

#### **Design and Technology at Furzefield Primary School**

At Furzefield, we develop skills and knowledge in design and technology (D&T) through an independent child-led project in the summer term of each year. We also have an 'enterprise' week' each summer term in which each class has a small budget with which to create items that are sold at the 'maths market'.

We also introduce D&T, including cooking and textiles, into other subject areas including history, geography and our Forest School units which are always linked to other learning in the classroom. Examples of D&T linked to other subject areas include:

Year 1	Making houses for the 'Three Little Pigs' using straw, sticks and bricks; upcycling discarded items to create models of historical vehicles or toys.
Year 2	Making firework cookies in November; making dragons out of clay, edible 'dragon tails' using bannock mix wrapped around a stick and cooked on
	a campfire; making willow and tissue paper 'dragon eggs' all linked to learning in English. Making scarecrows to explore waterproof materials in
	science. Junk modelling tudor houses to recreate Pudding Lane.
Year 3	Making models of Stonehenge using various media, linked to study of the stone age; making replica 'stone age' jewellery using salt dough; using
	flint knapping to create simple scraping tools and arrow heads. Making a 'rainforest in a box' showing the different levels of vegetation linked to
	geography. Using cross stitch to create book marks.
Year 4	Exploring the various methods of farming of the ancient Mayans by creating miniature systems of terraced and raised fields; making Mayan style
	feather headdresses; creating 'working' models of volcanos; making models of human teeth using malleable materials.
Year 5	Making 'bullroarers' using tools at Forest School linked to learning about Australian Aboriginal stories. Using 'Tinkercad' to design an Indus
	Valley settlement.
Year 6	Using tools at Forest School to make 'trollen wheels' to create Viking style braids; making hawthorn fruit leather linked to history; using sewing
	machines to repurpose old t-shits into tote bags.

About EYFS: Children develop curiosity, relevant vocabulary, knowledge and skills through a mixture of adult led activities and continuous provision. Children have access to a wide variety of construction toys both large and small scale and to resources for junk modelling and other 'making' in the 'art gallery'. Children regularly cook in the nursery and the reception class kitchen and around a campfire in our Forest School area.









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* 6	EYFS	Year One	Year Two	End of Key	Year Three	Year Four	Year Five	Year Six	End of Key
(R)				Stage 1					Stage 2
MARY SCHOO				Expectations					Expectations
	*Select	* have own	* have own ideas	*Design	*begin to research	* use research for	*use internet and	* draw on market	Use research
	appropriate	ideas	and plan	purposeful,	others'	design ideas	questionnaires	research to inform	and develop
	resources	* explain what I	what to do next	functional,	needs	* show design	for research and	design	design criteria
	*Use gestures,	want to do	* explain what I	appealing	* show design	meets a range of	design ideas	* use research of user's	to inform the
	talking and	*explain what	want to do	products for	meets a range	requirements and	*take a user's view	individual	design of
	arrangements of	my product is	and describe how	themselves	of requirements	is fit for	into account	needs, wants,	innovative,
	materials and	for, and how it	I may do it	and	* describe purpose	purpose	when designing	requirements for design	functional,
	components to	will work	* explain purpose	other users	of product	*begin to create	* begin to consider	* identify features of	appealing
	show design	* use pictures	of product,	based	* follow a given	own design	needs/wants of	design that will	products that
	* Use contexts set	and words to	how it will work	on design	design criteria	criteria	individuals/groups	appeal to the intended	are fit for
	by the teacher	plan, begin to	and how it	criteria	* have at least one	*have at least one	when designing	user	purpose, aimed
	and myself	use models	will be suitable	*Generate,	idea about	idea about	and ensure product is	* create own design	at particular
	*Use language of	* design a	for the user	develop, model	how to create	how to create	fit for	criteria and	individuals or
	designing and	product for	* describe design	and	product	product and	purpose	specification	groups
	making (join,	myself following	using	communicate	* create a plan	suggest	*create own design	* come up with	*Generate,
	build, shape,	design criteria	pictures, words,	their ideas	which shows	improvements for	criteria	innovative design	develop, model
	longer, shorter,	*research	models,	through	order, equipment	design.	* have a range of	ideas	and
Design	heavier etc.)	similar existing	diagrams, begin	talking,	and tools	* produce a plan	ideas	*follow and refine a	communicate
<u>.</u>		product	to use ICT	drawing,	*describe design	and explain it	*produce a logical,	logical plan.	their ideas
Ses Ses			* design products	templates,	using an	to others	realistic plan	*use annotated sketches,	through
ă			for myself	mockups and,	accurately labelled	*say how realistic	and explain it to	crosssectional planning	discussion,
			and others	where	sketch and	plan is.	others.	and exploded	annotated
			following design	appropriate,	words	*include an	*use cross-sectional	diagrams	sketches,
			criteria * choose best	information	* make design	annotated sketch *make and	planning and	* make design decisions,	crosssectional
			tools and	and communication	decisions *explain how	explain design	annotated sketches  * make design	considering, resources and cost	and exploded diagrams,
			materials, and	technology	product will	decisions	decisions	* clearly explain how	prototypes,
			explain choices	technology	work	considering	considering time and	parts of design	pattern pieces
			* use knowledge		* make a	availability of	resources.	will work, and how they	and
			of existing		prototype	resources	*clearly explain how	are fit for	computeraided
			products to		* begin to use	*explain how	parts of	purpose	design
			produce ideas		computers to	product will work	product will work.	* independently model	5.50.8
			,		show design	* make a	*model and refine	and refine	
						prototype	design ideas by	design ideas by making	
						*begin to use	making prototypes	prototypes and	
						computers to	and using	using pattern pieces	
						show designs	pattern pieces.	* use computer-aided	
							*use computer-aided	designs	
							designs	-	



