

Subject progression: DESIGN TECHNOLOGY

Year & theme	Vocabulary	Objectives Procedural (I can . . .)	Objectives Declarative (I know . . .)
FS1 - Mechanisms	Rip, scrunch, tear, snip, join, glue, masking tape, Sellotape.	<u>Exploring Paper</u> <ul style="list-style-type: none">• I can select and use activities and resources, with help when needed.• I can explore varied materials freely, to develop ideas about how to use them and what to make.• I can use one-handed tools and equipment.• I can think of my own ideas and construct with a purpose in mind.• I can verbalise an idea with an adult and draw a picture of what I want to make.• I can take a picture of my final piece and talk about how to make it better.	<ul style="list-style-type: none">• I know how to choose the right resources to carry out my own plan.• I know I can explore how things work.• I know how to develop ideas and decide which materials to use to express them.• I know how to manipulate materials by tearing, scrunching, ripping, and beginning to make snips with scissors.• I know how to put materials back together using glue and tape.

**FS1 -
Textiles**

Ribbon, wool,
material, thread,
weave.

Weaving

- I can select and use activities and resources, with help when needed.
 - I can explore varied materials freely, to develop ideas about how to use them and what to make.
 - I can use one-handed tools and equipment.
 - I can think of an idea and make my own decisions about how to approach the task.
 - I can weave using ribbon, wool, and materials and begin to use a large plastic needle.
 - I can review how well my approached work and how I could make it better.
- I know how to choose the right resources to carry out my own plan.
 - I know I can explore how things work.
 - I know how to develop ideas and decide which materials to use to express them.
 - I know how to weave using various materials.
 - I know that persistence or another approach will give me the results I want.

**FS1 -
Structures**

Build, fall, safe, stack.

Building Stronger

- I can make **imaginative 'small worlds' with blocks and construction kits.**
 - I can **select and use activities and resources, with help when needed.**
 - I can **explore varied materials freely, to develop ideas about how to use them and what to make.**
 - I can **move with more fluency and develop control using tools.**
 - I can make a structure with a purpose in mind.
 - I can stack blocks vertically and horizontally, making enclosures and creating spaces.
 - I can make improvements to my structure and tell an adult about it.
- I know how to **choose the right resources to carry out my own plan.**
 - I know I can **explore how things work.**
 - I know how to **develop ideas and decide which materials to use to express them.**
 - know different types of buildings and what they are used for.
 - I know what shapes are to build with.
 - I know if my structure has done its job.

FS1 - Food

Grow, cook, bake,
wash, taste, mix.

New Tastes

- I can select and use activities and resources, with help when needed.
 - I can explore varied materials freely, to develop ideas about how to use them and what to make.
 - I can use one-handed tools and equipment.
 - I can taste foods linked to stories.
 - I can engage in adult led baking.
 - I can talk about the taste of food and if I like or dislike the taste.
- I know that some food is grown.
 - I know how to wash my hands before eating or making food.

**FS2 -
Mechanisms**

Cut, shred, hole punch, curl, fold, blue tack, treasury tags, staples.

Exploring Paper

- **I can develop my small motor skills so I can use a range of tools, competently, safely, and confidently.**
- **I can move with more fluency and develop control using tools.**
- **I can move with more fluency and develop control using tools.**
- **ELG- I can share my creations, explaining the process I have used.**
- I can think of my own ideas, plan, and make my own decisions about how to approach a task and discuss these ideas with and adult.
- I can manipulate materials and construct with a purpose in mind, adding embellishments for a finished product.
- I can draw/take a picture and discuss my products achievements and faults.

- **I know how to return to and build on previous learning, refining ideas and developing an ability to represent them.**
- **I know how to explore, use, and refine a variety of artistic effects to express ideas.**
- **ELG- I know how to use a range of small tools, safely and experiment with colour, design, texture, form, and function.**
- I know how to manipulate materials by previous learnt techniques and cutting, shredding, curling, folding and hole punching.
- I know how to reattach materials using previous learnt techniques and blue tack, treasury tags and staples.

