continued) • Design and make a chassis and shell for a vehicle housing the alarm. • Fit Crumble components and evaluate the final alarming vehicle.
6	Food: Bread Making • Know that yeast ferments to make dough rise, and bread without yeast is unleavened. • Follow a recipe applying kneading and shaping techniques to make bread.	Food: Bread Making (continued) • Refine kneading and ingredient-combining skills to strengthen dough. • Redesign, make and evaluate a final loaf against the design criteria.	Textiles: Utility Belts • Know the ACCESS FM framework for writing a design specification. • Test suitable materials and joining stitches for a utility belt prototype.	Textiles: Utility Belts (continued) • Use fastenings and a decorative cross stitch to join and embellish fabric. • Make and evaluate a final utility belt against ACCESS FM.	Mechanical Systems: Mechanical Toy • Know that a cam mechanism converts rotary motion into another type of movement. • Identify the four main cam types and select materials to make a simple mechanism.	Mechanical Systems: Mechanical Toy (continued) • Build a framework and correctly position the cam and follower mechanism. • Decorate and evaluate a final mechanical toy using FACE criteria.