

Design and Technology Progression Grid

Food and Nutrition

	EYFS	Year 1 and 2 Preparing Fruit and Vegetables	Year 3 and 4 Healthy and Varied Diet	Year 5 and 6 Celebrating Culture and Seasonality
Designing	<p>Reception</p> <p>Develop their small motor skills so that they can use a range of tools competently, safely and confidently (PD)</p> <p>Use their core muscle strength to</p>	<ul style="list-style-type: none"> Design appealing products for a particular user based on simple design criteria. Generate initial ideas and design criteria through investigating a variety of fruit and vegetables. Communicate these ideas through talk and drawings. 	<ul style="list-style-type: none"> Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas. 	<ul style="list-style-type: none"> Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification. Explore a range of initial ideas, and make design decisions to develop a final product linked to user and purposes. Use words, annotated sketches and information and communication technology as appropriate to develop and communicate ideas.
Making	<p>achieve a good posture when sitting at a table or sitting on the floor (PD)</p> <p>Know and talk about the different factors that support their</p>	<ul style="list-style-type: none"> Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product. 	<ul style="list-style-type: none"> Plan the main stages of a recipe, listing ingredients, utensils and equipment. Select and use appropriate utensils and equipment to prepare and combine ingredients. 	<ul style="list-style-type: none"> Write a step-by-step recipe, including a list of ingredients, equipment and utensils. Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients. Make, decorate and present the food product appropriately for the intended user and purpose.
Evaluating	<p>overall health and well being: healthy eating (PSED)</p> <p>ELG</p> <p>Use a range of small tools e.g. scissors and cutlery (PD)</p>	<ul style="list-style-type: none"> Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences. Evaluate ideas and finished products against design criteria, including intended user and purpose. 	<ul style="list-style-type: none"> Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs Evaluate the ongoing work and the final product with reference to the design criteria and the views of others. 	<ul style="list-style-type: none"> Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams. Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements. Understand how key chefs have influenced eating habits to promote varied and healthy diets.

Design and Technology Progression Grid

Food and Nutrition

	EYFS	Year 1 and 2 Preparing Fruit and Vegetables	Year 3 and 4 Healthy and Varied Diet	Year 5 and 6 Celebrating Culture and Seasonality
Technical Knowledge	<p>ELG</p> <p>Manage their own basic hygiene and personal needs including the importance of healthy food choices (PSED – MS)</p>	<ul style="list-style-type: none"> Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of The Eatwell plate. Know and use technical and sensory vocabulary relevant to the project. 	<ul style="list-style-type: none"> Know how to use appropriate equipment and utensils to prepare and combine food. Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught Know and use relevant technical and sensory vocabulary appropriately. 	<ul style="list-style-type: none"> Know how to use utensils and equipment including heat sources to prepare and cook food. Understand about seasonality in relation to food products and the source of different food products. Know and use relevant technical and sensory vocabulary.
Tools and Equipment	Chopping boards, Knives, forks, spoons, jugs, plates, bowls, aprons, baking trays	Chopping boards, knives, peelers, graters, skewers, juicers, spoons, jugs, plates, bowls, aprons, plastic table covers	Knives, chopping boards, weighing scales, measuring jugs, bowls, baking trays, spoons of various sizes, parchment paper, plastic film	Weighing scales, measuring jugs, bowls, spoons of various sizes, baking trays, parchment, paper, plastic film
Key Vocabulary	<p>Fruit and vegetable names</p> <p>Names of utensils and equipment</p> <p>Soft, hard, juicy, crunchy, sticky, smooth, sharp, sour</p> <p>Healthy diet, cook, bake, cutting, ingredients, tasting</p>	<p>Fruit and vegetable names, names of utensils and equipment</p> <p>Soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard</p> <p>Flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating, tasting, arranging, popular, design, evaluate, criteria</p>	<p>Name of products, names of equipment, utensils, techniques and ingredients</p> <p>Texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury</p> <p>Hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested, healthy/varied diet</p> <p>Planning, design criteria, purpose, user, annotated, sketch, sensory, evaluations</p>	<p>Ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs</p> <p>Fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality</p> <p>Utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble</p> <p>Design specification, innovative, research, evaluate, design brief</p>

