

TELFORD JUNIOR SCHOOL – DESIGN TECHNOLOGY CURRICULUM

	Year 3	Year 4	Year 5	Year 6
Design	<p style="text-align: center;"><u>Stationery Holder</u></p> <ul style="list-style-type: none"> • Know what Design Technology is. • Know what the design process is. • Know what a shell structure is. • Research existing products and their uses. • Focus on the needs of the user and purpose of the product. • Investigate how to strengthen the structure (Focused Practical Task) • Use annotated drawings to show initial ideas. • Use a design criterion collaboratively through discussion, <p style="text-align: center;"><u>Moving Monsters</u></p> <ul style="list-style-type: none"> • Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and purpose of the product. 	<p style="text-align: center;"><u>Money Container</u></p> <ul style="list-style-type: none"> • Know what the design process is. • Create realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s. • Produce annotated sketches, prototypes, final product sketches and pattern pieces. <p style="text-align: center;"><u>Mechanisms Poster</u></p> <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 	<p style="text-align: center;"><u>Joining Fabrics</u></p> <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. <p style="text-align: center;"><u>Tudor Houses</u></p> <ul style="list-style-type: none"> • Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources. 	<p style="text-align: center;"><u>Bridges</u></p> <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. <p style="text-align: center;"><u>Celebrating Culture.</u></p> <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.

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	<ul style="list-style-type: none"> Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas. <p style="text-align: center;"><u>Cooking Empanadas</u></p> <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. 	<p>develop, model and communicate ideas.</p> <p style="text-align: center;"><u>Edible Garden</u></p> <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"> 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. <p style="text-align: center;"><u>Moving Buggies</u></p> <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. 	<ul style="list-style-type: none"> Explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose. Use words, annotated sketches and information and communication technology as appropriate to develop and communicate ideas. <p style="text-align: center;"><u>Marble Mazes</u></p> <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.
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Make	<p><u>Stationery Holder</u></p> <ul style="list-style-type: none"> • Discuss the order the stages of making. • Select and use appropriate tools to measure, mark out, cut, glue, 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. 	<p><u>Money Container</u></p> <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 characteristics e.g. strength, and aesthetic qualities e.g. pattern. 	<p><u>Joining Fabrics</u></p> <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 	<p><u>Bridges</u></p> <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.
	<p><u>Moving Monsters</u></p> <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. 	<p><u>Mechanisms Poster</u></p> <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. 	<p><u>Tudor Houses</u></p> <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 	<p><u>Celebrating Culture.</u></p> <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.

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	<p style="text-align: center;"><u>Cooking Empanadas</u></p> <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. Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics. 	<p style="text-align: center;"><u>Edible Garden</u></p> <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. Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics. 	<p style="text-align: center;"><u>Moving Buggies</u></p> <p>suitable for the product they are designing and making.</p> <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 to work automatically in response to changes in the environment. 	<p style="text-align: center;"><u>Marble Mazes</u></p> <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 style="text-align: center;"><u>Stationery Holder</u></p> <ul style="list-style-type: none"> Investigate and evaluate a range of existing shell structures including the materials, and techniques that have been used. Test and evaluate their own products against design 	<p style="text-align: center;"><u>Money Container</u></p> <ul style="list-style-type: none"> Investigate a range of 3-D textile products relevant to the project. Test their product against the original design criteria and with the intended user. 	<p style="text-align: center;"><u>Joining Fabrics</u></p> <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. 	<p style="text-align: center;"><u>Bridges</u></p> <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

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	<p>criteria and the intended user and purpose</p>	<ul style="list-style-type: none"> • Take into account others' views. • Understand how a key event/individual has influenced the development of the chosen product and/or fabric. 	<ul style="list-style-type: none"> • 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. 	<p>strengths and areas for development, and carrying out appropriate tests.</p> <ul style="list-style-type: none"> • Research key events and individuals relevant to frame structures
	<p><u>Moving Monsters</u></p> <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. 	<p><u>Mechanisms Poster</u></p> <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. 	<p><u>Tudor Houses</u></p> <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. <p><u>Moving Buggies</u></p>	<p><u>Celebrating Culture.</u></p> <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.

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	<p><u>Cooking Empanadas</u></p> <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. 	<p><u>Edible Garden</u></p> <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"> 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. 	<p><u>Marble Mazes</u></p> <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.
<p>Technical Knowledge</p>	<p><u>Stationery Holder</u></p> <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. 	<p><u>Money Container</u></p> <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. 	<p><u>Joining Fabrics</u></p> <ul style="list-style-type: none"> A 3-D 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. 	<p><u>Bridges</u></p> <ul style="list-style-type: none"> Understand how to strengthen, stiffen and reinforce 3-D frameworks. Know and use technical vocabulary relevant to the project.

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	<u>Moving Monsters</u>	<u>Mechanisms Poster</u>	<u>Tudor Houses</u>	<u>Celebrating Culture.</u>
	<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 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 how to strengthen, stiffen and reinforce 3-D frameworks. • Know and use technical vocabulary relevant to the project. 	<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
	<u>Cooking Empanadas</u>	<u>Edible Garden</u>	<u>Moving Buggies</u>	<u>Marble Mazes</u>
	<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 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"> • 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. 	<ul style="list-style-type: none"> • Understand how to strengthen, stiffen and reinforce 3-D frameworks. • Know and use technical vocabulary relevant to the project.

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<p>Vocabulary</p>	<p style="text-align: center;"><u>Stationary Holder</u></p> <p>shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating font, lettering, text, graphics, decision, evaluating, design brief design criteria, innovative, prototype</p> <p style="text-align: center;"><u>Moving Monsters</u></p> <p>shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating font, lettering, text, graphics, decision, evaluating, design brief</p>	<p style="text-align: center;"><u>Money Container</u></p> <p>fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, aesthetics, function, pattern pieces</p> <p style="text-align: center;"><u>Mechanisms Poster</u></p> <p>mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating user, purpose, function prototype, design criteria, innovative, appealing, design brief</p>	<p style="text-align: center;"><u>Joining Fabrics</u></p> <p>seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings, iron transfer paper design criteria, annotate, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock-up, prototype</p> <p style="text-align: center;"><u>Tudor Houses</u></p> <p>frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional</p>	<p style="text-align: center;"><u>Bridges</u></p> <p>frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional</p> <p style="text-align: center;"><u>Celebrating Culture.</u></p> <p>ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble design specification, innovative, research, evaluate, design brief</p>
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	<p>design criteria, innovative, prototype</p> <p><u>Cooking Empanadas</u></p> <p>name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet planning, design criteria, purpose, user, annotated sketch, sensory evaluations</p>	<p><u>Edible Garden</u></p> <p>name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet planning, design criteria, purpose, user, annotated sketch, sensory evaluations</p>	<p><u>Moving Buggies</u></p> <p>series circuit, parallel circuit, names of switches and components, input device, output device, system, monitor, control, program, flowchart function, innovative, design specification, design brief, user, purpose</p>	<p><u>Marble Mazes</u></p> <p>frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional</p>
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