

Our Lady Star of the Sea Design Technology Curriculum overview

Areas of study and skill development

FOOD	STRUCTURES	TEXTILE	MECHANISMS
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Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
MECHANISMS (levers)	TEXTILES	STRUCTURES	STRUCTURE	MECHANISM (Cams)	STRUCTURE
STRUCTURES	MECHANISM (Axles)	MECHANISM (Electrical systems)	TEXTILE	TEXTILE	MECHANISM CONTROL TECH
FOOD	FOOD	FOOD	FOOD	FOOD	FOOD

DESIGN	MAKE	EVALUATE
<p>Pupils taught to:</p> <p>Design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, computing</p>	<p>Pupils taught to:</p> <p>Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing)</p> <p>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p>	<p>Pupils taught to:</p> <p>Explore and evaluate a range of existing products</p> <p>Evaluate their ideas and products against design criteria</p>
		<p>TECHNICAL KNOWLEDGE</p> <p>Pupils taught to:</p> <p>Build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>Explore and use mechanisms (for example, levers, sliders, wheels and axles), in their products.</p>

Our Lady Star of the Sea design technology Year 1 overview of Key Skills and Projects

Structures	Mechanism	Food
<p>Homes</p> <p>Refer to materials tools and techniques using appropriate vocabulary</p> <p>Explore how to make structures stronger.</p> <p>Investigate techniques for stiffening a variety of materials</p> <p>Test methods of enabling structures to remain stable</p> <p>Join appropriately for different materials and situations</p> <p>Mark out using a template</p> <p>Use a glue gun with supervision</p>	<p>Moving Greeting Cards</p> <p>Use technical vocab when describing mechanisms, tools and materials they use.</p> <p>Join appropriately for different materials and situations e.g. glue, tape</p> <p>Experiment with levers and sliders to find different ways of making things move in a 2D plane.</p> <p>Mark out materials to be cut using a template</p> <p>Fold tear and cut paper and card</p> <p>Cut along lines straight and curved</p> <p>Insert fasteners for card</p> <p>Use a hole punch</p>	<p>Fruit cars and Kebabs</p> <p>Developing a food vocabulary using taste smell texture and feel</p> <p>Understand a need for a variety of foods in a diet</p> <p>Peeling, Cutting and chopping raw foods</p> <p>Weighing using non standard spoons and cups</p> <p>Making fruit cars, fruit kebabs and crudités with a dip</p> <p>Where does our food come from: Fruit and Veg</p> <p>Food Hygiene Washing drying</p> <p>Cleaning up after themselves</p>

DESIGN	MAKE	Evaluate
<p>Use pictures and words to convey what they want to design/make.</p> <p>Propose more than one idea for their product.</p> <p>Use kits/reclaimed materials to develop more than one idea.</p> <p>Model ideas / make mock-ups with kits, reclaimed materials.</p> <p>Select appropriate technique explaining: First... Next... Last....</p> <p>Explore ideas by rearranging materials/ingredients.</p> <p>Select pictures to help develop ideas.</p> <p>Use drawings to record ideas as they are developed.</p> <p>Add notes to drawings to help explanations.</p> <p>Use ICT to communicate their ideas.</p> <p>Describe their models and drawings of ideas and intentions</p>	<p>Discuss their work as it progresses</p> <p>Select materials/ingredients from a limited range that will meet the design criteria</p> <p>Select and name the tools needed to work the materials/ingredients</p> <p>Explain which materials/ingredients they are using and why</p> <p>Name the tools they are using.</p> <p>Describe what they need to do</p>	<p>Explore existing products and investigate how they have been made.</p> <p>Decide how existing products do/do not achieve their purpose.</p> <p>Talk about their design as they develop and identify good and bad points.</p> <p>Note changes made during the making process as annotation to plans/drawing.</p> <p>Say what they like and do not like about items they made and attempt to say why.</p> <p>Discuss how closely their finished product meets their design criteria and how well it meets the needs of the user.</p>

Our Lady Star of the Sea design technology Year 2 overview of Key Skills and Projects

