

## St Mary's Curriculum Progression Ladder for Design and Technology

## **Aims (From the National Curriculum)**

The national curriculum for Design and Technology aims to ensure that all pupils:

- Be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, leisure, culture, enterprise, industry and the wider environment].
- Be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also
  open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils
  to feed themselves and others affordably and well, now and in later life.
- Become competent in the DT skills needed to:
  - o Design, make, evaluate and apply technical knowledge to create a product.
  - o Understand and apply the principles of a healthy and varied diet, preparing meals using a range of cooking techniques, understanding where and how a variety of ingredients are grown, reared, caught and processed.

	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Background	Make choices about	Safely use and	Understand what a	Understand what a	Identify who made	Identify who made	Identify who made	Identify who made
Research -	which materials to	explore a variety of	product is and who it	product is and who it	the product, when it	the product, when it	the product, when it	the product, when it
Exploring	use when creating.	materials, tools and	is for.	is for.	was made and what	was made and what	was made and what	was made and what
context and		techniques,			its purpose is.	its purpose is.	its purpose is.	its purpose is.
existing		experimenting with	Understand how a	Understand how a				
products		colour, design,	product works and	product works and	Identify what the	Identify what the	Identify what the	Identify what the
		texture, form and	how it is used.	how it is used.	product has been	product has been	product has been	product has been
		function.			made from.	made from.	made from and how	made from and how
			Identify where you	Identify where you			environmentally	environmentally
			might find this	might find this	Evaluate the product	•	friendly the materials	friendly the materials
			product.	product.	on design and use.	on design and use.	are.	are.
				Identify the materials	Brain Builders:	Brain Builders:	Evaluate the product	Evaluate the product
				used to make the	Research facts	Research facts	on design,	on design,
				product.	about famous	about famous	appearance and	appearance and
					inventors/ chefs /	inventors/ chefs /	use.	use.
				Express an opinion	designers, etc.	designers, etc.		
				about the product.	linked to product.	linked to product.	Identify the cost to	Identify the cost to
							make the product.	make the product
								and whether it has
							Brain Builders:	any other purposes
							Research facts	eg. Leading
							about famous	innovation of the
							inventors/ chefs /	time, trend setting.
							designers, etc.	
							linked to product	Brain Builders:
								Research facts
								about famous
								inventors/ chefs /
								designers, etc.
								linked to product.

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Design Criteria -	Make choices about		Explain what product	Use own	Brain Builders:	Brain Builders:	Brain Builders:	Brain Builders:
Understanding	which materials to		they will be	experiences and	Understand and	Understand and	Understand and	Understand and
their intended	use when creating.		designing and	existing products to	gather information	gather information	gather information	gather information
users and their			making.	develop ideas.	about what a	about what a	about what a	about what a
own product					particular group or	particular group or	particular group or	particular group or
			Explain who their	Explain what product	people want from a			
			product will be used	they will be	product.	product.	product, using	product, using
			by.	designing and			questionnaires,	questionnaires,
				makin.	Describe the	Describe the	surveys etc.	surveys etc.
			Describe what their		purpose of their	purpose of their		
			product will be used	Explain who their	product and how it	product.	Describe the	Describe the
			for.	product will be used	will work.		purpose of their	purpose of their
				by.		Identify design	product.	product.
					Identify design	features that will		
				Describe what their	features that will	appeal to intended	Identify design	Identify design
				product will be used	appeal to intended	users.	features that will	features that will
				for and how it will	users.		appeal to intended	appeal to intended
				work.		Explain how parts of	users.	users.
					Explain how parts of	their product work.		
				Explain why their	their product work.		Explain how parts of	Explain how parts of
				product is suitable		Develop their own	their product will	their product will
				for the intended	Generate realistic	design criteria and	work.	work.
				user.	ideas that meet	use for planning		
					needs of user.	ideas.	Develop their own	Create a design
							design criteria and	description for their
						Generate realistic	use for planning	product.
						ideas that meet	ideas.	
						needs of user and		Highlight the impact
						take into account	Generate innovative	of time, resources
						availability of	ideas that meet	and cost within their
						resources.	needs of user and	design ideas.
							take into account	
							availability of	Generate innovative
							resources.	ideas that meet
							_	needs of user.