Design and Technology Progression Grid

Textiles

	EYFS	Year 2 Templates and Joining Techniques	Year 3 2D Shape to 3D Product	Year 6 Combining Different Fabric Shapes
Designing	<p>Reception</p> <p>Develop their small motor skills so that they can use a range of tools competently, safely and confidently (PD)</p> <p>Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor (PD)</p>	<ul style="list-style-type: none"> Design a functional and appealing product for a chosen user and purpose based on simple design criteria. Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology. 	<ul style="list-style-type: none"> Generate realistic ideas through discussion and design criteria for a an appealing, functional product fit for purpose and specific user/s. Produce annotated sketches, prototypes, final product sketches and pattern pieces. 	<ul style="list-style-type: none"> Generate innovative ideas by carrying out research including surveys, interviews and questionnaires. Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes and, where appropriate, computer aided design. Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification.
Making	<p>Progress towards a more fluent style of moving, with developing control and grace (PD)</p> <p>Create collaboratively, sharing ideas, resources and skills (EAD)</p>	<ul style="list-style-type: none"> Select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing. Select from and use textiles according to their characteristics. 	<ul style="list-style-type: none"> Plan the main stages of making. Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. Select fabrics and fastenings according to their functional characteristic e.g. strength, and aesthetic qualities e.g. pattern. 	<ul style="list-style-type: none"> Produce detailed lists of equipment and fabrics relevant to their tasks. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. Select from and use a range of tools and equipment to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost.
Evaluating	<p>ELG</p> <p>Use a range of small tools, including scissors, paintbrushes and cutlery (PD-FMS)</p>	<ul style="list-style-type: none"> Explore and evaluate a range of existing textile products relevant to the project being undertaken. Evaluate their ideas throughout and their final products against original design criteria. 	<ul style="list-style-type: none"> Investigate a range of 3D textile products relevant to the project. Test their product against the original design criteria and with the intended user. Take into account other's views. Understand how a key event/individual has influenced the development of the chosen product and/or fabric. 	<ul style="list-style-type: none"> Investigate and analyse textile products linked to their final product. Compare the final product to the original design specification. Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. Consider the views of others to improve their work.

Design and Technology Progression Grid

Textiles

	EYFS	Year 2	Year 3	Year 6
		Templates and Joining Techniques	2D Shape to 3D Product	Combining Different Fabric Shapes
Technical Knowledge	<p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design texture, form and function (EAD)</p> <p>Share their creations, explaining the process they have used. (EAD)</p>	<ul style="list-style-type: none"> Understand how simple 3-D textile products are made, using a template to create two identical shapes. Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Know how to strengthen, stiffen and reinforce existing fabrics. Understand how to securely join two pieces of fabric together. Understand the need for patterns and seam allowances. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> A 3D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. Fabrics can be strengthened, stiffened and reinforced where appropriate.
Tools and Equipment	<p>Variety of textiles</p> <p>Thread, needles, glue, staples,</p> <p>Left/right handed scissors</p> <p>Items for finishing—buttons, sequins, googly eyes, wool, card, paper</p> <p>Pencils, crayons, felt tip pens, paint</p>	<p>existing products linked to chosen project</p> <p>variety of textiles e.g. dipryl, felt, reclaimed fabric</p> <p>thread, pins, needles, magnet, staplers, staples, fabric glue</p> <p>left/right handed scissors</p> <p>items for finishing e.g. buttons, wool, fabric paints, sequins</p> <p>drawing and colouring media</p>	<p>collection of textile products linked to the chosen product to be made</p> <p>selection of fabrics and fastenings</p> <p>left/right handed scissors, needles, thread, tape, fabric glue, pins, measuring tape</p> <p>items to use for finishing e.g. fabric paints, threads, appliqué pieces, paints for printing, thin paint brushes</p>	<p>existing textile products for investigation and deconstruction linked to their product</p> <p>wide selection of textiles including reclaimed and reusable fabrics, dipryl</p> <p>pins, needles, thread, measuring tape, left/right handed fabric scissors, pinking shears iron, iron transfer paper, sewing machine</p> <p>range of fastenings, materials for insulating or strengthening e.g. bubble wrap, wadding, interfacing</p> <p>finishing materials e.g. sequins, buttons, fabric paints</p>
Key Vocabulary	<p>Scissors, cut, join, fasten, fabric, material, glue, decorate, finish, make, needle, design</p>	<p>names of existing products, joining and finishing techniques, tools, fabrics and components</p> <p>template, pattern pieces, mark out, join, decorate, finish</p> <p>features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function</p>	<p>existing products linked to chosen project variety of textiles e.g. dipryl, felt, reclaimed fabric thread, pins, needles, magnet, staplers, staples, fabric glue left/right handed scissors items for finishing e.g. buttons, wool, fabric paints, sequins drawing and colouring</p> <p>user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, aesthetics, function, pattern pieces</p>	<p>seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces</p> <p>name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings, iron transfer paper</p> <p>design criteria, annotate, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock-up, prototype</p>

