



Phase	Autumn	Spring	Summer
KS1 (Y1/2)	<p><u>Aspect of D&T: Mechanisms</u> <u>Focus: Sliders and Levers</u></p> <p>End product: Class/group story book User: Alternate class Purpose: Sharing their English learning</p> <p><u>Designing</u></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 drawings and mock-ups with card and paper. <p><u>Making</u></p> <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. <p><u>Evaluating</u></p> <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 the design criteria. <p><u>Technical knowledge and understanding</u></p> <ul style="list-style-type: none"> • Explore and use sliders and levers. • Understand that different mechanisms produce 	<p><u>Aspect of D&T: Structures</u> <u>Focus: Free standing structures</u></p> <p>End product: Item of playground/park furniture User: Themselves and peers at school Purpose: Creation of a 3D map</p> <p><u>Designing</u></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. <p><u>Making</u></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. <p><u>Evaluating</u></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 and the user and whether it meets the design criteria. <p><u>Technical knowledge and understanding</u></p>	<p><u>Aspect of D&T: Food</u> <u>Focus: Preparing vegetables</u></p> <p>End product: Vegetable salad User: Themselves and peers at school Purpose: Picnic in Golden Time</p> <p><u>Designing</u></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 vegetables. • Communicate these ideas through talk and drawings. <p><u>Making</u></p> <ul style="list-style-type: none"> • Use simple utensils and equipment to e.g. peel, cut, slice, grate and chop safely. • Select from a range of vegetables according to their characteristics, e.g. colour, texture and taste to create a chosen product. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> • Taste and evaluate a range of vegetables to determine the intended user's preferences. • Evaluate ideas and finished products against design criteria, including intended user and purpose. <p><u>Technical knowledge and understanding</u></p> <ul style="list-style-type: none"> • Understand where a range of vegetables come from e.g. farmed or grown at home.

	<p>different types of movement.</p> <ul style="list-style-type: none"> • Know and use technical vocabulary relevant to the project. <p><u>Key vocabulary:</u> slider, lever, pivot, slot, bridge, guide</p> <p><u>End point of learning:</u> Pupils will know what slider mechanisms and lever mechanisms are and will be able to identify them (and their purpose) in daily life. Pupils will be able to describe the movement of a variety of sliders and levers using key directional language. Pupils will have experimented with creating prototypes of sliders and levers for different purposes. Pupils will have designed, made and evaluated a slider or a lever intended to meet the design criteria.</p> <p><u>Sequence of learning:</u></p> <ul style="list-style-type: none"> • Investigate sliders and levers in daily life (including in the classroom and school grounds). • Investigate sliders and levers in story books. • Create slider and lever prototypes. • Evaluate slider and lever prototypes. • Design a slider or lever for a specific user and purpose. • Make a slider or lever intended to meet the design criteria. • Evaluate the effectiveness of their product. 	<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. <p><u>Key vocabulary:</u> cut, fold, join, fix, structure, framework, weak, strong, side, edge, surface, corner, point, straight, curved, prototype</p> <p><u>End point of learning:</u> Pupils will be able to identify the intended user and purpose of freestanding structures in their local area. Pupils will be able to explain what materials have been used and why, as well as explain how the structures have been made strong and stable. Pupils will understand the suitability of different materials, including those that will make structures stronger, stiffer and more stable. Pupils will have designed, made and evaluated a freestanding structure intended to meet the design criteria.</p> <p><u>Sequence of learning:</u></p> <ul style="list-style-type: none"> • Investigate structures in the local area (including parks and playgrounds). • Photograph and label existing structures. • Explore a variety of freestanding structures using construction kits, e.g. wooden blocks, plastic bricks, card. • Evaluate structures made using construction kits. • Design a freestanding structure for a specific user and purpose. • Make a freestanding structure intended to meet the design criteria. • Evaluate the effectiveness of their product. <p>Sticky knowledge: Revisit KS1, Cycle 1, Autumn (Geography): fieldwork and observational skills within the school grounds and local area.