Textiles	Mechanism	Food
<p>Making a puppet</p> <p>Start to use appropriate vocabulary to refer to fabrics and tools.</p> <p>Cut out shapes which have been created by drawing round a template onto the fabric.</p> <p>Join fabrics by using a running stitch, glue, staples, over sewing, tape.</p> <p>Decorate fabrics with attached items e.g. buttons, beads, sequins, braids, ribbons.</p> <p>Colour fabrics using a range of techniques e.g. fabric paints, printing, painting</p>	<p>Fire Engine—wheels axles and chassis</p> <p>Use technical vocab when describing mechanisms, tools and materials they use.</p> <p>Join appropriately for different materials and situations e.g. glue, tape.</p> <p>Try out different axle fixings testing their strengths and weaknesses.</p> <p>Make vehicles with construction kits which contain free running wheels.</p> <p>Use a range of materials to create models with wheels and axles e.g. tubes, dowel, cotton reels</p> <p>Roll paper to make tubes</p> <p>Cut dowel using hacksaw and bench hook</p> <p>Attach wheels to a chasis using an axle.</p> <div data-bbox="1238 735 1458 927" style="border: 1px solid black; padding: 5px; text-align: center;"> <p>DESIGNERS Iconic British cars and their designers</p> </div>	<p>Making fruit and Vegetable smoothies</p> <p>Developing a food vocabulary using taste, smell, texture and feel</p> <p>Understand a need for a variety of foods in a diet</p> <p>Peeling, cutting, chopping and blending raw foods</p> <p>Weighing using non standard spoons and cups</p> <p>Making fruit cars, fruit kebabs and crudités with a dip</p> <p>Investigate where does our food come from: fruit and veg</p> <p>Food Hygiene Washing drying</p> <p>Cleaning up after themselves</p>

DESIGN	MAKE	Evaluate
<p>Use pictures and words to convey what they want to design/make.</p> <p>Propose more than one idea for their product.</p> <p>Use kits/reclaimed materials to develop more than one idea.</p> <p>Model ideas / make mock-ups with kits, reclaimed materials.</p> <p>Select appropriate technique explaining: First... Next... Last....</p> <p>Explore ideas by rearranging materials/ingredients.</p> <p>Select pictures to help develop ideas.</p> <p>Use drawings to record ideas as they are developed.</p> <p>Add notes to drawings to help explanations.</p> <p>Use ICT to communicate their ideas.</p> <p>Describe their models and drawings of ideas and intentions</p>	<p>Discuss their work as it progresses</p> <p>Select materials/ingredients from a limited range that will meet the design criteria</p> <p>Select and name the tools needed to work the materials/ingredients</p> <p>Explain which materials/ingredients they are using and why</p> <p>Name the tools they are using.</p> <p>Describe what they need to do</p>	<p>Explore existing products and investigate how they have been made.</p> <p>Decide how existing products do/do not achieve their purpose.</p> <p>Talk about their design as they develop and identify good and bad points.</p> <p>Note changes made during the making process as annotation to plans/drawing.</p> <p>Say what they like and do not like about items they made and attempt to say why.</p> <p>Discuss how closely their finished product meets their design criteria and how well it meets the needs of the user.</p>

Our Lady Star of the Sea design technology Year 3 overview of Key Skills and Projects

Structure	Mechanism (electrical)	Food
<p>Photo frames</p> <p>Develop vocabulary related to the project.</p> <p>Create shell or frame structures.</p> <p>Strengthen frames with diagonal struts.</p> <p>Make structures more stable giving them a wide base.</p> <p>Measure and mark square section, strip and dowel accurately to 1cm</p>	<p>The buzzer game</p> <p>Develop vocabulary related to the project.</p> <p>Incorporate a circuit into a model/product.</p> <p>Use electrical systems such as switches bulbs and buzzers.</p> <div data-bbox="1084 663 1431 807" style="border: 1px solid black; padding: 5px; text-align: center;"> <p>INVENTORS Iconic British inventors and their inventions</p> </div>	<p>Coleslaw, Cous Cous Salad and fruit crumble</p> <p>Develop sensory vocabulary/knowledge using smell, taste, texture and feel.</p> <p>Analyse the taste, texture, smell and appearance of a range of foods (predominantly savoury)</p> <p>Follow instructions and a recipe</p> <p>Make healthy eating choices—use the Eatwell plate</p> <p>Find out which countries the fruit and veg are grown (geography—continents)</p>

DESIGN	MAKE	Evaluate
<p>Develop more than one design or adaptation of an initial design.</p> <p>Plan a sequence of actions to make a product.</p> <p>Begin to use cross-sectional and exploding diagrams</p> <p>Use prototypes to develop and share ideas.</p> <p>Think ahead about the order of their work and decide upon tools and materials/ingredients.</p> <p>Propose realistic suggestions as to how they can achieve their design ideas.</p> <p>Consider aesthetic qualities of materials/ingredients chosen.</p> <p>Use CAD where appropriate.</p>	<p>Prepare pattern pieces as templates or their design.</p> <p>Cut slots.</p> <p>Cut internal shapes.</p> <p>Select from a range of tools for cutting shaping joining and finishing.</p> <p>Use tools with accuracy.</p> <p>Select different techniques for different parts of the process.</p> <p>Select from materials according to their functional properties.</p> <p>Plan the stages of the making process.</p> <p>Use appropriate finishing techniques.</p>	<p>Investigate similar products to the one to be made to give a starting point</p> <p>Draw/sketch products to help analyse and understand how products are made.</p> <p>Research needs of user.</p> <p>Identify the strengths and weaknesses of their design ideas in relation to purpose/user.</p> <p>Decide which design idea to develop.</p> <p>Consider and explain how the finished product could be improved</p> <p>Discuss how well the finished product meets the design criteria of the user.</p> <p>Investigate key events and individuals in Design Technology</p>