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THE SCHOOL SCHOOL				Stage 1					Stage 2
				Expectations					Expectations
	*Construct with a	*explain what	*explain what I	*Select from	*select suitable	* select suitable	* use selected	* use selected tools and	*Select from
	purpose, using	I'm making and	am making	and	tools/equipment,	tools and	tools/equipment	equipment	and use
	a variety of	why	and why it fits the	use a range of	explain	equipment,	with good level of	precisely	a wider range
	resources	*consider what	purpose	tools and	choices; begin to	explain choices in	precision	*produce suitable lists of	of tools
	*Use simple tools	I need to do	*make	equipment to	use them	relation to	* produce suitable	tools,	and equipment
	and techniques *Build / construct	next *select	suggestions as to what	perform practical	accurately * select	required techniques	lists of tools, equipment/materials	equipment, materials needed,	to perform
	with a wide	tools/equipmen	I need to do next.	tasks [for	appropriate	and use	needed	considering constraints	practical
	range of objects	t to	*join	example,	materials,	and use	*select appropriate	* select appropriate	tasks [for
	*Select tools &	cut, shape, join,	materials/compo	cutting,	fit for purpose.	*select	materials, fit	materials, fit for	example,
	techniques to	finish and	nents	shaping,	* work through	appropriate	for purpose; explain	purpose; explain choices,	cutting,
	shape, assemble	explain choices	together in	joining	plan in order	materials,	choices,	considering	shaping,
	and join	*measure, mark	different ways	and finishing]	*consider how	fit for purpose;	considering	functionality and	joining and
	*Replicate	out, cut and	*measure, mark	*Select from	good product	explain choices	functionality	aesthetics	finishing],
	structures with	shape, with	out, cut and	and	will be	* work through	* create and follow	* create, follow, and	accurately
	materials /	support	shape materials	use a wide	* begin to	plan in order.	detailed stepby-step	adapt detailed	*Select from
	components	*choose	and	range	measure, mark	* realise if	plan	step-by-step plans	and use
	*Discuss how to	suitable	components, with	of materials	out,	product is going	* explain how	*explain how product will	a wider range
o O	make an activity	materials and	support.	and	cut and shape	to	product will appeal	appeal to	of
<u> </u>	safe and hygienic	explain choices	*describe which	components,	materials/compon	be good quality	to an audience	audience; make changes	materials and
Make	*Record	*try to use	tools I'm	including	ents with	* measure, mark	* mainly accurately	to improve	components,
_	experiences by	finishing	using and why	construction	some accuracy	out, cut and	measure, mark	quality	including
	drawing,	techniques to	*choose suitable	materials,	* begin to	shape	out, cut and shape	* accurately measure,	construction
	writing, voice	make product	materials	textiles	assemble, join and	materials/compo	materials/component	mark out, cut	materials,
	recording	look good	and explain	and	combine materials	nents	S	and shape	textiles
	*Understand	*work in a safe	choices	ingredients,	and	with some	*mainly accurately	materials/components	and
	different media	and hygienic	depending on	according to	components with	accuracy	assemble, join	* accurately assemble,	ingredients,
	can be combined for a	manner	characteristics. *use finishing	their	some	*assemble, join	and combine	join and combine	according to their
			_	characteristics	accuracy	and combine	materials/component	materials/components	functional
	purpose		techniques to make product		* begin to apply a range of	materials and components with	* mainly accurately	* accurately apply a range	properties
			look good		finishing	some accuracy	apply a range	of finishing	and aesthetic
			*work safely and		techniques with	*apply a range of	of finishing	techniques	qualities
			hygienically		some accuracy	finishing	techniques	* use techniques that	qualities
			, gicincully		Some accuracy	techniques with	* use techniques that	involve a	
						some accuracy	involve a	number of steps	
							small number of steps	* be resourceful with	
							* begin to be	practical	
							resourceful with	problems	
							practical problems	'	