</p>	<ul style="list-style-type: none"> • Understand and use the basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>the Eatwell plate</i>. • Know and use technical and sensory vocabulary relevant to the project. <p><u>Key vocabulary:</u> equipment, utensil, ingredient, grow, harvest, healthy, hygiene, taste</p> <p><u>End point of learning:</u> Pupils will be able to name a variety of vegetables and identify which vegetables are typically used as salad ingredients. Pupils will know when and where different vegetables are grown and harvested. Pupils will be able to use their senses to examine and describe a range of vegetables, expressing preferences. Pupils will understand a healthy, balanced diet and basic food hygiene practises. Pupils will know how to use a range of utensils to wash, grate, cut, slice and peel vegetables. Pupils will have designed, made and evaluated a vegetable salad intended to meet the design criteria.</p> <p><u>Sequence of learning:</u></p> <ul style="list-style-type: none"> • Investigate a range of vegetables (including growing and harvesting). • Evaluate existing products using senses and considering user preferences. • Understand food hygiene practises. • Use utensils to prepare vegetables. • Design a vegetable salad for a specific user and purpose. • Make a vegetable salad intended to meet the design criteria. • Evaluate the effectiveness of their product. <p>Current links: Seasonal vegetables – salad</p>
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			<i>ingredients mainly harvested during May and June.</i> Sticky knowledge: Revisit KS1, Cycle 1, Autumn (Science): what humans need to survive. Revisit KS1, Cycle 1 and 2, Spring (PSHE): Healthy Me.
LKS2 (Y3/4)	<p style="text-align: center;"><u>Aspect of D&T: Structures</u> <u>Focus: Shell structures</u></p> <p>End product: Christmas gift box User: A relative Purpose: Presentation of a gift</p> <p><u>Designing</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. • Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas. <p><u>Making</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>Evaluating</u></p> <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. <p><u>Technical knowledge and understanding</u></p>	<p style="text-align: center;"><u>Aspect of D&T: Food</u> <u>Focus: Healthy and varied diet</u></p> <p>End product: Healthy bread product User: Themselves or peers at school Purpose: Picnic in Golden Time</p> <p><u>Designing</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><u>Making</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><u>Evaluating</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 	<p style="text-align: center;"><u>Aspect of D&T: Textiles</u> <u>Focus: 2D shape to 3D product</u></p> <p>End product: Bag for life User: Themselves Purpose: To carry their belongings</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> • Generate 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><u>Making</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>Evaluating</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. • Take into account others' views. • Understand how a key event/individual has influenced the development of the chosen product and/or fabric. <p><u>Technical knowledge and understanding</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>Key vocabulary:</u> two-dimensional, three-dimensional, shape, net, vertex, edge, length, width, breadth, capacity, scoring, graphics, media, prototype</p> <p><u>End point of learning:</u> Pupils will know what a shell structure is. Pupils can identify the intended user, purpose and effectiveness of different packaging. Pupils can: identify the materials packages are made from (including if they are eco-friendly); describe how packages are constructed; explain graphics and design choices; and understand what information certain packaging needs to display. Pupils can draw and construct nets to create three-dimensional structures. Pupils will have designed, made and evaluated a gift box intended to meet the design criteria.</p> <p><u>Sequence of learning:</u></p> <ul style="list-style-type: none"> • Investigate existing products, focusing on materials, structure and construction. • Investigate existing products, focusing on graphics and design. • Construct, draw and assemble nets to create three-dimensional structures. • Experiment with strengthening structures. • Explore graphics and media techniques. • Evaluate structures and graphics prototypes. • Design a gift box for a specific user and purpose. • Make a gift box intended to meet the design 	<p>of others.</p> <p><u>Technical knowledge and understanding</u></p> <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. <p><u>Key vocabulary:</u> equipment, utensil, technique, ingredient, grow, harvest, reared, caught, healthy, hygiene, taste, texture, seasonal</p> <p><u>End point of learning:</u> Pupils will know what foods make up a healthy, balanced diet. Pupils will be able to explain how a variety of ingredients are grown, harvested, reared, caught and processed. Pupils will be able to use their senses to examine and evaluate existing products. Pupils will know how to use a range of utensils and techniques to prepare ingredients. Pupils will have designed, made and evaluated a healthy bread product intended to meet the design criteria.