"Giving children the keys to unlock their future"



St Peter's C of E Academy – Design and Technology (DT)

DT provides children with a real life context for learning. We allow our children to aspire to be creators and inventors by providing opportunities to experiment with different ideas. Through the DT curriculum, children are inspired by engineers, designers, chefs and architects to enable them to create a range of structures, mechanisms, textiles, electrical systems and food products with a real-life purpose.

Teaching of DT follows the design, make and evaluate cycle with each stage rooted in technical knowledge. The design process is embedded in real life, relevant contexts to give meaning to learning. While making, children are given choice and a range of tools to choose freely from. To evaluate, children evaluate their own products against a design criteria.

Key skills and knowledge for DT have been mapped across the school to ensure progression between year groups. The context for the children's work in DT is also well considered and children learn about real life structures and the purpose of specific examples, as well as developing their skills throughout the programme of study. DT lessons are taught as a block so that children's learning is focused throughout each unit of work.

Our curriculum and skills progression is shown below:

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Reception						
Year 1		Freestanding structures Designing Generate ideas based on simple design criteria and their own experiences, explaining what they could make. Develop, model and communicate their ideas		Drawbridges Designing Generate ideas based on simple design criteria and their own experiences, explaining what they could make. Develop, model and communicate their ideas through drawings and mockups with card and paper. Making	Food Fruit Salad Designing Design appealing products for a particular user based on simple design criteria. Generate initial ideas and design criteria through investigating a variety of fruit	

