



St Margaret Mary's Catholic Junior School
Design Technology Skills Progression



Skill	Year 3	Year 4	Year 5	Year 6
Design	By the end of KS1: Through creative and practical activities, pupils will be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making; working in a range of relevant contexts.			
	<p>Begin to show that the design meets a range of requirements.</p> <p>Start to put together a plan which shows the order and also what equipment and tools are needed for the make stage.</p> <p>Generate at least one idea about how to create the product.</p> <p>Begin to describe the design using a labelled drawing and words.</p> <p>Begin to consider the ideas of others when designing.</p>	<p>Show that the design meets a range of requirements.</p> <p>Put together a step-by-step plan which shows the order and the equipment and tools needed for the make stage.</p> <p>Generate several ideas about how to create the product.</p> <p>Describe the design using a labelled sketch and words.</p> <p>Consider the ideas of others when designing.</p>	<p>Generate a range of design ideas after collecting information considering the requirements.</p> <p>Produce a detailed step-by-step plan listing tools equipment, techniques etc.</p> <p>Generate several ideas about how to create the product, identifying what the good points and drawbacks are about each.</p> <p>Describe the design using an accurately labelled diagram and some technical vocabulary.</p> <p>Begin to use computer aided designs to show their ideas.</p> <p>Take a user's view into account when designing adjusting ideas accordingly.</p>	<p>Use a range of information including market research to inform the design considering the specific requirements.</p> <p>Produce a detailed step-by-step plan listing tools equipment, techniques etc.; following and refining the plan where necessary.</p> <p>Generates several ideas about how to create the product, identifying what the good points and drawbacks are about each and adapt plans accordingly.</p> <p>Describes the design using an accurately labelled diagram and technical vocabulary.</p> <p>Know when to use computer aided designs to show ideas.</p> <p>Take account of the ideas of others when designing; adapting ideas to reflect suggestions.</p> <p>Consider culture and society during the design stage.</p>



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<p align="center">Make</p>	<p>Begin to use equipment and tools with accuracy.</p> <p>Begin to use the design as a guide during the make stage.</p> <p>Measure, mark out, cut, score, shape and assemble components safely with some accuracy.</p> <p>Begin to assemble, join and combine materials and components together using some temporary methods e.g. glues or masking tape.</p> <p>Begin to reflect on work as it is being produced.</p> <p>Begin to use basic food handling, hygienic practices and personal hygiene.</p>	<p>Use equipment and tools with accuracy.</p> <p>Use the design as a guide during the make stage.</p> <p>Measure, mark out, cut, score, shape and assemble a range of materials safely with increased accuracy, using appropriate tools, equipment and techniques.</p> <p>Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape, split pins etc.</p> <p>Reflect on work as it is being produced; discussing ideas with others.</p> <p>Use basic food handling, hygienic practices and personal hygiene.</p>	<p>Show a good level of expertise when using a range of tools and equipment.</p> <p>Use the design as a guide during the make stage.</p> <p>Measure, mark out, cut, score, shape and assemble a range of materials safely with accuracy, using appropriate tools, equipment and techniques.</p> <p>Use increased accuracy to assemble, join and combine materials and components together using temporary methods.</p> <p>Reflect on work as it is being produced; beginning to pre-empt problems that may arise and suggest ways in which they could be solved.</p> <p>Use basic food handling, hygienic practices and personal hygiene consistently.</p>	<p>Use a range of tools and equipment expertly.</p> <p>Use the design as a guide during the make stage.</p> <p>Measure, mark out, cut, score, shape and assemble a range of materials safely expertly using appropriate tools, equipment and techniques.</p> <p>Assemble, join and combine materials and components together using temporary methods with greater expertise.</p> <p>Reflect on work as it is being produced; pre-empting problems that may arise and suggest ways in which they could be solved.</p> <p>Use basic food handling, hygienic practices and personal hygiene consistently; explaining the importance of practicing good hygiene.</p>
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Evaluate	Begin to evaluate existing products.	Evaluate existing products against set criteria.	Evaluate existing products against set criteria; disassembling when necessary.	Evaluate existing products against set criteria; using a variety of strategies e.g. disassembling, tasting etc.
	Begin to identify what could be changed to make the design even better.	Identify what could be changed to make the design even better.	Identify and explain what could be changed to make the design even better.	Identify and explain what could be changed to make the design even better; using the criteria in the design specification as evidence.
	Begin to consider the views of others to improve their work.	Begin to consider the views of others, including intended users, to improve their work.	Consider the views of others, including intended users, to improve their work.	Consider the views of others, including intended users, to improve their work; making adaptations where possible.
	Begin to evaluate the product by discussing how well it works in relation to the purpose.	Evaluate the product by discussing how well it works in relation to the purpose.	Evaluate and test the product by discussing how well it works in relation to the purpose.	Evaluate and test the product by discussing how well it works in relation to the purpose; proposing ways in which it could be improved.
	Record my evaluation of the final product using a simple method of recording e.g. RAG system.	Record my evaluation of the final product using more than one method of recording e.g. RAG system, end of unit write up etc.	Record my evaluation of the final product using several methods of recording e.g. RAG system, end of unit write up; suggesting ways in which the product could be improved upon next time.	Record my evaluation of the final product using a variety of methods of recording e.g. RAG system, annotating images/diagrams, end of unit write up; reflecting back on the set criteria within the design specification.