#### **Furzefield Primary School**

Instilling a love of learning

Furzefield Primary School Progression in Skills Design and Technology

\*explain what I \*Select from \* look at design \*refer to design \*evaluate quality of \*evaluate quality of \*Construct with a \*explain what \*Investigate I'm making and am making and criteria while criteria while design while design while purpose, using and a variety of why and why it fits the use a range of designing and designing and designing and making designing and making; is it analyse a range resources \*consider what purpose tools and making making \*evaluate ideas and fit for \*Use simple tools I need to do \*make equipment to \*use design \*use criteria to finished purpose? existing \* keep checking design is and techniques next suggestions as to perform criteria to evaluate product against products. \*Build / construct \*select what practical evaluate finished product specification, best it can \*Evaluate their with a wide tools/equipmen tasks [for \* begin to explain I need to do next. product considering purpose be. ideas range of objects \*join example, \* say what I would how I could and \*evaluate ideas and and products t to \*Select tools & cut, shape, join, materials/compo cutting, change to improve original finished product against appearance. techniques to finish and nents shaping, make design design \*test and evaluate against specification, their own shape, assemble explain choices together in better \*evaluate existing final product stating if it's fit design joining \* evaluate and and join \*measure, mark different ways and finishing] \*begin to evaluate products, for purpose criteria and \*Replicate \*measure, mark \*Select from considering: how discuss existing \*test and evaluate final out, cut and existing consider structures with shape, with out, cut and and products, well they've products, considering: product: the views of materials / shape materials considering: how been made, how well explain what would others to support use a wide components \*choose and range well they have materials, they've been made, improve it and the improve their \*Discuss how to suitable components, with of materials been made. whether materials. effect different resources work. make an activity materials and support. and materials, whether they work, how whether they work, may have \*Understand safe and hygienic explain choices \*describe which components, they work, they have been how they have had how key Evaluate \*Record \*try to use tools I'm including how they have made, fit for been made, fit for \*do thorough evaluations events and construction been made, fit individuals in experiences by finishing using and why purpose purpose of existing \*choose suitable drawing, techniques to materials, for purpose \* discuss by \* begin to evaluate products considering: design textiles \* begin to writing, voice make product materials whom, when and how much how well and technology recording look good and explain and understand by where products products cost to they've been made, have \*Understand \*work in a safe choices whom, when and were designed make and how materials. helped shape ingredients, different media and hygienic depending on according to where \* research innovative they are whether they work, how the characteristics. their products were whether products \*research how they've been world manner can be combined for a \*use finishing designed can be recycled or sustainable made, fit for purpose characteristics \* learn about \*evaluate how much techniques to reused materials are purpose \* know about make product some \*talk about some key products cost to look good inventors/designer some inventors/designers/ make and how innovative \*work safely and s/ inventors/designe engineers/ they are hygienically engineers/chefs/ rs/ chefs/manufacturers \*research and discuss of groundbreaking manufacturers of engineers/chefs/ how sustainable manufacturers groundbreaking products materials are of groundproducts \*consider the impact of breaking products products beyond their intended purpose \*discuss some kev inventors/designers/ engineers/ chefs/manufacturers of groundbreaking products



