

## Design and Technology Progression of Skills

We teach Design and Technology in a meaningful and engaging way, to ensure that children build knowledge and vital skills, to develop their creativity and individuality. We believe that every child should be given the opportunity to design, create, experience and evaluate as part of a cultural and creative curriculum. We deeply believe in the importance of developing resilient individuals, who react positively to risk taking. Holy Family Primary School follows a systematic teaching approach for the teaching of Design and Technology, which provides children with opportunities to problem solve. These skills are challenged to prepare children for their education and lives beyond Primary School, regardless of their starting point. Trips are planned within our local area to enrich our Design and Technology curriculum and to bring learning to life. A whole school display celebrates learning across all year groups and promotes subject specific vocabulary. Our Design and Technology curriculum is strengthened by a wide range of texts to support the communication needs of the pupils in our school.



	Nursery	Reception	Y1	Y2	Y3	Y4	Y5	Y6
<b>Evaluate existing product</b>	Express likes and dislikes.	Express likes and dislikes and explain why.	Generate ideas from own experiences. Look at existing products and say what they like and don't like and explain why. Know the features of some familiar products.	Generate ideas using their experience of materials and components. Describe how a commercial product works. Choose and give reasons for the best materials for the purpose of the product.	Work to generate ideas. Create a specification of the range of needs that the product must have. Investigate a range of products to see how they work.	Collect and use information to generate ideas. Consider the way the product will be used. Understand that the design must meet a range of needs, criteria and restraints.	Evaluate a range of different sources of information, eg. Advertising, handbooks. Collect information and come up with a range of ideas. Generate and develop ideas through research.	Be aware of commercial aspects and social and environmental concerns in making new products. Use a range of market research and information to inform their design. Increasingly create a portfolio making use of ICT. Eg. For specification, questionnaires, handbook.
<b>Practise skills</b>	Joining materials with glue. Joining blocks and lego.	Holding scissors correctly. Joining materials with glue sticks, PVA glue and tape. Joining blocks and lego.	<b>Free standing structures</b> Making flanges, tabs, fringes, folds. Joining, balancing and cutting.  <b>Slides and levers</b> Folding, cutting, joining.	<b>Textiles</b> Running stitch, threading a needle.  <b>Wheels and axles</b> Marking out, cutting, joining and assembling materials and components.	<b>Textiles</b> Over stitch, back stitch, threading needle, making a knot.  <b>Levers and linkages</b> Measuring in cm. Marking out, cutting, joining, finishing, inserting.	<b>Shell structures using CAD</b> Making l-braces, tabs, gusset support. Fold and assemble nets. Measuring in cm and mm. Use CAD to create nets.  <b>Electrical systems</b> Find faults in a circuit if necessary. Joining components.	<b>Frame structures</b> Joining with zip ties, wire, rope. Tying a basic knot. Balancing.  <b>Moving poster</b> Measuring in mm. Making tabs and slots. Joining with brass fasteners.	<b>Monitoring and control using CAD</b> Find faults in a circuit if necessary. Making a series circuit/parallel circuit. Create and modify a computer control program.  <b>Textiles combining different fabric shapes</b> Catch stitch, blanket stitch, threading a needle, making a knot, finishing the stitch.
<b>Design own product</b>	Understands that they can use lines to enclose a space and then begin to use these shapes to represent objects (30-50)	Constructs with a purpose in mind using a variety of resources (40-60). Experiments to create different textures (40-60). They represent their own ideas, thoughts and feelings through DT (ELG). Develop their own ideas through selecting and using materials and working on processes that interest them (ELG)	Talk about their ideas and say what they will do. Using pictures and words, describe what they want to do to make a plan. Describe the material that they are using. Select appropriate resources for their construction. Use a provided <b>template</b> .	Describe their design using pictures, <b>mock ups</b> and words. Include wheels, slides and levers in plans. Say how the product will be useful for the user. Write about how they are going to make the product. Create and use own <b>template</b> .	Plan work to include a range of joins and mechanisms. Ensure that plans are realistic and appropriate for purpose and audience. Use models, words and pictures in an accurate sketch. Show that their design meets the specification and range of needs for the product.	Understand that the design must meet a range of needs, criteria and restraints. Take users' views into account when designing. Choose materials based on their properties. Consider the order and time restraints that their work will need to be done in. Produce step-by-step plans and explain it to others.	Use sketches and <b>cross-sectional diagrams</b> to show different ways of doing something then identify the strengths and weaknesses of each design. Take a user's account into view when designing. Produce a step-by-step detailed design. Explain why their finished product is going to be of good quality. Explain how their	Select materials and design to a budget, calculating the amount of materials needed and using this to help estimate cost. Draw scaled and <b>exploded diagrams</b> with increasing use of ratio. Justify plans to others (eg. Dragon's Den style approach). Generate and develop designs through computer aided design.

