Design Technology Termly End Points

INTENT	At St Francis Xavier, we want our pupils to be exposed to inspiring, rigorous and practical DT projects, whilst acquiring skills and knowledge to create products suitable for a purpose and audience. We encourage our pupils to use their creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. We want our pupils to see where possible that DT links with other curriculum disciplines including mathematics, science, computing and art. DT curriculum is designed to build skills incrementally with careful mapping across key stages and between year groups. The curriculum promotes creativity, independence and collaboration, resilience and self-reflection. We want our pupils to love, appreciate and be able to evaluate the products that they have designed and made.

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Year Group	Autumn		Spring		Summer	
	A1	**A2**	**SP1**	**SP2**	**SM1**	**SM2**
Y1		**<u>Textiles</u>** *Problem: The theatre needs a new puppet for their show* *Solution:* ***Create a new puppet for the theatre.*** • Describe how different textiles feel. • Understand how to join materials together- gluing, sewing (running stitch), tape, staples. • Research puppets from the past and what these used to look like. • Draw around a template (pattern piece) and cut out fabric shapes. • Decorate fabrics with paint, pens and haberdashery (ribbons, buttons, sequins, ect)		**<u>Structures</u>** *Problem: Fred would like a new shelter for his vehicle.* *Solution:* ***Design and create a shelter that fits his design brief.*** • Choose and use a selection of materials for model-making. • Join components using glue or tape: know which is appropriate for the materials. • Cut wood with a hacksaw and bench hook. • Use sandpaper to smooth cut ends of wood. • Join wooden components with glue. • Use jinks' corners to strengthen structures.		**<u>Cooking and Nutrition</u>** *Problem: 'The Cod' fish and chip shop would like ideas of fruit and vegetables to put with their dishes.* *Solution:* ***Create side dishes to go with fish and chips.*** • Name familiar food. • Know where food comes from. • Group familiar foods e.g. as fruits and vegetables, and understand the need for a mixture of foods in a healthy diet. • Work hygienically and safely. • Cut, grate and peel foods using tools and hands. • Mix ingredients with hands or a spoon. • Use simple measuring aids. • Prepare foods
Y2		**<u>Mechanisms and Levers</u>**		**<u>Structure</u>** *Problem: Bob would like to*		**<u>Cooking and Nutrition</u>**

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		Problem: Year 1 would like to know more about the Great Fire of London *Solution:* ***Create a moving story book with sliders and levers.*** • Use a hole punch and paper fastenings. • Assemble a lever to make a moving picture. • Use levers and linkages to make a picture move. • Make a sliding picture. • Cut card with scissors following straight and curved lines.		*power his house using a wind mill.* *Solution:* ***Create a wind mill using strong materials and axles that meet his needs.*** • Choose and use a selection of materials for model-making. • Join components using glue or tape: know which is appropriate for the materials. • Cut wood with a hacksaw and bench hook. • Use sandpaper to smooth cut ends of wood. • Join wooden components with glue. • Use jinks' corners to strengthen structures. • Understand how to make structures stronger/stiffer.		*Problem: Clare Smyth would like you to design and make a dish for school dinners.* *Solution:* ***Create a healthy school meal using key skills.*** • Name familiar food. • Know where food comes from. • Group familiar foods e.g. as fruits and vegetables, and understand the need for a mixture of foods in a healthy diet. • Work hygienically and safely. • Cut, grate and peel foods using tools and hands. • Mix ingredients with hands or a spoon. • Use simple measuring aids. • Prepare foods for cooking in an oven.
Y3		**Structure** *Problem: Cavemen keep dropping their eggs and breaking them.* *Solution:* ***Design and create a shell structure that will protect their eggs.*** • Use pre-drawn nets to make 3D card structures • Cut, score and fold card accurately • Cut wood with a hacksaw and bench hook to 10mm accuracy. • Sand wood evenly to produce a smooth finish. • Make stable frameworks using strengthening struts, jinks' corners ect.		**Cooking and Nutrition** *Problem: Massimo Botturo would like you to create an Italian dish using a traditional Italian recipe.* *Solution:* ***Create a dish that would win a Michellin star.*** • Know and understand the components of a balanced diet. • Make healthy choices for snacks. • Cut, chop, peel and slice food safely and hygienically. • Mix ingredients with a spoon or whisk. • Combine food to make a tasty snack, taking flavours and		**Electrical and Mechanical components** *Problem: A new game show would like a quiz board creating to test the contestant's knowledge about the Ancient Greeks.* *Solution:* ***Create a quiz board.*** • Use scissors and a hole punch with some accuracy • Cut out slots and windows in cards. Build a circuit with a battery, switch and bulb. • Make a simple switch with foil.

