St James' Catholic Primary School

Design & Technology Progression

Whole school

Yr	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
FS1	**All About Me** **Amazing Animals**	**Colour - Textiles** **Autumn/Bonfire Night/ Diwali**	**Winter/Arctic Animals**	**Spring/Easter - Food**	**Mini beasts**	
FS2	**All About Me** **Amazing Animals**	**Colour** **Autumn/Bonfire Night/ Diwali**	**Winter/Arctic Animals**	**Dinosaurs - Mechanisms**		
Y1	**3D Houses - Structures**		**Hand Puppets - Textiles**			
Y2			**Dips and Dippers - Food**		**Vehicles - Mechanisms**	
Y3			**Healthy Sandwiches - Food**		**Mobile Phone/device fabric case - Textiles**	
Y4		**Phone/Tablet stand - Structures**		**Roman Sandals - Textiles**		
Y5				**Healthy Pizzas - Food**		**Fashionista – Althea McNish - Textiles**
Y6		**Air Raid Shelters - Structures**			**Periscopes – Structures/Light**	

Key learning in all aspects of Design Technology should take place in the following order: Design, Make, Evaluate.
Please refer to your Key stage skills and progression below when teaching each topic.

	Design	Make	Evaluate
Foundation Stage	Birth - Three • Explore different materials, using all their senses to investigate them. Manipulate and play with different materials. • Use their imagination as they consider what they can do with different materials. • Make simple models which express their ideas. Three – Four • Explore different materials freely, in order to develop their ideas about how to use them and what to make. • Develop their own ideas and then decide which materials to use to express them. • Join different materials and explore different textures. • Create closed shapes with continuous lines and begin to use these shapes to represent objects. Reception • Return to and build on their previous learning, refining ideas and developing their ability to represent them. • Create collaboratively sharing ideas, resources and skills. ELG • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • Share their creations, explaining the process they have used. • Make use of props and materials when role playing characters in narratives and stories.		
Year 1 & 2	• Use pictures and words to convey what they want to design/make. • Propose more than one idea for their product. • Use kits/reclaimed materials to develop more than one idea. • Model ideas with kits, reclaimed materials. • Select appropriate technique explaining: First… Next… Last…. • Explore ideas by rearranging materials. • Select pictures to help develop ideas. • Use drawings to record ideas as they are developed. • Add notes to drawings to help explanations. • Describe their models and drawings of ideas and intentions.	• Discuss their work as it progresses. • Select materials from a limited range that will meet the design criteria. • Select and name the tools needed to work the materials. • Explain what they are making. • Explain which materials they are using and why. • Name the tools they are using. • Describe what they need to do next.	• Explore existing products and investigate how they have been made. • Decide how existing products do/do not achieve their purpose. • Talk about their design as they develop and identify good and bad points. • Note changes made during the making process as annotation to plans/drawings. • Say what they like and do not like about items they have made and attempt to say why. • Discuss how closely their finished product meets their design criteria and how well it meets the needs of the user.

Year 3 & 4	• Develop more than one design or adaptation of an initial design. • Plan a sequence of actions to make a product. • Record the plan by drawing using annotated sketches. • Begin to use cross-sectional and exploded diagrams. • Use prototypes to develop and share ideas. • Think ahead about the order of their work and decide upon tools and materials. • Propose realistic suggestions as to how they can achieve their design ideas. • Consider aesthetic qualities of materials chosen.	• Prepare pattern pieces as templates for their design. • Cut slots. • Cut internal shapes. • Select from a range of tools for cutting, shaping, joining and finishing. • Use tools with accuracy. • Select from techniques for different parts of the process. • Select from materials according to their functional properties. • Plan the stages of the making process. • Use appropriate finishing techniques.	• Investigate similar products to the one to be made to give starting points for a design. • Draw/sketch products to help analyse and understand how products are made. • Research needs of user. • Identify the strengths and weaknesses of their design ideas in relation to purpose/user. • Decide which design idea to develop. • Consider and explain how the finished product could be improved. • Discuss how well the finished product meets the design criteria of the user. • Investigate key events and individuals in Design and Technology.
Year 5 & 6	• List tools needed before starting the activity. • Plan the sequence of work e.g. using a storyboard. • Record ideas using annotated diagrams. • Use models, kits and drawings to help formulate design ideas. • Combine modelling and drawing to refine ideas. • Devise step by step plans which can be read / followed by someone else. • Use exploded diagrams and cross-sectional diagrams to communicate ideas. • Sketch and model alternative ideas. • Decide which design idea to develop.	• Make prototypes. • Develop one idea in depth. • Use researched information to inform decisions. • Produce detailed lists of ingredients / components / materials and tools. • Use a computer to model ideas. • Select from and use a wide range of tools. • Cut accurately and safely to a marked line. • Select from and use a wide range of materials. • Use appropriate finishing techniques for the project. • Refine their product – review and rework/improve.	• Research and evaluate existing products (including book and web-based research). • Consider user and purpose. • Identify the strengths and weaknesses of their design ideas. • Give a report using correct technical vocabulary. • Consider and explain how the finished product could be improved related to design criteria. • Discuss how well the finished product meets the design criteria of the user. Test on the user! • Understand how key people have influenced design.