Unit	Year 3	Year 4	Year 5	Year 6
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<p align="center">UKS2: Combining different fabric shapes</p> <p align="center">Textiles</p> <p align="center">LKS2: 2d shape to 3d product</p>		<p>Begin to understand how to strengthen, stiffen and reinforce existing fabrics.</p> <p>Understand the need for patterns and seam allowances.</p> <p>Understand how to securely join two pieces of fabric together.</p> <p>Join textiles with a simple stitching technique e.g. running stitch.</p> <p>Select the most appropriate techniques to decorate textiles.</p>		<p>Understand how to strengthen, stiffen and reinforce existing fabrics.</p> <p>Create objects (such as a bag) that employ a seam allowance and use of patterns prior to making.</p> <p>Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration).</p> <p>Select and use the qualities of materials to create suitable, visual and tactile effects in the decoration of textiles (such as a soft handle on a bag).</p>
<p align="center">Key Vocab</p>		<p>fabric, names of fabrics, fastening, names of fastenings running stitch, seam, needle, thread, strength, weakness, templates, finishing technique, decoration</p> <p>user, purpose, design, evaluate, mock-up, functional, investigate, label, drawing, aesthetics, function, pattern piece</p>		<p>fabric, names of fabrics, fastening, names of fastenings variety of stitching techniques e.g. running stitch, back stitch etc. seam, seam allowance, reinforce, right side, wrong side, hem, template, pattern pieces, pins, needle, thread, pinking shears, compartment, finishing technique, aesthetics</p> <p>specific user, purpose, design criteria, annotated diagram, design decisions, functionality, innovation, authentic, , evaluate, prototype</p>



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<p align="center">Mechanisms LKS2: Levers and linkages UKS2: Pulleys or gears</p>	<p>Begin to recognise some existing products that require mechanisms to work e.g. picture books.</p> <p>Begin to create prototypes to aid creating a final product.</p> <p>Measure, mark out, cut and join card with some accuracy.</p> <p>Create products using levers and linkages.</p> <p>Begin to identify the different types of mechanisms.</p> <p>Begin to discuss the relationship between forces acting on the input and energy generated from the output.</p>		<p>Recognise existing products that require mechanisms to work e.g. toy cars.</p> <p>Begin to recognise existing products that require mechanisms to work e.g.</p> <p>Measure, mark out, cut and join card and wood with accuracy.</p> <p>Use scientific knowledge of the transference of forces to help aid the choosing of appropriate mechanisms for a product.</p> <p>Begin to discuss the relationship between forces acting on the input and energy generated from the output.</p> <p>Discuss the relationship between forces acting on the input and energy generated from the output.</p>	
<p align="center">Key Vocab</p>	<p>mechanism, lever, linkage, pivot, slot, bridge, input, process, output, rotary, oscillating, reciprocating user, purpose, function, prototype, design criteria, evaluate, appealing, design brief</p>		<p>pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor, circuit, switch, mechanical system, input, process, output circuit diagram, annotated diagrams, exploded diagrams user, purpose, design specification, design brief, designs, functionality, innovation, authentic, user, purpose, evaluation</p>	



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<p align="center">Electrical Systems LKS2: Simple circuits and switches UKS2: More complex switches</p>		<p>Identify some products that require electricity to function.</p> <p>Create series circuits.</p> <p>Begin to incorporate switches within a simple circuit.</p> <p>Use a number of components in a circuit e.g. bulb, buzzer.</p> <p>Begin to diagnose some faults in a simple circuit.</p> <p>Begin to use a circuit within a product.</p> <p>Learn about how to program a computer to control product.</p>		<p>Identify products that require electricity to function.</p> <p>Create series and parallel circuits.</p> <p>Incorporate switches within a simple and parallel circuit.</p> <p>Confidently use number of components in a circuit e.g. bulb, buzzer.</p> <p>Diagnose some faults in a simple and parallel circuit; suggesting ways to fix the issues.</p> <p>Use a circuit within a product.</p> <p>Begin to use software to program a computer to control a product.</p>
<p align="center">Key Vocab</p>		<p>series circuit, fault, connection, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip <i>control, program, system, input device, output device</i></p> <p><i>user, purpose, function, prototype, design criteria, innovative, appealing, design brief, evaluate</i></p>		<p>series and parallel circuit, names of switches and components, input device, output device, system, monitor, control, program, flowchart,</p> <p><i>user, purpose, function, innovative, design specification, design brief, evaluation</i></p>