Our Lady Star of the Sea design technology Year 4 overview of Key Skills and Projects

Structure	Textile	Food
<p>Greenhouse</p> <p>Develop vocabulary related to the project.</p> <p>Create shell or frame structures.</p> <p>Strengthen frames with diagonal struts.</p> <p>Make structures more stable giving them a wide base.</p> <p>Measure and mark square section, strip and dowel accurately to 1cm</p> <div data-bbox="524 667 743 858" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>DESIGNERS Iconic British building and their architect</p> </div>	<p>Pencil cases</p> <p>Develop vocabulary for tools materials and their properties.</p> <p>Understand seam allowance.</p> <p>Join fabrics using running stitch, over sewing, blanket stitch.</p> <p>Prototype a product using a J cloth</p> <p>Use prototype pattern.</p> <p>Explore strengthening and stiffening fabrics.</p> <p>Explore fastening (inventors) and recreate some</p> <p>Sew on buttons and make loops</p> <p>Use appropriate decoation techniques</p>	<p>Cheese and onion roll ups, Rock cakes and Pizza</p> <p>Develop sensory vocabulary/knowledge using smell, taste, texture and feel.</p> <p>Analyse the taste, texture, smell and appearance of a range of foods (predominantly savoury)</p> <p>Follow instructions and a recipe</p> <p>Combine and join a range of ingredients</p> <p>Make healthy eating choices—use the Eatwell plate—What does each food group do to our bodies?</p>

DESIGN	MAKE	Evaluate
<p>Develop more than one design or adaptation of an initial design.</p> <p>Plan a sequence of actions to make a product.</p> <p>Begin to use cross-sectional and exploding diagrams</p> <p>Use prototypes to develop and share ideas.</p> <p>Think ahead about the order of their work and decide upon tools and materials/ingredients.</p> <p>Propose realistic suggestions as to how they can achieve their design ideas.</p> <p>Consider aesthetic qualities of materials/ingredients chosen.</p> <p>Use CAD where appropriate.</p>	<p>Prepare pattern pieces as templates for their design.</p> <p>Cut slots.</p> <p>Cut internal shapes.</p> <p>Select from a range of tools for cutting shaping joining and finishing.</p> <p>Use tools with accuracy.</p> <p>Select from techniques for different parts of the process.</p> <p>Select from materials according to their functional properties.</p> <p>Plan the stages of the making process.</p> <p>Use appropriate finishing techniques.</p>	<p>Investigate similar products to the one to be made to give a starting point</p> <p>Draw/sketch products to help analyse and understand how products are made.</p> <p>Research needs of user.</p> <p>Identify the strengths and weaknesses of their design ideas in relation to purpose/user.</p> <p>Decide which design idea to develop.</p> <p>Consider and explain how the finished product could be improved</p> <p>Discuss how well the finished product meets the design criteria of the user.</p> <p>Investigate key events and individuals in Design Technology</p>

Our Lady Star of the Sea design technology Year 5 overview of Key Skills and Projects

Mechanism	Textile	Food
<p>CAMS</p> <p>Use a technical vocabulary appropriate to the project</p> <p>Use CAMs system (see science curriculum Year 5 for work on pulleys gears and levers)</p>	<p>Funky furnishings</p> <p>Use the correct vocabulary appropriate to the project.</p> <p>Create 3-d products using pattern pieces and seam allowances.</p> <p>Understand pattern layout</p> <p>Decorate textiles appropriately (often before joining components).</p> <p>Pin and tack fabric pieces together</p> <p>Join fabrics using over sewing—back stitch blanket stitch or machine stitching (close supervision)</p> <p>Combine fabrics to create more useful properties.</p> <p>Make quality product.</p>	<p>Cheese scones, Short crust pastry– Quiche and Banana Bread</p> <p>Prepare mainly savoury dishes using their own selection of ingredients—taking into account their nutritional value, properties and sensory characteristics.</p> <p>Weigh and measure using scales</p> <p>Select and prepare foods for a particular purpose.</p> <p>Work hygienically and safely.</p> <p>Develop understanding of eating healthily (Eatwell plate) and apply to their ingredient choices.</p> <p>Use a range of cooking techniques</p> <p>Join and combine a widening range of ingredients.</p> <p>Know where the ingredients are grown and processed.</p> <p>Consider influence of chefs e.g. Jamie Oliver</p>