		exc). Talks about the processes which have led them to make designs (ELG exc)			Create a step-by-step plan to show the order of making and the equipment and tools necessary at each step. Design own template and add <b>pattern pieces</b> .	Make ongoing sketches and annotations. Explore <b>prototypes</b> . Introduce <b>cross-sectional diagrams</b> .	product will appeal to the audience. Make a <b>prototype</b> . Generate and develop designs through computer aided design.	
<b>Make own product</b>	<p>Uses various construction materials (30-50)</p> <p>Realises tools can be used for a purpose (30-50)</p> <p>Captures experiences and responses with a range of media (30-50)</p> <p><b>Free standing structures</b></p> <p>Beginning to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces (30-50)</p> <p>Joins construction pieces together to build and balance (30-50)</p>	<p>Uses simple tools and techniques competently and effectively (40-60). Selects appropriate resources and adapts work where necessary (40-60). They safely explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function (ELG).</p> <p><b>Free standing structures</b></p> <p>Uses construction kits to create structures. Selects tools and techniques needed to shape, assemble and join materials (40-60). Through their explorations, find and make decisions about how media and materials can be combined and changed. (ELG exc).</p>	<p><b>Free standing structures</b></p> <p>Join two materials together, using a joining method that suits the material being used. Explain what tools they are using.</p> <p><b>Slides and levers</b></p> <p>Understands slides and levers. Know how some moving objects work. Say why they have chosen their moving parts. Identify materials and mechanisms in familiar products. Use scissors and tools with greater accuracy on a greater range of materials.</p>	<p><b>Textiles</b></p> <p>Measure out and cut fabric using own <b>template</b>. Join materials together using a <b>running stitch</b> with some adult support. Measure materials before using them.</p> <p><b>Wheels and axles</b></p> <p>Understands wheels and axles. Talk about how moving objects work in their product and in commercial products. Incorporate moving parts into a model. Join materials and components in different ways.</p>	<p><b>Textiles</b></p> <p>Join materials using an <b>over stitch</b> or a <b>back stitch</b>. Demonstrate how the <b>seam</b> can be hidden if desired. Make own <b>template</b> and <b>pattern piece</b>. Make the finished product neat and tidy.</p> <p><b>Levers and linkages</b></p> <p>Understands levers and linkages. Assemble a number of components together before joining. Use scoring and folding for precision. Alter and adapt models to be as strong as possible. Cut, make holes and join materials. Measure and cut using centimetres. Choose tools and equipment appropriate for the job.</p>	<p><b>Shell structures</b></p> <p>Use a range of shaping and finishing techniques. Evidence attempts to make their product strong. Measure with increasing accuracy. Combine materials for strength and aesthetic appearance. Use permanent and temporary fastenings to join. Strengthen joins and corners in a variety of ways.</p> <p><b>Electrical systems</b></p> <p>Add things to their circuit, including a switch. Test electrical and mechanical components and alter if necessary. Continue to work on the product to improve it, even if it did not initially work. Show a good level of expertise when using a range of tools and equipment.</p>	<p><b>Frame structures</b></p> <p>Ensures their product is strong and fit for purpose. Measures accurately to ensure precise materials. Show perseverance through the different stages of the making progress. Carry out tests to see if their design works and makes improvements from design suggestions.</p> <p><b>Moving poster</b></p> <p>Measure and cut precisely to millimetres. Use a range of tools and equipment expertly.</p>	<p><b>Monitoring and control using CAD</b></p> <p>Use different kinds of circuits, fit for purpose. Changes the way they are working if necessary and can explain why.</p> <p><b>Textiles combining different fabric shapes</b></p> <p>Join materials using a <b>catch stitch</b> or a <b>blanket stitch</b>. Considers the user when choosing textiles. Makes a product attractive and strong. Makes a <b>prototype</b> of their product first. Use a <b>pattern piece</b>. Measure and cut out in precise detail, making sure that all products are carefully finished. Make separate elements of a model before combining to create a finished article.</p>
<b>Evaluate own product</b>	Shows satisfaction in their work and welcomes and values praise for what they have done (30-50)	Can talk about abilities and confident to talk about their own interests and opinions (40-60). They represent their own ideas, thoughts and feelings through DT (ELG). Can talk about features of their own and others' work, recognising the differences between them and the strengths of others (ELG exc).	Explain how the model could be made stronger, if necessary. Use simple terms to talk about their own and others' work. Recognise the differences between their work and others'. Identify what they like and dislike about their product.	Explain why some products are useful and some are not. Recognise and talk about what they have done well and what could be improved. Seek out their views of others through peer assessment. If they made it again, talk about what they would change and predict how their changes would affect their finished product.	Identify where discussion and evaluation has led to altering and improvement. Recognise what they have done well and suggest what they would do better in the future and why.	Develop designs through own reflection and evaluation of others. Carry out tests and make improvements. Check if their design has been successful using the specification. Evaluate product on the basis of appearance and the way it works. Consider how to further improve their design.	Identify what is working well and what might be improved, making choices from several alternative solutions. Refine the quality of the finished product. Clarify ideas through additional drawing and modelling. Increasingly use testing to improve models and finished products. Evaluate the appearance and function of the product against the original criteria.	Understand how a product might be mass produced and what would need to be altered for this. Evaluates own product for fitness for purpose, quality of materials, aesthetic appeal meeting design criteria and scientific properties. Considers the additional information necessary to improve their product in future.