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<p>Structures LKS2: Shell structures UKS2: Frame structures</p>	<p>Select materials carefully, considering intended use of product and appearance.</p> <p>Measure materials carefully to avoid mistakes.</p> <p>Use appropriate tools to cut and join materials.</p> <p>Strengthen materials using suitable techniques.</p> <p>Begin to reinforce and strengthen a 3D frame.</p> <p>Choose some suitable techniques to repair items.</p> <p>Begin to choose a variety of suitable techniques to repair products.</p>		<p>Select materials carefully, considering intended use of the product, the aesthetics and functionality.</p> <p>Measure materials accurately enough to ensure precision.</p> <p>Use appropriate tools to cut and join materials; explaining why the tool is best for the particular task.</p> <p>Strengthen materials using a variety of suitable techniques.</p> <p>Reinforce and strengthen a 3D frame.</p> <p>Choose a variety of suitable techniques to repair products.</p>	
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<p>Key Vocab</p>	<p>shell structure, three-dimensional, names of 3d shapes, net, vertex edge, face, height, length, width, capacity</p> <p>names of materials, marking out, scoring, shaping, tabs, glue, joining, build, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing,</p> <p>design brief, make, evaluate, original, research, prototype, labelled drawing</p>		<p>frame structure, three-dimensional, names of 3d shapes, net, vertex edge, face, height, length, width, breadth, capacity</p> <p>marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, assemble reduce, reuse, recycle, corrugating, ribbing, laminating, stiffen, strengthen, reinforce, triangulation, stability, shape, temporary, permanent</p> <p>innovative, design brief, design specification, make, evaluating, prototype, annotated diagram, purpose, user, innovation, market research, functional</p>	
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<p align="center">Cooking & nutrition LKS2: Healthy and Varied Diet UKS2: Celebrating culture and seasonality</p>	<p><u>Nutrition Knowledge</u> Show some understanding about what makes a healthy and balanced diet.</p> <p>Begin to recognise that different foods and drinks provide different substances the body needs to be healthy and active.</p> <p>Draw The Eatwell Guide; explaining that there are different groups of food.</p> <p>Begin to understand food comes from UK and wider world.</p> <p>Begin to read and understand food labels.</p> <p>Begin to recognise and name a broad range of ingredients.</p> <p>Use simple food descriptors relating to flavour, texture and appearance, scent etc.</p> <p><u>Cooking Skills</u></p>	<p><u>Nutrition Knowledge</u> Show an understanding about what makes a healthy and balanced diet.</p> <p>Recognise that different foods and drinks provide different substances the body needs to be healthy and active.</p> <p>Discuss The Eatwell Guide; explaining that there are different groups of food and able to sort various foods into the correct group.</p> <p>Begin to understand about food being grown, reared or caught in the UK or wider world.</p> <p>Read and understand food labels.</p> <p>Recognise and name a broad range of ingredients.</p> <p>Use food descriptors relating to flavour, texture and appearance, scent etc.</p> <p><u>Cooking Skills</u></p>	<p><u>Nutrition Knowledge</u> Show an understanding about what makes a healthy and balanced diet; making some conscious choices about the food choices they make.</p> <p>Recognise that different foods and drinks provide different substances the body needs to be healthy and active; beginning to explain the choices they are making.</p> <p>Able to make food choices taking in to consideration The Eatwell Guide; showing an understanding that the main food groups and the different nutrients that are important for health.</p> <p>Understand food can be grown, reared or caught in the UK and the wider world.</p> <p>Able to use information on food labels to inform choice.</p> <p>Recognise and name a broad range of ingredients; identifying which food group they belong to.</p> <p>Use a variety of food descriptors relating to flavour, texture and appearance, scent etc.</p> <p><u>Cooking Skills</u></p>	<p><u>Nutrition Knowledge</u> Show an understanding about what makes a healthy and balanced diet; making some conscious choices about the food choices they make.</p> <p>Recognise that different foods and drinks provide different substances the body needs to be healthy and active; suggesting which food/drink is a healthier alternative.</p> <p>Discuss The Eatwell Guide and describe how a healthy diet = variety / balance of food and drinks; designing a product using this knowledge.</p> <p>Name some types of food that are grown, reared or caught in the UK or wider world.</p> <p>Able to use information on food labels to inform choice when designing a sweet or savoury dish.</p> <p>Recognise and name a broad range of ingredients; making conscious choices when using them to prepare sweet and savoury dishes.</p> <p>Use a broad variety of food descriptors relating to flavour, texture and appearance, scent etc.</p> <p><u>Cooking Skills</u></p>