	FS1	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Food	Provide opportunities to bake/cook/ handle food with an adult. Know what a recipe is and why we use it to cook/bake. Understand some health and safety measures when working with food i.e. washing hands etc.	Provide opportunities to bake/cook/ handle food with an adult. Know what a recipe is and why we use it to cook/bake. Understand some health and safety measures when working with food i.e. washing hands etc.	.	**Using knowledge/skills previously gained:** Develop a food vocabulary using taste, smell, texture and feel. Group familiar food products e.g. fruit and vegetables. Explain where food comes from. Cut, peel, grate, chop a range of ingredients. Work safely and hygienically. Understand the need for a variety of foods in a diet. Measure and weigh food items, non-statutory measures e.g. spoons, cups.	**Using knowledge/skills previously gained:** Develop sensory vocabulary/knowledge using, smell, taste, texture and feel. Analyse the taste, texture, smell and appearance of a range of foods (predominantly savory). Follow instructions/recipes. Make healthy eating choices – use the *Eat-well plate.* Join and combine a range of ingredients. Explore seasonality of vegetables and fruit. Develop understanding of how meat/fish are reared/caught.		**Using knowledge/skills previously gained:** Prepare food products taking into account the properties of ingredients and sensory characteristics. Weigh and measure using scales. Select and prepare foods for a particular purpose. Work safely and hygienically. Show awareness of a healthy diet (using the eat-well plate). Use a range of cooking techniques. Know where and how ingredients are grown and processed.	

							Consider influence of chefs e.g. Gino D'Acampo, Hugh Fearnley-Whittingstall and sustainable fishing etc.	

	FS1	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Structures	Explore different materials, using all their senses to investigate them. Manipulate and play with different materials. Use their imagination as they consider what they can do with different materials. Make simple models which express their ideas. Develop their own ideas and then decide which materials to use to express them. Join different materials and explore different textures.	**Using knowledge/skills previously gained:** Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Share their creations, explaining the process they have used. Make use of props and materials when role playing characters in narratives and stories	**Using knowledge/skills previously gained:** Explore how to make structures stronger. Investigate different techniques for stiffening a variety of materials. Test different methods of enabling structures to remain stable. Join appropriately for different materials and situations e.g. glue, tape. Mark out materials to be cut using a template. Use a glue gun with close supervision.			**Using knowledge/skills previously gained:** Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Develop vocabulary related to the project. Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes. Create shell or frame structures. Select from and use a wider range of materials and components, including construction materials.		**Using knowledge/skills previously gained:** Use the correct terminology for tools materials and processes. Use bradawl to mark hole positions. Use hand drill to drill tight and loose fit holes. Cut strip wood, dowel, square section wood accurately to 1mm. Join materials using appropriate methods. i.e., hot glue gun Build frameworks to support mechanisms. Stiffen and reinforce complex structures.

						Strengthen frames with diagonal struts. Make structures more stable by giving them a wide base. Measure and mark square section, strip and dowel accurately to 1cm.		

	FS1	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Mechanisms		Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Develop their own ideas and then decide which materials to use to express them. Join different materials and explore different textures. Insert paper fasteners for card. Use card, split pins and other materials to create a moving card or animal.		**Using knowledge/skills previously gained:** Design purposeful, functional, appealing products for themselves and other users based on design criteria. design purposeful, functional, appealing products for themselves and other users based on design criteria. Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups. Join appropriately for different materials and situations e.g. glue, tape. Try out different axle fixings and their strengths and weaknesses.		.		

				Make vehicles which contain free running wheels. Use a range of materials to create models with wheels and axles e.g. tubes, dowel, cotton reels. Roll paper to create tubes. Attach wheels to a chassis using an axle. Mark out materials to be cut using a template. Fold, tear and cut paper and card. Cut along lines, straight and curved. Use a hole punch. Experiment with levers and sliders to find different ways of making things move in a 2D plane.				

	FS1	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Textiles			**Using knowledge/skills previously gained:** Match and sort fabrics and threads for colour, texture, length, size and shape. Cut out shapes which have been created by drawing round a template onto the fabric. Join fabrics by using e.g. running stitch, glue, staples, over sewing, tape. Decorate fabrics with attached items e.g. buttons, beads, sequins, braids, ribbons. Colour fabrics using a range of techniques e.g. fabric paints, printing, painting.		**Using knowledge/skills previously gained:** Develop vocabulary for tools materials and their properties. Understand seam allowance. Join fabrics using running stitch, over sewing, blanket stitch. Prototype a product using J cloths. Use prototype to make pattern. Explore strengthening and stiffening of fabrics. Explore fastenings (inventors?) and recreate some. Sew on buttons and make loops.	**Using knowledge/skills previously gained:** Develop vocabulary for tools materials and their properties. Understand seam allowance. Join fabrics using running stitch, over sewing, blanket stitch. Prototype a product using J cloths. Use prototype to make pattern. Explore strengthening and stiffening of fabrics. Explore fastenings (inventors?) and recreate some. Sew on buttons and make loops.	**Using knowledge/skills previously gained:** Use fabrics to create 3D structures. Use different grades of threads and needles. Experiment with batik techniques. Experiment with a range of media (wool fibers to make own felt) to overlap and layer creating interesting colours and textures and effects. Use the correct vocabulary appropriate to the project. Create 3D products using patterns pieces and seam allowance. Understand pattern layout. Decorate textiles appropriately (often	

					Use appropriate decoration techniques.	Use appropriate decoration techniques.	before joining components). Pin and tack fabric pieces together. Join fabrics using over sewing, back stitch, blanket stitch. Combine fabrics to create more useful properties. Make quality products.	