-	through talking, mock-ups	Plan by suggesting what to	Communicate these ideas	
	3 3,			
	and drawings.	do next. • Select and use	through talk and drawings.	
	Making	tools, explaining their choices,	Making	
	 Plan by suggesting what to 	to cut, shape and join paper	 Use simple utensils and 	
	do next. • Select and use	and card. • Use simple	equipment to e.g. peel, cut,	
	tools, skills and techniques,	finishing techniques suitable	squeeze,	
	explaining their choices. •	for the product they are	 Select from a range of fruit 	
	Select new and reclaimed	creating.	colour, texture and taste to	
	materials and construction	Evaluating	create a chosen product.	
	kits to build their structures. •	 Explore a range of existing 	Evaluating	
	Use simple finishing	books and everyday products	Taste and evaluate a range	
	techniques suitable for the	that use simple sliders and	of fruit to determine the	
	structure they are creating.	levers. • Evaluate their	intended user's preferences.	
	Evaluating	product by discussing how	Evaluate ideas and finished	
	Explore a range of existing	well it works in relation to the	products against design	
	freestanding structures in the	purpose and the user and	criteria, including intended	
	school and local environment	whether it meets design	user and purpose.	
	e.g. everyday products and	criteria.	Technical knowledge and	
	buildings. • Evaluate their	Technical knowledge and	understanding	
	product by discussing how	understanding	Understand where a range	
	well it works in relation to the	Explore and use sliders and	of fruit come from e.g. farmed	
	purpose, the user and	levers. • Understand that	or grown at home.	
	whether it meets the original	different mechanisms	Understand and use basic	
	design criteria.	produce different types of	principles of a healthy and	
	Technical knowledge and	movement. • Know and use	varied diet to prepare dishes,	
	9			
	understanding	technical vocabulary relevant	including how fruit are part of	
	Know how to make	to the project.	The eatwell plate. • Know and	
	freestanding structures		use technical and sensory	
	stronger, stiffer and more		vocabulary relevant to the	
	stronger, stiffer and more stable. • Know and use		vocabulary relevant to the project.	
	stable. • Know and use		<u> </u>	
	stable. • Know and use technical vocabulary relevant		<u> </u>	
Voar 2	stable. • Know and use technical vocabulary relevant to the project.	Templates and	project.	
Year 2	stable. • Know and use technical vocabulary relevant to the project. Wheels and axels	Templates and	project. Food	
Year 2	stable. • Know and use technical vocabulary relevant to the project. Wheels and axels Designing	Joining	Food Vegetable Skewers	
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Year 2	stable. • Know and use technical vocabulary relevant to the project. Wheels and axels Designing • Generate initial ideas and simple design criteria through talking and using own	Joining Designing	Food Vegetable Skewers Designing Design appealing products	
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			understanding		range of existing textile	and finished products against	
			Explore and use wheels,		products relevant to the	design criteria, including	
			axles and axle holders. •		project being undertaken. •	intended user and purpose.	
			Distinguish between fixed and		Evaluate their ideas	Technical knowledge and	
						l <u> </u>	
			freely moving axles. • Know		throughout and their final	understanding	
			and use technical vocabulary		products against original	Understand where a range	
			relevant to the project		design criteria.	of vegetables come from e.g.	
					Technical knowledge and	farmed or grown at home. •	
					understanding	Understand and use basic	
					 Understand how simple 3-D 	principles of a healthy and	
					textile products are made,	varied diet to prepare dishes,	
					using a template to create two	including how vegetables are	
					identical shapes. •	part of The eatwell plate. •	
					Understand how to join	Know and use technical and	
					fabrics using different	sensory vocabulary relevant	
					techniques e.g. running stitch,	to the project.	
					glue, over stitch, stapling. •		
					Explore different finishing		
					techniques e.g. using		
					painting, fabric crayons,		
					stitching, sequins, buttons		
					and ribbons. • Know and use		
					technical vocabulary relevant		
					to the project.		
	V 0	Hoolthy, and Variod		Lavers and Linksess	to the project.		DT own shooslets
	Year 3	Healthy and Varied		Levers and Linkages			DT – own chocolate
		Diet		Designing			bar - packaging - Shell 📗
		Designing		 Generate realistic ideas and 			structures
		 Generate and clarify ideas 		their own design criteria			Designing
		through discussion with peers		through discussion, focusing			Generate realistic ideas and
		and adults to develop design		on the needs of the user. •			design criteria collaboratively
		criteria including appearance,		Use annotated sketches and			through discussion, focusing
		taste, texture and aroma for		prototypes to develop, model			on the needs of the user and
		an appealing product for a		and communicate ideas.			purpose of the product. •
		particular user and purpose.		Making			Develop ideas through the
		Use annotated sketches and		 Order the main stages of 			analysis of existing products
		appropriate information and		making. • Select from and use			,
		communication technology,		appropriate tools with some			and use annotated sketches