Diamaian	0	Diameter 1	Diameter to the total of the control	Observations	Observation and allies	Observation	Observation and allians
Planning –	Create	Discuss what their	Discuss what their	Share and discuss	Share and discuss	Share and discuss	Share and discuss
	collaboratively to	steps for making	steps for making	ideas with others.	ideas with others.	ideas with others.	ideas with others.
Communicating	share ideas and	could be.	could be.				
ideas and	skills.	Represent ideas		Order the main	Order the main	Record a step by	Record a step by
creating		through talking and	Represent ideas	stages of making.	stages of making.	step plan for making.	step plan for making.
prototypes for	Begin to refine	drawing.	through talking,				
product	techniques to		drawing and	Choose materials to	Choose materials to	Produce lists for the	Produce lists for the
	express their ideas		computing – (where	use based on	use based on	tools, equipment and	tools, equipment and
	and feelings.		appropriate).	suitability of their	suitability of their	materials they will be	materials they will be
				properties.	properties.	using.	using.
			Choose materials to				
			use based on	Represent ideas in	Represent ideas in	Choose materials to	Choose materials to
			suitability of their	diagrams, annotated	diagrams, annotated	use based on	use based on
			properties.	sketches and	sketches and	suitability of their	suitability of their
				computer based	computer based	properties and	properties and
			Create	programmes (where	programmes (where	aesthetic qualities.	aesthetic qualities.
			templates/pattern	appropriate).	appropriate).		
			pieces and explore			Represent ideas in	Represent ideas in
			materials whilst	Create pattern	Create pattern	diagrams, annotated	diagrams, annotated
			developing ideas.	pieces and	pieces and	sketches and	sketches and
				prototypes.	prototypes.	computer based	computer based
						programmes (where	programmes (where
						appropriate).	appropriate).
						Create pattern	Create pattern
						pieces and	pieces and
						prototypes.	prototypes.
						prototypeo.	prototypes.

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Making –	Join different	Make use of props	Across KS1: Use	Across KS1: Use	Across KS2: Use	Across KS2: Use	Across KS2: Use	Across KS2: Use
	materials together	and materials when	materials -	materials -	materials -	materials -	materials -	materials -
	using tape and glue,	role playing	construction	construction	construction	construction	construction	construction
l'	paperclips, fasteners	characters in	materials and kits,	materials and kits,	materials and kits,	materials and kits,	materials and kits,	materials and kits,
applying the	etc.	narratives and	textiles, food and	textiles, food and	textiles, food,	textiles, food,	textiles, food,	textiles, food,
practical skills	Harana bandad	stories.	mechanical	mechanical	mechanical and	mechanical and	mechanical and	mechanical and
and techniques	Use one-handed	Charren amarrila a	components.	components .	electrical	electrical	electrical	electrical
	tools such as	Show growing	Chasas avitable	Chases suitable	components .	components .	components .	components.
1.	paintbrushes,	competence using a	Choose suitable	Choose suitable	Chassa suitable	Chana avitable	Channa avitable	Obacca avitable
	pencils and scissors	range of tool safely	tools for making.	tools for making	Choose suitable tools for making	Choose suitable tools for making	Choose suitable tools for making	Choose suitable tools for making
١,	Maka anina in nanar	and confidently: -	Collow and	whilst explaining why		J	·	J
['	Make snips in paper	Colonoro movina	Follow safety and	they should be used.	whilst explaining why	, ,	whilst explaining why	whilst explaining why
	using scissors	Scissors – moving wrist and hands to	food hygiene procedures.	Follow safety and	they should be used.			
		cut (not arms) with	procedures.	food hygiene	Use design criteria	Use design criteria	Use design criteria	Use design criteria
1.	Snips paper moving	` ,	Measure, mark, cut	procedures.	whilst making.	whilst making.	whilst making.	whilst making.
[ '	scissors forwards	growing accuracy along curved,	and shape materials	procedures.	willist making.	willist making.	willist making.	willist making.
	Scissors forwards	straight and zig zag	and components.	Measure, mark, cut	Follow safety and	Follow safety and	Follow safety and	Follow safety and
	Begins to cut in a	lines	and components.	and shape materials	food hygiene	food hygiene	food hygiene	food hygiene
	line holding the	IIIIC3	Join, assemble and	and components.	procedures.	procedures.	procedures.	procedures.
<sub>r</sub>	paper with their non-	Cutlery – use both	combine materials	and components.	procedures.	procedures.	procedures.	procedures.
	dominant hand	knife and fork	and components.	Join, assemble and	Measure, mark, cut	Measure, mark, cut	Measure, mark, cut	Measure, mark, cut
	dominanthana	simultaneously	and components.	combine materials	and shape materials	and shape materials	and shape materials	and shape materials
	Demonstrate	Simultaneously		and components.	and components	and components	and components	and components
	growing	Paintbrush – make a		and componente.	with some accuracy.	with some accuracy.	accurately.	accurately.
	independence	range of marks –		Use finishing	l como accaracy.	man como accaracy.	4004.4.0.7.	accaratory.
l <sub>n</sub>	outting on a coat and	dot, dash,		techniques, including	Join, assemble and	Join, assemble and	Join, assemble and	Join, assemble and
	shoes, begin to do	continuous lines,		skills learnt in Art.	combine materials	combine materials	combine materials	combine materials
	up zips and poppers	straight and curved			and components	and components	and components	and components
	· · · · ·	marks, show control			with some accuracy.	with some accuracy.	accurately.	accurately.
1	Begin to use a knife	staying within lines			,	,	,	,
	and fork	, ,			Use finishing	Use finishing	Demonstrate	Demonstrate
					techniques, including	techniques, including	problem solving	problem solving
					skills learnt in Art	skills learnt in Art	skills when	skills when
					with some accuracy.	with some accuracy.	encountering a	encountering a
						-	mistake or practical	mistake or practical
							problem.	problem.
							Use finishing	Use finishing
							techniques, including	techniques that
	l						skills learnt in Art	involve a number of
							accurately.	steps, including skills
								learnt in Art
					1			accurately.