**FS2 -
Textiles**

Natural,
manufactured,
running stitch, Binca

Weaving

- I can create **collaboratively, sharing ideas, resources, and skills.**
 - I can develop my **small motor skills** so I can use a range of tools, **competently, safely, and confidently.**
 - I can move with **more fluency and develop control using tools.**
 - I can think of an idea and make my own decisions about how to approach the task.
 - I can weave using various materials and use a large plastic needle.
 - I can review how well my approached work and how I could make it better.
- I know how to **return to and build on previous learning, refining ideas and developing an ability to represent them.**
 - I know how to **explore, use, and refine a variety of artistic effects to express ideas.**
 - **ELG- I know how to use a range of small tools, safely and experiment with colour, design, texture, form, and function.**
 - I know how to weave using various materials, natural and manufactured.
 - I know how to use a running stitch.
 - I know that persistence or another approach will give me the results I want.

**FS2 -
Structures**

Build, fall, safe, stack.

Building Stronger

- **I can develop my small motor skills so I can use a range of tools, competently, safely, and confidently.**
- **ELG- I can share my creations, explaining the process I have used.**
- I can make a structure with a purpose in mind.
- I can stack blocks vertically and horizontally, making enclosures and creating spaces for a specific brief.
- I can make improvements to my structure and tell an adult about it.

- **I know how to return to and build on previous learning, refining ideas and developing an ability to represent them.**
- **I know how to explore, use, and refine a variety of artistic effects to express ideas.**
- **ELG- I know how to use a range of small tools, safely and experiment with colour, design, texture, form, and function.**
- I know different types of buildings and what they are used for.
- I know what shapes are best to build with.
- I know if my structure has done its job.

<p>FS2 - Food</p>	<p>Plant, seeds, harvest, raw, cooked, pour, stir, rolling, cutting.</p>	<p><u>New Tastes</u></p> <ul style="list-style-type: none"> • I can develop my small motor skills so I can use a range of tools, competently, safely, and confidently. • I can move with more fluency and develop control using tools. • I can taste foods linked to stories and events • I can engage in adult led baking and begin to use some of the tools safely. • I can talk about the taste of food and if I like or dislike the taste. 	<ul style="list-style-type: none"> • I know that some food is grown, and some food comes from animals. • I know how to wash my hands before eating or making food. • I know that some foods are healthy, and some foods need to be eaten in moderation.
<p>Year 1: A2 - Mechanisms</p>	<p>Sliders, levers, slider rod, guide bridge, rotating, horizontal, vertical, diagonal, rigid, pivot</p>	<p><u>Christmas Cards:</u></p> <ul style="list-style-type: none"> • I can design a Christmas card with mechanical elements. • I can make a Christmas card by selecting appropriate tools and techniques. • I can evaluate a Christmas card against the original criteria and reflect on its success. 	<ul style="list-style-type: none"> • I know how moving cards and books work. • I know how levers and sliders work in paper and card format.

<p>Year 1: Sp2 - Structures</p>	<p>Frame/solid/combined structure. Natural, manufactured, Stable, Unstable, balanced, free-standing, anchor, brace, base, A frame, rigid, folding, rolling, joining, beam, column, slab, cuboid, triangular prism.</p>	<p>3D Nets</p> <ul style="list-style-type: none"> • I can generate designs using mock-ups, discussion, and drawings. • I can use templates, nets, and recycled materials, select from basic crafting tools, and use finishing techniques. • I can test the structures strength and reflect on the finished product by expressing likes, dislikes, and improvements. 	<ul style="list-style-type: none"> • I know about different structure formats and understand how to turn 2D nets into 3D shapes. • I know about materials to make structures.
<p>Year 1: Su2 - Food</p>	<p>Grating, chopping, peeling, the bridge hold, thumbs tucked, weighing, squeezing, stirring, blending, tasting, texture.</p>	<p><u>Make a topical smoothie:</u></p> <ul style="list-style-type: none"> • I can design an appealing product, thinking about the ingredients. • I can generate ideas through tasting various combinations and adapting recipes. • I can prepare, chop and blend fruit correctly and safely, using simple utensils. • I can trial and explore combinations, specify favourite flavours, and produce a finished smoothie against the original criteria. 	<ul style="list-style-type: none"> • I know the differences between exotic fruits and vegetables and can describe texture and taste. • I know about where and how fruits grow and can identify them and understand they play part of a healthy diet.