Design and Technology Progression Grid

Structures

	EYFS	Year 1 Freestanding Structures	Year 3 Shell Structures	Year 5 Frame Structures
Designing	<p>Reception</p> <p>Develop their small motor skills so that they can use a range of tools competently, safely and confidently (PD)</p> <p>Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor (PD)</p>	<ul style="list-style-type: none"> • Generate ideas based on simple design criteria and their own experiences, explaining what they could make. • Develop, model and communicate their ideas through talking, mock-ups and drawings. 	<ul style="list-style-type: none"> • Generate realistic ideas through design criteria collaboratively through discussion, focussing on the needs of the user and purpose of the product. • Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas. 	<ul style="list-style-type: none"> • Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources. • Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. • Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches.
Making	<p>Progress towards a more fluent style of moving, with developing control and grace (PD)</p> <p>Create collaboratively, sharing ideas, resources and skills (EAD)</p> <p>Return to and build on their previous learning, refining ideas and developing their ability to represent them. (EAD)</p>	<ul style="list-style-type: none"> • Plan by suggesting what to do next. • Select and use tools, skills and techniques, explaining their choices. • Select new and reclaimed materials and construction kits to build their structures. • Use simple finishing techniques suitable for the structure they are creating. 	<ul style="list-style-type: none"> • Order the main stages of making • Select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy. • Explain their choice of materials according to functional properties and aesthetic qualities. • Use finishing techniques suitable for the product they are creating. 	<ul style="list-style-type: none"> • Formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used. • Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks. • Use finishing and decorative techniques suitable for the product they are designing and making.
Evaluating	<p>ELG</p> <p>Use a range of small tools, including scissors, paintbrushes and cutlery (PD-FMS)</p>	<ul style="list-style-type: none"> • Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings. • Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria. 	<ul style="list-style-type: none"> • Investigate and evaluate a range of existing shell structures including the materials, components and techniques that have been used. • Test and evaluate their own products against design criteria and the intended user and purpose. 	<ul style="list-style-type: none"> • Investigate and evaluate a range of existing frame structures. • Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. • Research key events and individuals relevant to frame structures.

Design and Technology Progression Grid

Structures

	EYFS	Year 1 Freestanding Structures	Year 3 Shell Structures	Year 5 Frame Structures
Technical Knowledge	<p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design texture, form and function (EAD)</p> <p>Share their creations, explaining the process they have used. (EAD)</p>	<ul style="list-style-type: none"> • Know how to make freestanding structures stronger, stiffer and more stable. • Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> • Develop and use knowledge of how to construct strong, stiff shell structures. • Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. • Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> • Understand how to strengthen, stiffen and reinforce 3D frameworks. • Know and use technical vocabulary relevant to the product.
Tools and Equipment	<p>Paper, card, plastic, straws, pipe cleaners, cardboard boxes, cotton reels, string, masking tape, glue, plasticine, scissors, hole punch, pencils, crayons, felt tips, pencil crayons, paint</p>	<p>photographs of various structures</p> <p>construction kits that can be used to construct freestanding structures e.g. walls, towers, frameworks</p> <p>paper, card, plastic sheet, paper and plastic straws, pipe cleaners</p> <p>reclaimed materials including small containers, card boxes, cotton reels</p> <p>string, masking tape, PVA glue, Plasticine, left/right handed scissors, hole punch, stapler, finishing media and materials</p>	<p>collection of shell structures for different purposes and users</p> <p>card, squared paper, coloured paper, adhesive tape, masking tape, PVA glue, glue spreaders, acetate sheet, pencils, felt-tip pens, rulers, right/left handed scissors</p> <p>computer with computer aided design (CAD) software, printer</p>	<p>products, photographs, web-based resources of existing frame structures</p> <p>card, paper straws, newspaper, square sectioned wood, masking tape, PVA glue pencils, rulers, right/left handed scissors, bench hooks, G-clamp, junior hacksaws, glass paper</p> <p>finishing media and materials</p>
Key Vocabulary	<p>Cut, fold, join</p> <p>Structure, wall, strong, weak, base, top, sides</p> <p>Metal, wood, plastic</p> <p>Circle, triangle, square, rectangle</p> <p>design</p>	<p>cut, fold, join, fix</p> <p>structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved</p> <p>metal, wood, plastic</p> <p>circle, triangle, square, rectangle, cuboid, cube, cylinder</p> <p>design, make, evaluate, user, purpose, ideas, design criteria, product, function</p>	<p>shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity</p> <p>marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating font, lettering, text,</p> <p>graphics, decision, evaluating, design brief design criteria, innovative, prototype</p>	<p>frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent</p> <p>design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional</p>