DESIGNERS
Iconic British textile designers

DESIGN	MAKE	Evaluate
<p>List tools needed before starting the activity.</p> <p>Plan the sequence of work e.g. using a storyboard.</p> <p>Record ideas using annotated diagrams.</p> <p>Use models, kits and drawings to help formulate design ideas.</p> <p>Combine modelling and drawing to refine ideas.</p> <p>Devise step by step plans that can be read/followed by someone else.</p> <p>Use exploded diagrams and cross-sectional diagrams to communicate ideas.</p> <p>Sketch and model alternative ideas.</p> <p>Decide which design idea to develop.</p> <p>Use and understand the importance of CAD</p>	<p>Make prototypes.</p> <p>Develop one idea in depth.</p> <p>Use research information to inform decisions.</p> <p>Produce detailed lists of ingredients/components/materials and tools.</p> <p>Use a computer to model ideas.</p> <p>Select from and use a wide range of materials.</p> <p>Use appropriate finishing techniques for the project.</p> <p>Refine their product-review and rework/improve</p>	<p>Research and evaluate existing products (including book and web based research).</p> <p>Consider user and purpose.</p> <p>Identify and strengths and weaknesses of their design ideas.</p> <p>Give a report using correct technical vocabulary.</p> <p>Consider and explain how the finished product meets the design criteria of the user. Test on the user!</p> <p>Understand how key people have influenced design</p>

Our Lady Star of the Sea design technology Year 6 overview of Key Skills and Projects

Mechanism / Structure	Food
<p>Fairground rides—Combining learning across Design Technology: structure, mechanisms, electrical systems and ICT programming and control</p> <p>Use the correct terminology for tools materials and processes</p> <p>Use bradawl to mark hole positions.</p> <p>Use hand drill to drill tight and lose to fit holes.</p> <p>Cut strip wood, dowel, square section and wood accurately to 1 mm.</p> <p>Join materials using appropriate methods.</p> <p>Build frameworks to support mechanisms.</p> <p>Stiffen and reinforce complex structures.</p> <p>Use electrical systems such as motors</p> <p>Program, monitor and control product using ICT</p> <div data-bbox="667 715 931 906" style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Famous Fairground engineers and their rides</p> </div>	<p style="text-align: center;">BREAD (understanding yeast– link to micro-organisms in science)</p> <p style="text-align: center;">Damper Bread Rolls and German Fruit loaf</p> <p>Prepare mainly savoury dishes using their own selection of ingredients—taking into account their nutritional value properties and sensory characteristics.</p> <p>Mixing, kneading, proving and shaping (considering design) dough.</p> <p>Weigh and measure using scales</p> <p>Select and prepare foods for a particular purpose.</p> <p>Work hygienically and safely.</p> <p>Develop understanding of eating healthily (Eatwell plate) and apply to their ingredient choices.</p> <p>Use a range of cooking techniques</p> <p>Join and combine a widening range of ingredients.</p> <p>Know where the ingredients are grown and processed.</p> <p>Consider influence of chefs e.g. Jamie Oliver</p>

DESIGN	MAKE	Evaluate
<p>List tools needed before starting the activity.</p> <p>Plan the sequence of work e.g. using a storyboard.</p> <p>Record ideas using annotated diagrams.</p> <p>Use models, kits and drawings to help formulate design ideas.</p> <p>Combine modelling and drawing to refine ideas.</p> <p>Devise step by step plans that can be read/followed by someone else.</p> <p>Use exploded diagrams and cross-sectional diagrams to communicate ideas.</p> <p>Sketch and model alternative ideas.</p> <p>Decide which design idea to develop.</p> <p>Use and understand the importance of CAD</p>	<p>Make prototypes.</p> <p>Develop one idea in depth.</p> <p>Use research information to inform decisions.</p> <p>Produce detailed lists of ingredients/components/materials and tools.</p> <p>Use a computer to model ideas.</p> <p>Select from and use a wide range of materials.</p> <p>Use appropriate finishing techniques for the project.</p> <p>Refine their product-review and rework/improve</p>	<p>Research and evaluate existing products (including book and web based research).</p> <p>Consider user and purpose.</p> <p>Identify strengths and weaknesses of their design ideas.</p> <p>Give a report using correct technical vocabulary.</p> <p>Consider and explain how the finished product meets the design criteria of the user. Test on the user!</p> <p>Understand how key people have influenced</p>