<p>Year 2: A2, Textiles</p>	<p>Sewing, needle point and eye, Thread, Fabrics, Knot Embellishments, Template, Running stitch</p>	<p><u>Mini stockings:</u></p> <ul style="list-style-type: none"> • I can design a functional, appealing product for a chosen user and purpose generating and communicating ideas through sketches and annotation using a template. • I can make a mini stocking by threading a needle, sewing a running stitch to join two pieces of fabric together and tying a secure knot. • I can evaluate the finished product by discussing the making process and reviewing other's and own outcome. 	<ul style="list-style-type: none"> • I know how to identify the parts of a needle (point and eye). • I know how to join fabrics and add embellishments.
<p>Year 2: Sp2 - Food</p>	<p>Preparation, Hygienic, Claw Grip, Slice, Chop. Balanced diet, Food group, Recipe, Stirring, Vegetables, Herbs, Texture, Aroma, Research, Product</p>	<p><u>Preparing Salads linked to a country we've studied:</u></p> <ul style="list-style-type: none"> • I can create a design for a healthy wrap, couscous or pasta salad while following a design brief. • I can prepare food safely and hygienically, chopping and slicing safely using a bridge of claw grip. • I can conduct product research in order to evaluate a product, trialling and feeding back on food tastes, texture and aroma. 	<ul style="list-style-type: none"> • I know how to identify each of the food groups and am beginning to understand what makes a balanced diet. • I know that sugars may be hidden in everyday foods.

<p>Year 2: Su2 - Mechanisms</p>	<p>Wheels, Axles, Chassis, Mechanisms, Rotating, Attach, Cylinder Force, Tools, Sketch, Adapt</p>	<p><u>Toy Cars:</u></p> <ul style="list-style-type: none"> • I can plan a toy vehicle by generating ideas, sketching, measuring and planning the chassis of the vehicle and the racing colours/ flag of their team's design. • I can make a toy vehicle by adapting mechanisms, measuring and cutting accurately to a design brief, selecting a range of tools and equipment and materials to perform practical tasks. • I can research and test mechanisms by racing each teams' vehicles in order to evaluate their ideas against original criteria. 	<ul style="list-style-type: none"> • I know how wheels work as part of a full mechanism including axles and axle holders. • I know how to identify commonly used materials for wheels.
<p>Year 3: A2 - Mechanisms</p>	<p>Pneumatics, compressed, pressure, hydraulics, automatic, piston, hollow cylinder, reciprocating, Force, Friction</p>	<p><u>Design a vehicle with force:</u></p> <ul style="list-style-type: none"> • I can design a pneumatic toy car using sketches to model ideas. • I can make a pneumatic car selecting and using tools with some accuracy. • I can assess how well the product works and if it matches the original criteria. 	<ul style="list-style-type: none"> • I know how pneumatic systems work. • I know some everyday products that use pneumatics.