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FURZEFIELD	EYFS	Year One	Year Two	End of Key	Year Three	Year Four	Year Five	Year Six	End of Key
<b>f</b> s				Stage 1					Stage 2
Thank SCHOO				Expectations					Expectations
Technical knowledge- materials/ structures		*begin to measure and join materials, with some support *describe differences in materials *suggest ways to make material/produc t stronger	*measure materials *describe some different characteristics of materials *join materials in different ways *use joining, rolling or folding to make it stronger *use own ideas to try to make product stronger	*Build structures, exploring how they can be made stronger, stiffer and more stable	*use appropriate materials *work accurately to make cuts and holes * join materials *begin to make strong structures	*measure carefully to avoid mistakes *attempt to make product strong *continue working on product even if original didn't work *make a strong, stiff structure	*select materials carefully, considering intended use of product and appearance *explain how product meets design criteria *measure accurately enough to ensure precision *ensure product is strong and fit for purpose *begin to reinforce and strengthen	*select materials carefully, considering intended use of the product, the aesthetics and functionality. *explain how product meets design criteria * reinforce and strengthen a 3D frame	*Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
Technical knowledge- mechanisms		*begin to use levers or	*use levers or slides *begin to understand how to use wheels and axles	*Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.	*select appropriate tools / techniques *alter product after checking, to make it better *begin to try new/different ideas *use simple lever and linkages to create movement	*select most appropriate tools / techniques *explain alterations to product after checking it *grow in confidence about trying new / different ideas. *use levers and linkages to create movement *use pneumatics to create movement	a 3D frame  *refine product after testing *grow in confidence about trying new / different ideas *begin to use cams, pulleys or gears to create movement	*refine product after testing, considering aesthetics, functionality and purpose *incorporate hydraulics and pneumatics *be confident to try new / different ideas *use cams, pulleys and gears to create movement	*Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]



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	-Use a variety of	*measure, cut	*measure textiles	*join different	*think about user	*think about user and	*think about user's	
	threading and	and join textiles	*join textiles	textiles in	when	aesthetics	wants/needs and	
	fine motor	to make a	together to	different ways	choosing textiles	when choosing	aesthetics when choosing	
	opportunities.	product, with	make a product,	*choose textiles	*think about how	textiles	textiles	
	-Explore texture	some	and explain	considering	to make	*to begin to devise	*make product attractive	
	and properties of	support	how I did it	appearance and	product strong	their own template	and strong	
	textiles	*choose	*carefully cut	functionality	* to use a	* think about how to	*make a prototype	
	-Use simple	suitable textiles	textiles to	*begin to	template	make product	*use a range of joining	
	weaving	-Begin to	produce accurate	understand that a	*explain how to	strong and look	techniques	
	techniques	identify	pieces	simple fabric	join things in a	better	*think about how product	
	-make a fabric	different forms	*explain choices	shape can be	different way	*think of a range of	might be	
	collage	of	of textile	used to make a 3D	*understand that	ways to join	sold	
		textiles/fabric	-To be shown how	textiles	a simple	things	*think carefully about	
		e.g.	to thread a	project	fabric shape can	*begin to understand	what would	
		felt, velvet,	needle.	- Begin to thread a	be used to	that a single	improve product	
		cotton.	-To use a running	needle	make a 3D textiles	3D textiles project	*understand that a single	
		-Continue to	stitch.	independently.	project	can be made	3D textiles	
es		develop	-To stitch two	-Continue to use a		from a combination	project can be made from	
Technical knowledge- textiles		understanding	pieces	running stitch and	-Thread a needle	of fabric	a	
- te		weaving	of fabric using a	introduce a back	independently.	shapes.	combination of fabric	
- Be		techniques.	running stitch.	stitch.	-Use a running	-Introduce a cross	shapes.	
je je		-Use different		-Apply decoration	and	stitch in	-Design, plan and	
NO N		fabrics and		using beads,	back stitch.	embroidery.	decorate a fabric	
눌		materials in		buttons,	-Apply decoration	-Use a variety of	piece.	
ica		collages.		feathers etc.	using needle and	techniques, e.g.	-Experiment with a	
chn				-Begin to modify	thread: buttons,	printing, dyeing,	variety of	
Tec				threads and	sequins.	weaving and	techniques.	
				fabrics,	-Gain experience	stitching to create	-Use a number of	
				knotting, fraying,	in	different textural	different hand stitches	
				fringing, pulling	applying colour by	effects.	creatively to	
				threads, twisting,	printing and using	-Demonstrate	produce different	
				plaiting	fabric crayons/	experience in	patterns and	
					paints.	combining	textures.	
					-Change and	techniques to	-To use a sewing machine	
					modify	produce an end	to create a useful product	
					threads and	piece: embroidery	such as a bag or cushion,	
					fabrics as in Y3.	over tie dye.	considering seam finishes	
						-Show awareness of	and product integrity.	
						the skills involved in	-To repurpose/ upcycle	
						aspects such as	textiles and consider the	
						knitting, lace	environmental factors in	
						making.	textile production and	
						-To use a sewing	use.	
						machine to join fabric		