Evaluation – Referring to planning and initial ideas in evaluating their product.	Share their creation and explain the process they have used.	Talk about their design ideas and what they have made.  Make simple judgements of how the product met their design ideas.	Talk about their design ideas and what they have made.  Make simple judgements of how the product met their design ideas.  Suggest how their product could be improved.	Use design criteria to evaluate product – identifying both strengths and areas for development.  Consider the views of others, including intended user, whilst evaluating product.	Use design criteria to evaluate product – identifying both strengths and areas for development.  Consider the views of others, including intended user, whilst evaluating product.	Use design criteria to evaluate product – identifying both strengths and areas for development.  Consider the views of others, including intended user, whilst evaluating product.	Use design criteria to evaluate product – looking at quality of end product and design and whether it is fit for its intended purpose.  Consider the views of others, including intended user, whilst evaluating product.
Teaching cooking and nutrition  Understanding food and food preparation.		Across KS1: Understand that food comes from plants or animals.  Understand that food has to be farmed, caught, or grown.		Lower KS2: Understand which foods are reared, caught, or grown and that this happens in the UK and across the globe.  Understand that recipes can be changed by adding or taking away ingredients.  Understand that the seasons can affect food produce.		Upper KS2: Understand which foods are reared, caught, or grown and that this happens in the UK and across the globe.  Understand that the seasons can affect food produce. Understand that sometimes raw ingredients need to be processed before they can be used in cooking (eg. De-feathering a chicken).  Understand that recipes can be adapted to change the appearance, taste and aroma of a dish.	

Teaching	Across KS1:	Lower KS2:	Upper KS2:
cooking and	Sort foods into the 5	Sort foods into the 5	Sort foods into the 5
nutrition	groups using The	groups using The	groups using The
Food	Eatwell Plate.	Eatwell Plate and	Eatwell Plate and
preparation,		identify that this	identify that this
cooking and	Identify that people	makes up a healthy	makes up a healthy
nutrition	should eat at least 5	diet.	diet.
	portions of fruit and		
	vegetables a day.	Identify that food and	Identify that food and
		drink are needed to	drink provide certain
	Prepare simple	provide energy for a	nutritional and health
	dishes hygienically	healthy and active	benefits which
	and safely without a	lifestyle.	support a healthy
	heat source.		lifestyle.
		Identify that people	
	Use cooking	should eat at least 5	Identify that people
	techniques such as:	portions of fruit and	should eat at least 5
	cutting, peeling and	vegetables a day.	portions of fruit and
	grating.		vegetables a day.
		Prepare simple	
		dishes hygienically	Prepare simple
		and safely, where	dishes hygienically
		needed with a heat	and safely, where
		source.	needed with a heat
			source.
		Use cooking	
		techniques such as:	Use cooking
		chopping, peeling,	techniques such as:
		grating slicing,	chopping, peeling,
		mixing, spreading,	grating slicing,
		kneading and	mixing, spreading,
		baking.	kneading and
			baking.