<p>Year 3: Sp2- Food</p>	<p>Ingredients, Method, Seasonal, Rubbing In, Adapt, Climate, Harvested, Pastry Sweet/Savoury, Weighing, Texture, Grown/Reared, Processed, Names of fruits used i.e., rhubarb, blackberries, raspberries, apples</p>	<p><u>Eating seasonally:</u></p> <ul style="list-style-type: none"> • I can generate and adapt a seasonal recipe for a crumble or tart based on research. • I can make a crumble or tart by safely preparing fruit or vegetables whilst learning the 'rubbing in' method. • I can follow and adapt a recipe. • I can taste and evaluate my finished dessert against criteria. 	<ul style="list-style-type: none"> • I know what foods are in season and when. • I know how climate affects which foods can grow naturally in different environments.
<p>Year 3: Su2 - Structures</p>	<p>Laminating, Corrugating, Ribbing, Flange, L-Brace, Score, Measuring, Estimating, Nets, Cube, Cuboid, Component Parts, Assemble, Diagram, Modify</p>	<p><u>Fabulous Fossils:</u></p> <ul style="list-style-type: none"> • I can plan a suitable shell structure to display and protect fossils using annotated diagrams. • I can make and adapt a shell structure using techniques such as laminating, corrugating and joining. • I can reflect on my own and other's products and make modifications as required. 	<ul style="list-style-type: none"> • I know how to assess existing nets to test their strength and suitability for a purpose. • I know how to consolidate methods and techniques to improve stability and strength using paper and card.

Year 4: A2 Electrical Systems	Construction, Battery, Circuit, Bulb, Cell, insulator, conductor, crocodile clip, connection Copper wire, LED, conductive, adhesive	<p><u>Let there be light:</u></p> <ul style="list-style-type: none"> • I can design a simple circuit for a specific purpose and audience. • I can make a functional, operational electrical series-circuit. • I can review and evaluate existing products and the reasons behind the materials. 	<ul style="list-style-type: none"> • I know the names of some electrical components (bulb, cell). • I know how to build a working electrical series circuit and correct errors.
Year 4: Sp2 Textiles	Applique, Pattern, Cross Stitch, Seam, Fastening, Wadding, Reinforce, Right side, Wrong side, Pins	<p><u>2D shape to 3D shape-Cushions:</u></p> <ul style="list-style-type: none"> • I can design the style, shape, and seams of the cushion, using pattern piece templates and models on CAD and in sketches. • I can sew using cross stitch and running stitch to join, complete seams, seal stuffing and add applique decorative elements. • I can review existing products and express constructive feedback on other's work. 	<ul style="list-style-type: none"> • I know that fabrics can be layered for effect, recognising the appearance and technique for different stitch types. • I know how to use strengthening techniques to reinforce joins.

<p>Year 4: Su2 Food</p>	<p>Creaming, Batter, Icing, Hygienic, Fat, Sugar, Carbohydrate, Adaptation, Whisk, Fold, Temperature, Decorate, Fondant Icing, Royal Icing, Buttercream, Temperature</p>	<p><u>Cakes Galore:</u></p> <ul style="list-style-type: none"> • I can review existing products to inform design ideas, working within a set design brief. • I can follow and adapt an existing recipe whilst preparing food hygienically. • I can reflect on and identify flavours from a prototype, reviewing what aspects to change to improve the current recipe. 	<ul style="list-style-type: none"> • I know how to identify the cost implications behind professional food preparation. • I know how to alter the batter and toppings to change the taste and to 'cream' the wet ingredients before combining the dry.
<p>Year 5: A2 Food</p>	<p>Utensils, Sprinkle, Pour, Roll Out, Shape, Grams, Kilograms, Complementary, Cross-contamination, Theme, Change of State, Target consumer, Garnish</p>	<p><u>The Great British Bake Off:</u></p> <ul style="list-style-type: none"> • I can review existing products to inform design ideas, working within a set design brief 'Afternoon tea party' to include a change of state. • I can follow whilst adapting an existing recipe, preparing food hygienically, creaming and combining ingredients to make a basic dessert. • I can reflect on and identify flavours from a prototype, reviewing what aspects to change to improve the current recipe. 	<ul style="list-style-type: none"> • I know how to investigate the production of flour, sugar and butter and can use this knowledge to inform change of state when making deserts. • I know how to research and adapt a recipe.