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<p>Know how to get ready to cook: • Tie back long hair • Put on a clean apron • Wash and dry hands</p> <p>Begin to read and follow a simple recipe.</p> <p>Begin to use equipment to measure ingredients.</p> <p>With supervision, begin to use both the bridge hold and claw grip.</p> <p>Begin to identify what they would do differently next time to improve what they have made.</p> <p>Begin to consider how to make their product look attractive.</p> <p>Begin to follow procedures for clearing up such as washing and drying utensils, clearing and cleaning tables, sweeping the floor, disposing of rubbish, putting equipment away.</p>	<p>With support, are able to get ready to cook: • Tie back long hair • Wear a clean apron • Remove nail varnish and jewellery • Wash and dry hands</p> <p>Read and follow a simple recipe.</p> <p>Use equipment to measure ingredients.</p> <p>With supervision, use both the bridge hold and claw grip.</p> <p>Identify what they would do differently next time to improve what they have made.</p> <p>Consider how to make their product look attractive.</p> <p>With guidance follow procedures for clearing up.</p>	<p>With some support, are able to get ready to cook: • Tie back long hair • Wear a clean apron • Remove nail varnish and jewellery • Wash and dry hands</p> <p>Read and follow a recipe.</p> <p>Use a variety of equipment to measure ingredients.</p> <p>With supervision, use both the bridge hold and claw grip; identifying which cutting techniques is most appropriate for the ingredients involved.</p> <p>Identify what they would do differently next time to improve what they have made; and share their suggestions with others.</p> <p>Consider how to make their product look attractive; considering the user and purpose.</p> <p>Working alongside others, follow procedures for clearing up.</p> <p>Use a broad range of food descriptors relating to flavour, texture and appearance.</p>	<p>Are able to independently get ready to cook: • Tie back long hair • Wear a clean apron • Remove nail varnish and jewellery • Wash and dry hands</p> <p>Read and follow a recipe independently.</p> <p>Select the most appropriate equipment to measure ingredients.</p> <p>With supervision, use both the bridge hold and claw grip; with expertise.</p> <p>Identify what they and others could do differently next time to improve what they have made; and share their suggestions with others.</p> <p>Consider how to make their product look attractive; identifying how they would change the recipe next time.</p> <p>Can independently follow procedures for clearing up.</p> <p>Use a broad range of food descriptors relating to flavour, texture and appearance.</p>
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	Begin to use a range of food descriptors relating to flavour, texture and appearance.	Use a range of food descriptors relating to flavour, texture and appearance.		
Key Vocab	names of ingredients, names of equipment and utensils relevant to the unit	names of ingredients, names of equipment and utensils relevant to the unit	names of ingredients, names of equipment and utensils relevant to the unit	names of ingredients, names of equipment and utensils relevant to the unit
	texture, taste, smell (odour), appearance, preference, appeal	texture, taste, smell (odour), appearance, preference, appeal	texture, taste, smell (odour), appearance, preference, appeal	texture, taste, smell (odour), appearance, preference, appeal
	Variety of food descriptors: sweet/sour, hot/cold, soft/hard, moist/dry, savoury/sweet,	Variety of food descriptors: savoury, sweet, sour, hot, spicy greasy, moist, fresh, crunchy, soft etc.	Variety of food descriptors: savoury, sweet, sour, hot, spicy greasy, moist, fresh, crunchy, soft etc.	Variety of food descriptors: savoury, sweet, sour, hot, spicy greasy, moist, fresh, crunchy, soft etc.
	grown/reared/caught, frozen/fresh, tinned, processed, seasonal, harvested, healthy/varied diet, hygienic,	hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested, healthy/varied diet	hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested, healthy/varied diet	hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested, healthy/varied diet
	planning, design criteria, purpose, user, annotated drawing, sensory evaluations	planning, design criteria, purpose, user, annotated sketch, sensory evaluations	design specification, innovative, research, evaluate, design brief, annotated diagram,	design specification, innovative, research, evaluate, design brief, annotated diagram,