		such as web-based recipes,		accuracy to cut, shape and			and prototypes to model and
		to develop and communicate		join paper and card. • Select			communicate ideas.
		ideas.		from and use finishing			Making
		Making		techniques suitable for the			Order the main stages of
		Plan the main stages of a		product they are creating.			making. • Select and use
		recipe, listing ingredients,		Evaluating			appropriate tools to measure,
		utensils and equipment.		Investigate and analyse			mark out, cut, score, shape
		Select and use appropriate		books and, where available,			and assemble with some
		utensils and equipment to		other products with lever and			accuracy. • Explain their
		1		linkage mechanisms. •			choice of materials according
		prepare and combine		Evaluate their own products			to functional properties and
		ingredients. • Select from a		and ideas against criteria and			aesthetic qualities. • Use
		range of ingredients to make		user needs, as they design			finishing techniques suitable
		appropriate food products,		and make.			for the product they are
		thinking about sensory		Technical knowledge and			creating.
		characteristics.					Evaluating
		Evaluating		understanding			Investigate and evaluate a
		Carry out sensory		Understand and use lever Independent and linkage machanisms.			range of existing shell
		evaluations of a variety of		and linkage mechanisms. •			structures including the
		ingredients and products.		Distinguish between fixed and loose pivots. • Know and use			materials, components and
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	Poord the ovelvations using		toobnical voodbulant relations	 	toobniques that have been
	Record the evaluations using		technical vocabulary relevant		techniques that have been
	e.g. tables and simple graphs.		to the project.		used. • Test and evaluate
	 Evaluate the ongoing work 				their own products against
	and the final product with				design criteria and the
	reference to the design				intended user and purpose.
	criteria and the views of				Technical knowledge and
					S S
	others.				understanding
	Technical knowledge and				 Develop and use
	understanding				knowledge of how to
	 Know how to use 				construct strong, stiff shell
	appropriate equipment and				structures. • Develop and use
	utensils to prepare and				knowledge of nets of cubes
	combine food. • Know about a				and cuboids and, where
	range of fresh and processed				appropriate, more complex
	ingredients appropriate for				3D shapes. • Know and use
	their product, and whether				technical vocabulary relevant
	they are grown, reared or				to the project.
	caught. • Know and use				1 -7
	relevant technical and				
	sensory vocabulary				
	appropriately.				
Year 4		DT – sewing	Simple switches	Food – Cooking and	
		Designing	(Linked to science)	Nutrition	
		 Generate realistic ideas 	Designing	(Mediterranean Diet)	
		through discussion and			
		design criteria for an	Gather information about	Designing	
		appealing, functional product	needs and wants, and	 Generate and clarify ideas 	
			develop design criteria to	through discussion with peers	
		fit for purpose and specific	inform the design of products	and adults to develop design	
		user/s. • Produce annotated	that are fit for purpose, aimed	criteria including appearance,	
		sketches, prototypes, final	at particular individuals or	taste, texture and aroma for	
		product sketches and pattern	groups. • Generate, develop,		
		pieces.	model and communicate	an appealing product for a	
		Making • Plan the main		particular user and purpose.	
		9	realistic ideas through	 Use annotated sketches and 	
		stages of making. • Select	discussion and, as	appropriate information and	
		and use a range of	appropriate, annotated	communication technology,	
		appropriate tools with some	sketches, cross-sectional and	such as web-based recipes,	
		accuracy e.g. cutting, joining	exploded diagrams.	to develop and communicate	
		and finishing. • Select fabrics	Making		
		and fastenings according to	Order the main stages of	ideas.	
		their functional characteristics		Making	
		e.g. strength, and aesthetic	making. • Select from and use	 Plan the main stages of a 	
			tools and equipment to cut,	recipe, listing ingredients,	
		qualities e.g. pattern.	shape, join and finish with	utensils and equipment. •	
		Evaluating	some accuracy. • Select from	Select and use appropriate	
		 Investigate a range of 3-D 	and use materials and	utensils and equipment to	
		textile products relevant to the	components, including	prepare and combine	
		project. • Test their product	construction materials and		
		against the original design	electrical components	ingredients. • Select from a	
		criteria and with the intended	· · · · · · · · · · · · · · · · · · ·	range of ingredients to make	
		user. • Take into account	according to their functional	appropriate food products,	
			properties and aesthetic	thinking about sensory	
		others' views. • Understand	qualities.	characteristics.	
		how a key event/individual	Evaluating	Evaluating	
		has influenced the	 Investigate and analyse a 	Carry out sensory	
		development of the chosen	range of existing battery-		
		product and/or fabric.	powered products. • Evaluate	evaluations of a variety of	
		Technical knowledge and		ingredients and products.	
		understanding	their ideas and products	Record the evaluations using	
		Know how to strengthen,	against their own design	e.g. tables and simple graphs.	
			criteria and identify the	 Evaluate the ongoing work 	
ı L		stiffen and reinforce existing			