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				textures into account. • Use an oven under close supervision		
Y4		**Textiles** *Problem: Julius Caesar's Messengers need a new bag to store and carry scrolls.* *Solution:* ***Create a new bag that can meet his needs.*** • Create a pattern (template), taking seam allowance into account. • Understand how a prototype improves a clothing design. • Join fabrics using a running stitch, back stitch or oversewing. • Decorate fabric with haberdashery and applique. • Use simple fastenings e.g. buttons and loops, Velcro.		**Electrical and Mechanical Systems** *Problem: Explorers are struggling to travel through the dense rainforest.* *Solution:* ***Create a rainforest inspired vehicle with wheels and axels.*** • Use scissors and a hole punch with some accuracy. • Cut out slots and windows in card. • Build a circuit with a battery, switch and motor. • Use pulleys to form a transport system.		**Control and Monitor** • Control a model or circuit using an appropriate program or switch. • Use Microbits to control a product to do something.
Y5		**Cooking and Nutrition** *Problem: The Vikings have arrived in Britain and don't know what to cook.* *Solution:* ***Create a Viking inspired dish based on seasonality.*** • Taste a range of foods and develop a food vocabulary. • Know how some foods are grown, reared, caught or processed. • Prepare food safely and hygienically. • Choose foods for a purpose that are in season and know where the food has come from. • Weigh ingredients using kitchen scales. • Cut, slice and grate food as appropriate. • Combine ingredients by kneading, stirring and whisking. • Cook foods on the stove or in the oven as		**Mechanical Systems- CAMs and Pneumatics** *Problem: What monster could live inside a mountain?* *Solution:* ***Create a monster that could live in a mountain using CAMs or pneumatics.*** Either: • Use CAMs to make an up/down mechanism. • Describe the motions produced by various shaped CAMs. Or • Use linked syringes to make a model move. • Use a balloon on a syringe to make a model move.		**Textiles** *Problem: Factory workers would like a carrier belt for their tools.* *Solution:* ***Combine materials to create a belt that can hold and carry tools when working.*** • Name and know the properties of some common fabrics. • Understand how fabric properties can affect the structure and appearance of a product. • Cut fabrics accurately using pattern pieces. • Pin and task pieces before sewing. • Join fabrics using a variety of stitches. • Assemble 3D products from templates/ patterns. • Decorate products appropriately at a

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		appropriate. *Pulleys and Gears to be taught as part of forces (science)				suitable point in the construction of the product.
Y6		**<u>Control and Monitor</u>** • Control a model using an appropriate program • Use Microbits to control a model. • Code using computers and download the code to the Microbit which can be placed on the product.		**<u>Electrical and Mechanical Systems</u>** *Problem: The British Army need to communicate in secret.* *Solution:* ***Create a way of communicating using Morse code.*** • Use bulbs, buzzers, motors and switches effectively in models. • Understand how to draw a circuit diagram. • Build a switch for a particular purpose. • Trouble-shoot a circuit that isn't working (dead battery, blown bulb, poor connection).		**<u>Structures</u>** *Problem: Emergency services are in need of new structures in times of flood and earthquakes.* *Solution:* ***Design a structure that can be used in times of emergency.*** • Create nets for 3D shapes. • Measure and cut wood neatly to 1mm accuracy. • Sand wood to shape it for a purpose. • Use a hand drill to drill holes in wood. • Join materials with glue, nails and screws as appropriate • Design and make strong frameworks.

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