Year 5: Sp2 Mechanisms

Levers, Pivots, Pulleys, Linkages, Gear Train, Interlock, Mitre Gear, Driver Gear, Circumference, Mechanical Advantage, Physicist, Block and Tackle

Pulleys, levers and linkages – funicular systems

- I can devise and use design criteria to plan the design of a lifeboat pulley system, drawing simple diagrams to express ideas.
- I can make a lifeboat pulley system by assembling accurately, selecting appropriate mechanisms and pieces to build the pulley systems.
- I can carry out primary research, exploring and discussing existing objects which have linkages, levers, pivots, and pulleys.

- I know how to identify inputs and outputs as part of a mechanism.
- I know how linkages, levers and pulleys operate together.

<p>Year 5: Su2 Structures</p>	<p>Triangulation, Bracing, Rigid, Truss, Strut, Joining Plate, Interlocking, Chords, Wood, Distribute</p>	<p><u>Frame structure:</u></p> <ul style="list-style-type: none"> • I can draw annotated diagrams showing the theory of triangulation • I can use tools to accurately measure, mark out, cut, shape, and join materials to make frameworks whilst using triangulation for bracing. • I can experiment with a variety of 3D shapes. • I can test through trial and error to evaluate the successful and unsuccessful functional properties of a design and its materials. 	<ul style="list-style-type: none"> • I know how to establish methods of reinforcing more complex structures to improve strength, stability, and stiffness. • I know how to research key events and individuals relevant to frame structures. • I know a triangle is rigid and it's very difficult to change it's shape. • I know frames can be made stronger by adding a strut or joining plate to make a triangle shape.
<p>Year 6: A2 Food</p>	<p>Nutrition, Crushing, Sautéing, Prototype, Perishable, Infectious, Intolerance, Gluten, Dairy, Allergy, Vegetarian, Vegan, Substitute</p>	<p><u>Come Dine with Me- Adapt a recipe</u></p> <ul style="list-style-type: none"> • I can adapt an existing recipe. • I can cut, prepare, and cook vegetables and meat hygienically, using kitchen equipment such as knives, hot pans, hobs, and ovens in a safe manner, recognising when meat/ food is cooked. • I can evaluate existing products by tasting and feeding back on existing pre-made products, suggesting substitute ingredients. 	<ul style="list-style-type: none"> • I know where meat comes from and understand the ethical issues around lamb. • I know how to identify the nutritional values and contents on packaged food in order to make healthier ingredient choices.

Year 6: Sp2 Mechanisms

Linear reciprocating, dwell, eccentric circle CAM, Snail CAM, Pear CAM, Automation, Pulley, Moving pulley,

Automata toys (CAMS)

- I can understand the purpose of a CAM.
- I can draw annotated diagrams showing how different CAMs work.
- I can describe reciprocated movements and what dwell means.
- I can apply my knowledge of CAMS to design and create a product.

- I know how the shape of the CAM makes a difference to the motion.
- I know how circular motion changes to linear.
- I know how a figure moves.

**Year 6: Su2
Textiles**

Tesselate, Seam allowance, Hidden Seam, Hem, Pattern Pieces, Names of Fabrics used – I.e., cotton, linen, polyester, wool, denim, pinking shears, backstitch, whipstitch, blanket stitch

Fancy a bag?

- I can devise a list of design criteria, planning, sketching and annotating design ideas, and amending to create a final design using CAD.
- I can make a bag by marking out, cutting, and joining fabrics accurately, creating a consistent seam, attaching fastenings and adding decorative elements.
- I can evaluate the final outcome against the criteria set, including clients' requirements and preferences.

- I know how to research types of bags with a specific purpose in mind and understand stitches and fastenings and their pros and cons.
- I know how to use pattern pieces to tessellate and save fabric as well as produce more accurate results.
- I know how to create hidden seams, accurate and consistent stitches, and secure fastenings