</p> <p><u>Sequence of learning:</u></p> <ul style="list-style-type: none"> • Investigate a range of lunchbox foods, focusing on a healthy, balanced diet. • Discover how a variety of ingredients are grown, harvested, reared, caught and processed. • Evaluate existing products using senses and considering user preferences. • Follow food hygiene practises whilst using a range of utensils and techniques to prepare ingredients. • Design a healthy bread product for a specific user and purpose. 	<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>Key vocabulary:</u> fabric, fastening, strong, weak, template, stitch, seam, pattern, prototype</p> <p><u>End point of learning:</u> Pupils will understand the purpose of certain stitches, joins, fabrics, finishing techniques and fastenings on existing products. Pupils will know how to use different stitching techniques and how to create a paper pattern. Pupils will understand the suitability of different fabrics and finishing techniques. Pupils will have designed, made and evaluated a bag for life intended to meet the design criteria.</p> <p><u>Sequence of learning:</u></p> <ul style="list-style-type: none"> • Investigate existing products looking at stitches, joins, fabrics, finishing techniques, fastenings and purposes. • Practise stitching techniques. • Create a paper pattern using 2D shapes. • Test fabrics for suitability. • Practise finishing techniques. • Design a bag for life for a specific user and purpose. • Make a bag for life intended to meet the design criteria. • Evaluate the effectiveness of their product. <p>Sticky knowledge: LKS2, Cycle 2, Spring (Art): ensure textiles is taught on both cycles (Cycle 1 – DT</p>
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	<p>criteria.</p> <ul style="list-style-type: none"> Evaluate the effectiveness of their product. <p>Current links: <i>Recycle Week in September – sustainability and recyclable/reusable packaging. Christmas in December - celebrations around the world (cultural link).</i></p>	<ul style="list-style-type: none"> Make a healthy bread product intended to meet the design criteria. Evaluate the effectiveness of their product. <p>Current links: <i>LKS2, Cycle 1 and 2, Spring (PSHE): Healthy Me.</i></p> <p>Pre-teaching: <i>LKS2, Cycle 1, Summer (Science): food groups and amounts of nutrition needed from food.</i></p>	<p><i>/ Cycle 2 – Art).</i></p>
<p>UKS2 (Y5/6)</p>	<p>Aspect of D&T: Food Focus: Celebrating culture</p> <p>End product: Savoury Christmas biscuits User: Themselves or relatives Purpose: Celebrating a special event (Christmas)</p> <p><u>Designing</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. 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><u>Making</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. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> Carry out sensory evaluations of a range of 	<p>Aspect of D&T: Mechanical systems Focus: Pulleys or gears</p> <p>End product: Fairground ride User: KS1 children in school Purpose: Entertainment during Golden Time</p> <p><u>Designing</u></p> <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. <p><u>Making</u></p> <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. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> Compare the final product to the original design specification. 	<p>Aspect of D&T: Electrical systems Focus: More complex switches and circuits</p> <p>End product: Alarm User: Themselves Purpose: To protect a valuable item</p> <p><u>Designing</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. <p><u>Making</u></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

	<p>relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams.</p> <ul style="list-style-type: none"> • 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. <p><u>Technical knowledge and understanding</u></p> <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 & use relevant technical and sensory vocabulary. <p><u>Key vocabulary:</u> equipment, utensil, technique, ingredient, healthy, hygiene, cultural, local, nutrients, intolerance, sweet, savoury</p> <p><u>End point of learning:</u> Pupils will understand what organic ingredients are. Pupils will know why some ingredients and products are sourced locally and some are imported from overseas. Pupils will be able to use their senses to examine and evaluate existing products. Pupils will be able to name some key chefs and explain how they have promoted cultural food products, local produce and healthy eating. Pupils will know how to use a range of utensils and techniques to prepare ingredients. Pupils will have designed, made and evaluated a savoury biscuit intended to meet the design criteria, whilst showing their understanding of cultural considerations.