Design and Technology Progression Grid

Electrical Systems

	Year 4 Simple Circuits and Switches	Year 6 More Complex Switches and Circuits
Designing	<ul style="list-style-type: none"> • Gather information about needs and wants, and develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups. • Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams. 	<ul style="list-style-type: none"> • Use research to develop a design specification for a functional product that responds automatically to changes in the environment. Take account of constraints including time, resources and cost. • Generate and develop innovative ideas and share and clarify these through discussion. • Communicate ideas through annotated sketches, pictorial representations of electrical circuits or circuit diagrams.
Making	<ul style="list-style-type: none"> • Order the main stages of making. • Select from and use tools and equipment to cut, shape, join and finish with some accuracy. • Select from and use materials and components, including construction materials and electrical components according to their functional properties and aesthetic 	<ul style="list-style-type: none"> • Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. • Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product. • Create and modify a computer control program to enable an electrical product
Evaluating	<ul style="list-style-type: none"> • Investigate and analyse a range of existing battery-powered products. • Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work. 	<ul style="list-style-type: none"> • Continually evaluate and modify the working features of the product to match the initial design specification. • Test the system to demonstrate its effectiveness for the intended user and purpose. • Investigate famous inventors who developed ground-breaking electrical systems and components.

Design and Technology Progression Grid

Electrical Systems

	Year 4 Simple Circuits and Switches	Year 6 More Complex Switches and Circuits
Technical Knowledge	<ul style="list-style-type: none"> • Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. • Apply their understanding of computing to program and control their products. • Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> • Understand and use electrical systems in their products. • Apply their understanding of computing to program, monitor and control their products. • Know and use technical vocabulary relevant to the project.
Tools and Equipment	<p>handling collection of battery-powered electrical products switches including toggle, push-to-make and push-to-break</p> <p>aluminium foil, paper fasteners, paper clips, card, corrugated plastic, reclaimed materials, finishing materials and media</p> <p>buzzers, bulbs, bulb holders, zinc carbon or zinc chloride batteries, battery holders, wire, automatic wire strippers</p> <p>suitable control program with interface box or standalone control box</p> <p>right/left handed scissors, PVA glue, cutting mats</p>	<p>zinc carbon or zinc chloride batteries, crocodile leads, bulbs, bulb holders, buzzers, light emitting diodes (LEDs), micro switches, reed switches and magnets, light dependent resistors (LDRs), wire, automatic wire strippers, masking tape, construction materials and tools as required</p> <p>computer control software and interface boxes or standalone boxes, connecting leads</p>
Key Vocabulary	<p>series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip</p> <p>control, program, system, input device, output device</p> <p>user, purpose, function, prototype, design criteria, innovative, appealing, design brief</p>	<p>series circuit, parallel circuit, names of switches and components, input device, output device, system, monitor, control, program, flowchart</p> <p>function, innovative, design specification, design brief, user, purpose</p>

Design and Technology Progression Grid

Mechanisms / Mechanical Systems

	EYFS	Year 1 Wheels and Axles	Year 2 Sliders and Levers	Year 4 Levers and Linkages	Year 5 Gears or Pulleys
Designing	<p>Reception</p> <p>Develop their small motor skills so that they can use a range of tools competently, safely and confidently (PD)</p> <p>Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor (PD)</p>	<ul style="list-style-type: none"> • Generate initial ideas and simple design criteria through talking and using own experiences. • Develop and communicate ideas through drawings and mock-ups. 	<ul style="list-style-type: none"> • Generate ideas based on simple design criteria and their own experiences, explaining what they could make. • Develop, model and communicate their ideas through drawings and mock-ups with card and paper. 	<ul style="list-style-type: none"> • Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user. • Use annotated sketches and prototypes to develop, model and communicate ideas. 	<ul style="list-style-type: none"> • Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. • Develop a simple design specification to guide their thinking. • Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views
Making	<p>Progress towards a more fluent style of moving, with developing control and grace (PD)</p> <p>Create collaboratively, sharing ideas, resources and skills (EAD)</p>	<ul style="list-style-type: none"> • Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing. • Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics. 	<ul style="list-style-type: none"> • Plan by suggesting what to do next. • Select and use tools, explaining their choices, to cut, shape and join paper and card. • Use simple finishing techniques suitable for the product they are creating. 	<ul style="list-style-type: none"> • Order the main stages of making. • Select from and use appropriate tools with some accuracy to cut, shape and join paper and card. • Select from and use finishing techniques suitable for the product they are creating. 	<ul style="list-style-type: none"> • Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. • Select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost.
Evaluating	<p>Return to and build on their previous learning, refining ideas and developing their ability to represent them. (EAD)</p> <p>ELG</p> <p>Use a range of small tools, including scissors, paint-brushes and cutlery (PD-FMS)</p>	<ul style="list-style-type: none"> • Explore and evaluate a range of products with wheels and axles. • Evaluate their ideas throughout and their products against original criteria. 	<ul style="list-style-type: none"> • Explore a range of existing books and everyday products that use simple sliders and levers. • Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria. 	<ul style="list-style-type: none"> • Investigate and analyse books and, where available, other products with lever and linkage mechanisms. • Evaluate their own products and ideas against criteria and user needs, as they design and make. 	<ul style="list-style-type: none"> • Compare the final product to the original design specification. • Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Consider the views of others to improve their work. • Investigate famous manufacturing and engineering companies relevant to the