		fabrics. • Understand how to	strengths and areas for		and the final product with	
		securely join two pieces of	improvement in their work.		reference to the design	
		fabric together. • Understand	Technical knowledge and		criteria and the views of	
		the need for patterns and	understanding		others.	
		seam allowances. • Know and	S		Technical knowledge and	
			Understand and use			
		use technical vocabulary	electrical systems in their		understanding	
		relevant to the project.	products, such as series		Know how to use	
			circuits incorporating		appropriate equipment and	
			switches, bulbs and buzzers.		utensils to prepare and	
			 Apply their understanding of 		combine food. • Know about a	
			computing to program and		range of fresh and processed	
			control their products. • Know		ingredients appropriate for	
			and use technical vocabulary		their product, and whether	
			relevant to the project.		they are grown, reared or	
					caught. • Know and use	
					relevant technical and	
					sensory vocabulary	
					appropriately.	
					арргорпаюну.	
· · ·	DT 14: ' '		DT -	DT - :		
Year 5	DT - Mechanical		DT - Frame	DT – Food		
	Pulleys and Gears		Structures	Designing		
	Designing		Designing	 Generate innovative ideas 		
	Generate innovative ideas		Carry out research into user	through research and		
	by carrying out research		needs and existing products,	discussion with peers and		
	using surveys, interviews,		using surveys, interviews,	adults to develop a design		
	questionnaires and web-		guestionnaires and web-	brief and criteria for a design		
	based resources. • Develop a		based resources. • Develop a	specification. • Explore a		
	simple design specification to		simple design specification to	range of initial ideas, and		
	guide their thinking. • Develop		guide the development of	make design decisions to		
	and communicate ideas		their ideas and products,	develop a final product linked		
	through discussion, annotated		taking account of constraints	to user and purpose. • Use		
	drawings, exploded drawings		including time, resources and	words, annotated sketches		
	and drawings from different		cost. • Generate, develop and	and information and		
	views.		model innovative ideas,	communication technology as		
	Making		through discussion,	appropriate to develop and		
				communicate ideas.		
	Produce detailed lists of		prototypes and annotated	Making		
	tools, equipment and		sketches.	Write a step-by-step recipe,		
	materials. Formulate step-by-		Making	including a list of ingredients,		
	step plans and, if appropriate,		• Formulate a clear plan,	equipment and utensils •		
	allocate tasks within a team. •		including a step-by-step list of	Select and use appropriate		
	Select from and use a range		what needs to be done and	utensils and equipment		
	of tools and equipment to		lists of resources to be used.	accurately to measure and		
	make products that that are		Competently select from			
	accurately assembled and		and use appropriate tools to	combine appropriate ingredients. • Make, decorate		
	well finished. Work within the		accurately measure, mark			
	constraints of time, resources		out, cut, shape and join	and present the food product		
	and cost.		construction materials to	appropriately for the intended		
	Evaluating		make frameworks. • Use	user and purpose.		
	 Compare the final product 		finishing and decorative	Evaluating		
	to the original design		techniques suitable for the	Carry out sensory		
	specification. • Test products		product they are designing	evaluations of a range of		
	with intended user and		and making.	relevant products and		
	critically evaluate the quality		Evaluating	ingredients. Record the		
	of the design, manufacture,		Investigate and evaluate a	evaluations using e.g.		
	functionality and fitness for		range of existing frame	tables/graphs/charts such as		
	I TUTICUOTIANTE AND HUTESS IOI					
				star diagrams. • Evaluate the		
	purpose. • Consider the views of others to improve their		structures. • Critically evaluate their products	star diagrams. • Evaluate the final product with reference		