<p><b>Vocabulary</b></p>	<p><b><u>Free standing structures</u></b>          Fix, point, top, tower, wall, scissors, bricks, cut, tool</p>	<p><b><u>Free standing structures</u></b>          Base, corner, fix, join, point, curve, top, tower, wall, bridge, roof, strong, weak, scissors, blocks, bricks, tape, cutting, tool</p>	<p>Appeal, develop, features, function, model, product, purpose, user, construction, cutting, equipment, finishing, joining, materials, shaping, tool, strong, stronger, test, weak</p> <p><b><u>Free standing structures</u></b>          flanges, tabs, fringes, base, corner, curved, edge, fix, fold, framework, join, metal, plastic, point, side, straight, structure, surface, thicker, thinner, top, tower, underneath, wall, wood</p> <p><b><u>Slides and levers</u></b>          Bridge, curve towards, curve backwards, cutting, join, joint, lever, masking tape, output, paper fastener, split pin, shaping, simple flap, simple slider, slider, slot, straight line</p>	<p>Characteristics, design criteria, functional, generate, mock-ups, assembling, components, mechanism, mark up, more stable, stiffer, suitable</p> <p><b><u>Wheels and axles</u></b>          Axles, chassis, body, fixed, free, moving, mechanism, stable, stiffen, strengthen, vehicle, axle, holder, wheels</p> <p><b><u>Textiles</u></b>          Running stitch, template, decorate, join, joining and finishing techniques, mark out, pattern pieces, textiles, fabrics and components, names of existing products</p>	<p>Annotated sketch, appealing, criteria, functional, functionality, label, purpose, user</p> <p><b><u>Textiles</u></b>          Over stitch, back stitch, compartment, cotton, felt, muslin, seam, stitch, fastening, zip, buttons, template, pattern piece</p> <p><b><u>Levers and linkages</u></b>          Control, pivot, input, output, lever, linkage, mechanism, process, slider, slot, bridge, guide, system, linear, rotary, oscillating, reciprocating</p>	<p>Annotated sketches, design criteria, cross-sectional, prototype, components, mechanism, evaluate</p> <p><b><u>Shell structures</u></b>          L-braces, tabs, gusset support, accuracy, adhesives, assemble, joining, lamination, marking out, material, recycle, reduce, reuse, scoring, shaping, shell structure, stiff, strong, tabs, 3D shape, net, vertex, edge, face, length, width, breadth, capacity</p> <p><b><u>Electrical systems</u></b>          battery, battery holder, bulb, bulb holder, conductor, connection, control, crocodile clip, system, toggle switch, wire</p>	<p>Design criteria, cross-sectional, fit for purpose, innovative, prototype, evaluate</p> <p><b><u>Frame structures</u></b>          Frame structure, join, permanent, reinforce, shape, stability, stiffen, strengthen, temporary, knot</p> <p><b><u>Moving poster</u></b>          Control, fixed pivot, input, output, lever, linear, linkage, loose pivot, mechanism, oscillating, process, reciprocating, rotary, slider</p>	<p>Computer-aided design (CAD), design brief, exploded diagrams, finishing techniques, Innovation, prototype, mechanism, aesthetic qualities, authentic</p> <p><b><u>Monitoring and control using CAD</u></b>          fault, flowchart, input device, insulator, monitor, output device, parallel circuit, program, push-to-break switch, push-to-make switch, series circuit</p> <p><b><u>Textiles combining different fabric shapes</u></b>          Catch stitch, blanket stitch, template, pattern piece, prototype, transfer paper, seam, stiffening, stitch, reinforce, right side, wrong side, pinking shears, strength, structure, wadding, weakness</p>
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**Cooking and Nutrition**