</p> <p><u>Sequence of learning:</u></p>	<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. • Investigate famous manufacturing and engineering companies relevant to the project. <p><u>Technical knowledge and understanding</u></p> <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. <p><u>Key vocabulary:</u> rotation, circuit, switch, circuit diagram, input, output, process</p> <p><u>End point of learning:</u> Pupils will know what gears and pulleys are and will be able to explain how they work. Pupils will be able to analyse existing products, commenting on the innovation, design, purposefulness, effectiveness and quality. Pupils will be able to name relevant engineering and manufacturing companies and explain what they do. Pupils will understand how the size, speed of rotation, direction and ratios (gears only) of pulleys and gears affects the output. Pupils will be able to draw (using symbols) and build (with accurate use of tools and equipment) a working circuit. Pupils will have designed, made and evaluated a fairground ride (incorporating pulleys or gears) intended to meet the design criteria.</p> <p><u>Sequence of learning:</u></p> <ul style="list-style-type: none"> • Investigate, analyse and evaluate existing 	<p>automatically in response to changes in the environment.</p> <p><u>Evaluating</u></p> <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>Technical knowledge and understanding</u></p> <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. <p><u>Key vocabulary:</u> series circuit, parallel circuit, component, input, output, control, program, system, flowchart, prototype, function</p> <p><u>End point of learning:</u> Pupils will be able to name and explain the function of a range of products that respond to changes in the environment, e.g. alarm, nightlight. Pupils will understand how a range of electrical sensors are operated. Pupils will be able to name some relevant inventors and explain what they are famous for. Pupils will know how to create secure electrical connections. Pupils will know when it is best to use a series or a parallel circuit. Pupils will have designed, made and evaluated an alarm intended to meet the design criteria.</p> <p><u>Sequence of learning:</u></p>
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	<ul style="list-style-type: none"> • Investigate locally sourced, cultural and organic ingredients. • Research and evaluate existing products using senses and considering user preferences. • Research key chefs, focusing on how they have promoted cultural food products, local produce and healthy eating. • Follow food hygiene practises whilst using a range of utensils and techniques to prepare ingredients. • Design a cultural savoury biscuit for a specific user and purpose. • Make a cultural savoury biscuit intended to meet the design criteria. • Evaluate the effectiveness of their product. <p>Current links: Christmas in December - celebrations around the world (cultural link).</p> <p>Pre-teaching: UKS2, Cycle 1, Summer (Science): impact of diet on body functioning and how nutrients are transported within the body.</p>	<p>products that use gears or pulleys.</p> <ul style="list-style-type: none"> • Research relevant engineering and manufacturing companies. • Experiment with pulleys and gears using construction kits. • Draw and build a working circuit. • Design a fairground ride (incorporating pulleys or gears) for a specific user and purpose. • Make a fairground ride (incorporating pulleys or gears) intended to meet the design criteria. • Evaluate the effectiveness of their product. <p>Current links: Electrical systems unit (taught second) builds on knowledge from the mechanical systems unit (taught first).</p> <p>Sticky knowledge: UKS2, Cycle 2, Autumn (Science) and UKS2, Cycle 2, Spring (Science): ensure electricity and forces are taught on both cycles (Cycle 1 – DT / Cycle 2 – Science).</p>	<ul style="list-style-type: none"> • Investigate relevant products that respond to changes in the environment. • Investigate electrical sensors. • Research relevant famous inventors. • Experiment with methods and techniques for measuring and joining materials and equipment to create secure electrical connections. • Explore and test series and parallel circuits. • Design an alarm for a specific user and purpose. • Make an alarm intended to meet the design criteria. • Evaluate the effectiveness of their product. <p>Current links: Electrical systems unit (taught second) builds on knowledge from the mechanical systems unit (taught first).</p> <p>Sticky knowledge: UKS2, Cycle 2, Autumn (Science) and UKS2, Cycle 2, Spring (Science): ensure electricity and forces are taught on both cycles (Cycle 1 – DT / Cycle 2 – Science).</p>
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Pre-teaching: Unit has been placed here as it links to future teaching during this academic year.

Current links: Unit has been placed here as it links to something relevant that is happening during this term.

Sticky knowledge: Unit has been placed here as it revisits teaching from earlier in this academic year or on Cycle 2.