	work. • Investigate famous		against their design	back to the design brief and	
	manufacturing and		specification, intended user	design specification, taking	
	engineering companies		and purpose, identifying	into account the views of	
	relevant to the project.		strengths and areas for	others when identifying	
	Technical knowledge and		development, and carrying	improvements • Understand	
	understanding		out appropriate tests. •	how key chefs have	
	 Understand that mechanical 		Research key events and	influenced eating habits to	
	and electrical systems have		individuals relevant to frame	promote varied and healthy	
	an input, process and an		structures.	diets.	
	output. • Understand how		Technical knowledge and	Technical knowledge and	
	gears and pulleys can be		understanding • Understand	understanding • Know how to	
	used to speed up, slow down		how to strengthen, stiffen and	use utensils and equipment	
	or change the direction of		reinforce 3-D frameworks.	including heat sources to	
	movement. • Know and use		Know and use technical	prepare and cook food. •	
	technical vocabulary relevant		vocabulary relevant to the	Know and use relevant	
	to the project.		project.	technical and sensory	
				vocabulary	
Year 6		DT – Food rationing	DT – Combing Fabric		DT – More Complex
		DT – Food	Shapes		Switches
		Designing	Designing		Designing
		Generate innovative ideas	Generate innovative ideas		Use research to develop a
		through research and	by carrying out research		design specification for a
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		discussion with peers and	including surveys, interviews		functional product that
		adults to develop a design	and questionnaires. •		responds automatically to
		brief and criteria for a design	Develop, model and		changes in the environment.
		specification. • Explore a	communicate ideas through		Take account of constraints
		range of initial ideas, and	talking, drawing, templates,		including time, resources and
		make design decisions to	mock-ups and prototypes		cost. • Generate and develop
		develop a final product linked	and, where appropriate,		innovative ideas and share
		to user and purpose. • Use	computeraided design. •		and clarify these through
		words, annotated sketches	Design purposeful, functional,		discussion. • Communicate
		and information and	appealing products for the		ideas through annotated
		communication technology as	intended user that are fit for		sketches, pictorial
		appropriate to develop and	purpose based on a simple		representations of electrical
		communicate ideas.	design specification.		circuits or circuit diagrams.
		Making	Making		Making
		Write a step-by-step recipe,	Produce detailed lists of		Formulate a step-by-step
		including a list of ingredients,	equipment and fabrics		plan to guide making, listing
		equipment and utensils •	relevant to their tasks. •		tools, equipment, materials
		Select and use appropriate	Formulate step-by-step plans		and components. •
		utensils and equipment	and, if appropriate, allocate		Competently select and
		accurately to measure and	tasks within a team. • Select		accurately assemble
		combine appropriate	from and use a range of tools		materials, and securely
		ingredients. • Make, decorate	and equipment to make		connect electrical
		and present the food product	products that are accurately		components to produce a
		appropriately for the intended	assembled and well finished.		reliable, functional product. •
		user and purpose.	Work within the constraints of		Create and modify a
		Evaluating	time, resources and cost.		computer control program to
		 Carry out sensory 	Evaluating • Investigate and		enable an electrical product to
		evaluations of a range of	analyse textile products linked		work automatically in
		relevant products and	to their final product. •		response to changes in the
		ingredients. Record the	Compare the final product to		environment.
		evaluations using e.g.	the original design		Evaluating
		tables/graphs/charts such as	specification. • Test products		Continually evaluate and
			with intended user and		modify the working features of
		star diagrams. • Evaluate the			
		final product with reference	critically evaluate the quality		the product to match the initial
		back to the design brief and	of the design, manufacture,		design specification. • Test

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	design specification, taking	functionality and fitness for	the system to demonstrate its	
	into account the views of	purpose. • Consider the views	effectiveness for the intended	
	others when identifying	of others to improve their	user and purpose. •	
	improvements.	work.	Investigate famous inventors	
	Technical knowledge and	Technical knowledge and	who developed ground-	
	understanding • Know how to	understanding	breaking electrical systems	
	use utensils and equipment	A 3-D textile product can be	and components.	
	including heat sources to	made from a combination of	Technical knowledge and	
	prepare and cook food. • Understand about seasonality	accurately made pattern pieces, fabric shapes and	understanding • Understand and use	
	in relation to food products	different fabrics. • Fabrics can	electrical systems in their	
	and the source of different	be strengthened, stiffened	products. • Apply their	
	food products. • Know and	and reinforced where	understanding of computing	
	use relevant technical and	appropriate.	to program, monitor and	
	sensory vocabulary		control their products. • Know	
			and use technical vocabulary	
			relevant to the project.	