	<b>Nursery</b>	<b>Reception</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>
<b>Safety and hygiene</b>	Feeds self competently with spoon and drinks well without spilling. (22-36) Can usually manage washing and drying hands. (30-50) Can use knife sensibly to cut.	Shows some understanding of good practices with regards to eating to contribute to good health. (40-60) Children know the importance for a healthy diet and talks about ways to keep healthy and safe. (ELG) Children know about and can make healthy food choices. (ELG exc)	Knows about basic hygiene and safety rules. Becomes more confident with using a knife to cut food safely. Tastes a wide range of food. Can talk about healthy choices in relation to healthy eating. Washes hands and understands the need to make surfaces clean.	Follows basic safety rules. Explains what it means to be hygienic.	Uses equipment safely.	Explains what to do to be hygienic and safe and makes reference to this throughout the cooking process. Understands safe food storage.	Explains how their meal should be stored.	Works in a safe and hygienic way at all times. Can confidently explain how their meal should be stored.
<b>Grow and know</b>	In the outdoor area, children can grow vegetables and dig to source vegetables.	Eats a healthy range of foodstuffs and understands need for variety in food. (40-60) Children can grow vegetables and dig to source vegetables.	Selects ingredients from a given range. Understands where some raw products come from. Eg. Flour, eggs, meat, milk.	Describes the properties of the ingredients they are using. Understands where a greater range of raw products come from.	Begin to select their own ingredients when cooking or baking. Grows herbs with the intentions of using them in their cooking.	Understands that raw products must be caught and prepared to make them edible.	Grows a range of ingredients for a meal. Understands that seasonality affects the ingredients that are available and plans a meal accordingly.	Knows how a variety of products are grown, reared, caught and processed.
<b>Preparation skills</b>	Beginning to understand basic utensils and cooking terms. E.g. Cut, knife, fork, spoon, mix, plate, bowl.	Can identify basic utensils and cooking terms. E.g. pour, knife, fork, spoon, mix, stir, plate, bowl.	Understands a range of cooking terms. E.g. Mix, pour, crack, cut, chop.	Knows what the term ingredient means. Understands a wider range of cooking terms. Eg. Sieve, whisk, dice.	Makes use of a wide range of cooking terms. Describes how combined ingredients come together.	Can identify a preparation technique that is appropriate for each ingredient.	Has a greater understanding of cooking techniques and understands that the process depends on the ingredients. E.g. Bake, roast, boil, steam, grill.	Prepares and cooks a meal using a range of cooking techniques depending on the ingredients used. E.g. Bake, roast, fry, boil, steam.
<b>Measuring</b>				Uses simple scales or balances.	Weigh using scales or balances in grams.	Measures accurately in grams.		
<b>Designing</b>				Can talk about healthy food choices and make healthy choices in their designs.	Designs a meal with reference to the principles of a healthy and varied diet.	Designs a meal with reference to the principles of a healthy and varied diet.		
<b>Presentation</b>			Designs interesting ways of decorating food.	Make good presentation of food.	Make good presentation of food.	Thinks about how to present food in an interesting way.	Presents product well.	Presents product well.
<b>Evaluating</b>			Says if they like or dislike a food.	Says if they like or dislike a food and why.	Says if they like or dislike a food and why, with reference to taste and texture.	Evaluates food with detailed reference to taste, texture and flavour.		
<b>Money and proportions</b>							Uses proportions when cooking and learns the effect on money when doubling and halving recipes.	Uses proportions when cooking, doubling and halving recipes. Can create a meal with budget restraints, comparing and calculating costs of ingredients.

<b>Vocabulary</b>	Cut, knife, fork, spoon, mix, food, eat, plate, bowl, hot, cold.	Cut, pour, knife, fork, spoon, mix, stir, taste, food, seeds, pip, skin, plate, bowl, hot, cold.	Ingredients, fresh, healthy, pip, core, cutting, peeling, skin, seed, taste, slicing, knife, chopping board.	Diet, popular, sieve, bowl, dough, weighing scales, knead, baking tray, sensory vocabulary (e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard)	Grater, blender, texture, smooth, lumpy, taste, spicy, sweet, bland, combine, mix, nutrients, pour, source, sprinkle, whisk, chopping board, knife, measuring jug, herbs.	Caught, edible, ingredients, appearance, cook, flavour, allergy, nutrition, grater, chopping board, knife.	Greasy, moist, preference, roast, intolerance, nutrients, source, utensils, baking tray, oven, barbecue, grill, steam, proportions, portions, herbs.	Aroma, consistency, roast, steam, fry, grill, intolerance, gluten, dairy, rubbing in, source, utensils, weighing scales, proportions, portions, seasoning, herbs, spices.
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