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EURZEFIELD	EYFS	Year One	Year Two	End of Key	Year Three	Year Four	Year Five	Year Six	End of Key
<b>f</b> s				Stage 1					Stage 2
THINARY SCHOOL				Expectations					Expectations
	*Dania ta	*describe	*avalaia busiana	*Use the basic	*	*explain how to be	*explain how to be safe	*	*Understand and
	*Begin to understand some	textures	*explain hygiene and keep a	principles of a	*carefully select ingredients	safe/hygienic	/ hygienic	*understand a recipe can be adapted	apply the
	food	*wash hands &	hygienic kitchen	healthy and	*use equipment	*think about	and follow own	by adding / substituting	principles
	preparation tools,	clean surfaces	*describe properties	varied diet to	safely	presenting	guidelines	ingredients	of a healthy and
	techniques	*think of	of	prepare dishes	*make product look	product in	*present product well -	*explain seasonality of foods	varied diet
	and processes	interesting ways	ingredients and	*Understand	attractive	interesting/	interesting,	*learn about food processing	*Prepare and
	*Practise stirring,	to	importance	where food	*think about how to	attractive ways	attractive, fit for	methods	cook a
	mixing,	decorate food	of varied diet	comes from.	grow	*understand	purpose	*name some types of food	variety of
	pouring, blending	*say where some	*say where food		plants to use in	ingredients can be	*begin to understand	that are	predominantly
	*Discuss how to	foods come	comes from		cooking	fresh, pre-cooked or	seasonality	grown, reared or caught in	savoury dishes
	make an activity	from, (i.e. plant or	(animal,		*begin to	processed	of foods	the UK or	using
	safe and hygienic	animal)	underground etc.)		understand food	*begin to	*understand food can	wider world	a range of
_	*Discuss use of	*describe	*describe how food		comes from UK and	understand about	be grown,	*adapt recipes to change	cooking
ţi	senses	differences	is		wider	food being grown,	reared or caught in the	appearance,	techniques
Ė	*Understand need	between	farmed, home-		world	reared or	UK and the	taste, texture or aroma.	*Understand
Ē	for variety in	some food groups	grown, caught		*describe how	caught in the UK or	wider world	*describe some of the	seasonality, and
anc	food	(i.e. sweet,	*draw eat well		healthy diet=	wider world	*describe how recipes	different	know where and
Ö	*Begin to	vegetable etc.)	plate; explain		variety/balance of	*describe eat well	can be	substances in food and drink,	how
وَ	understand that	*discuss how fruit	there are groups of		food/drinks	plate and	adapted to change	and how	a variety of
با	eating	and	food		*explain how food	how a healthy	appearance,	they can affect health	ingredients are
80	well contributes to	vegetables are	*describe "five a		and drink	diet=variety /	taste, texture, aroma	*prepare and cook a variety	grown, reared,
Μ̈́	good health	healthy	day"		are needed for	balance of food and	*explain how there are	of savoury	caught and
è		*cut, peel and	*cut, peel and grate with		active/healthy bodies.	drinks	different substances in food /	dishes safely and hygienically	processed.
Technical knowledge- food and nutrition		grate safely, with support	increasing		*prepare and cook	*explain importance of food	drink needed	including, where appropriate, the use	
اج ا		with support	confidence		some	and drink for active,	for health	of heat source.	
- F			comidence		dishes safely and	healthy	*prepare and cook some	*use a range of techniques	
<u>P</u>					hygienically	bodies	savoury	confidently	
					*grow in confidence	*prepare and cook	dishes safely and	such as peeling, chopping,	
					using	some dishes	hygienically	slicing,	
					some of the	safely and	including, where	grating, mixing, spreading,	
					following	hygienically	appropriate, use	kneading	
					techniques: peeling,	*use some of the	of heat source	and baking.	
					chopping,	following	* use range of		
					slicing, grating,	techniques: peeling,	techniques such as		
					mixing,	chopping,	peeling, chopping,		
					spreading, kneading	slicing, grating,	slicing, grating,		
					and	mixing,	mixing, spreading,		
					baking	spreading, kneading	kneading and		
						and baking	baking.		



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FURZEFIEZ,	EYFS	Year One	Year Two	End of Key	Year Three	Year Four	Year Five	Year Six	End of Key
<b>I</b> S				Stage 1					Stage 2
MARY SCHO				Expectations					Expectations
_					*use simple circuit	*use number of	*incorporate switch	*use different types of	*Understand
trical					in product	components in	into product	circuit in	and use
ectr					*learn about how	circuit	*confidently use	product	electrical
ele					to program	*program a	number of	* think of ways in which	systems in
dge-					a computer to	computer to	components in circuit	adding a	their products
a ==					control	control product	*begin to be able to	circuit would improve	[for
owl					product.		program a	product	example, series
kne							computer to monitor	* program a computer to	circuits
cal							changes in	monitor	
ind							environment and	changes in environment	
echi-							control product	and control	
								product	