Design and Technology Progression Grid

Mechanisms / Mechanical Systems

	EYFS	Year 1 Wheels and Axles	Year 2 Sliders and Levers	Year 4 Levers and Linkages	Year 5 Gears or Pulleys
Technical Knowledge	<p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design texture, form and function (EAD)</p> <p>Share their creations, explaining the process they have used. (EAD)</p>	<ul style="list-style-type: none"> Explore and use wheels, axles and axle holders. Distinguish between fixed and freely moving axles. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Explore and use sliders and levers. Understand that different mechanisms produce different types of movement. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Understand and use lever and linkage mechanisms. Distinguish between fixed and loose pivots. Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Understand that mechanical and electrical systems have an input, process and an output. Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. Know and use technical vocabulary relevant to the project.
Tools and Equipment	<p>Cardboard boxes, card, cotton reels, plastic, clothes pegs, paper, straws, building bricks, Lego, Duplo, stickle bricks, wheels, glue, Sellotape, masking tape, paint, paint brushes, scissors, pencils, pencil crayons, crayons, felt tip pens, plasticine</p>	<p>selection of toy vehicles with differently fixed axles</p> <p>card boxes, card, cotton reels, plastic tubing, dowel, clothes pegs, paper sticks/dowel, paper/plastic straws, card discs, MDF wheels, wooden wheels</p> <p>single hole punch, card drill, cutting mat, masking tape, PVA glue, paint, thin/thick paint brushes, felt tip pens, decorative paper, double sided sticky fixers, junior hacksaw, vice, left/right handed scissor</p>	<p>books and everyday products with levers and slider mechanisms</p> <p>slider and lever teaching aids</p> <p>card strips, card rectangles, paper, masking tape, paper fasteners, paper binders, stick glue, PVA glue, finishing materials and media</p> <p>left/right handed scissors, cutting mats, card drills</p>	<p>books and other products with lever and linkage mechanisms</p> <p>lever and linkage teaching aids</p> <p>card strips, card rectangles, paper, masking tape, paper fasteners, paper binders, stick glue</p> <p>left/right handed scissors, cutting mats, card drill, finishing media and materials</p>	<p>videos, photographs and everyday products or toys with pulleys or gears</p> <p>batteries, battery holders, wires, crocodile clips, motors, switches, aluminium foil, paper fasteners, paper clips, card, motors, motor stands, dowel, paper sticks</p> <p>consumable and construction kit pulleys or gears of different sizes, elastic bands</p> <p>junior hacksaws, glass paper, G-clamps, bench hooks, hand drill, automatic wire strippers</p> <p>PVA glue, sticky pads, masking tape, dowel, double-sided tape, card triangles, square section wood, card, corrugated plastic, finishing media</p>
Key Vocabulary	<p>Fasten, join, cut, move, moving,</p> <p>Names of tools and equipment used</p> <p>Design, make</p>	<p>vehicle, wheel, axle, axle holder, chassis, body, cab</p> <p>assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism</p> <p>names of tools, equipment and materials used</p> <p>design, make, evaluate, purpose, user, criteria, functional</p>	<p>slider, lever, pivot, slot, bridge/guide</p> <p>card, masking tape, paper fastener, join</p> <p>pull, push, up, down, straight, curve, forwards, backwards</p> <p>design, make, evaluate, user, purpose, ideas, design criteria, product, function</p>	<p>mechanism, lever, linkage, pivot, slot, bridge, guide</p> <p>system, input, process, output</p> <p>linear, rotary, oscillating, reciprocating</p> <p>user, purpose, function</p> <p>prototype, design criteria, innovative, appealing, design brief</p>	<p>pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor</p> <p>circuit, switch, circuit diagram</p> <p>annotated drawings, exploded diagrams</p> <p>mechanical system, electrical system, input, process, output</p> <p>design decisions, functionality, innovation, authentic, user, purpose, design specification, design brief</p>