



## **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:
  - Design, make, evaluate and apply technical knowledge to create a product.
  - 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
<b>Background Research – Exploring context and existing products</b>	Make choices about which materials to use when creating.	Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	<p>Understand what a product is and who it is for.</p> <p>Understand how a product works and how it is used.</p> <p>Identify where you might find this product.</p>	<p>Understand what a product is and who it is for.</p> <p>Understand how a product works and how it is used.</p> <p>Identify where you might find this product.</p> <p>Identify the materials used to make the product.</p> <p>Express an opinion about the product.</p>	<p>Identify who made the product, when it was made and what its purpose is.</p> <p>Identify what the product has been made from.</p> <p>Evaluate the product on design and use.</p> <p>Brain Builders: Research facts about famous inventors/ chefs / designers, etc. linked to product.</p>	<p>Identify who made the product, when it was made and what its purpose is.</p> <p>Identify what the product has been made from.</p> <p>Evaluate the product on design and use.</p> <p>Brain Builders: Research facts about famous inventors/ chefs / designers, etc. linked to product.</p>	<p>Identify who made the product, when it was made and what its purpose is.</p> <p>Identify what the product has been made from and how environmentally friendly the materials are.</p> <p>Evaluate the product on design, appearance and use.</p> <p>Identify the cost to make the product.</p> <p>Brain Builders: Research facts about famous inventors/ chefs / designers, etc. linked to product</p>	<p>Identify who made the product, when it was made and what its purpose is.</p> <p>Identify what the product has been made from and how environmentally friendly the materials are.</p> <p>Evaluate the product on design, appearance and use.</p> <p>Identify the cost to make the product and whether it has any other purposes eg. Leading innovation of the time, trend setting.</p> <p>Brain Builders: Research facts about famous inventors/ chefs / designers, etc. linked to product.</p>

<b>Design Criteria – Understanding their intended users and their own product</b>	Make choices about which materials to use when creating.		Explain what product they will be designing and making.  Explain who their product will be used by.  Describe what their product will be used for.	Use own experiences and existing products to develop ideas.  Explain what product they will be designing and making.  Explain who their product will be used by.  Describe what their product will be used for and how it will work.  Explain why their product is suitable for the intended user.	Brain Builders: Understand and gather information about what a particular group or people want from a product.  Describe the purpose of their product and how it will work.  Identify design features that will appeal to intended users.  Explain how parts of their product work.  Generate realistic ideas that meet needs of user.	Brain Builders: Understand and gather information about what a particular group or people want from a product.  Describe the purpose of their product.  Identify design features that will appeal to intended users.  Explain how parts of their product work.  Develop their own design criteria and use for planning ideas.  Generate realistic ideas that meet needs of user and take into account availability of resources.	Brain Builders: Understand and gather information about what a particular group or people want from a product, using questionnaires, surveys etc.  Describe the purpose of their product.  Identify design features that will appeal to intended users.  Explain how parts of their product will work.  Develop their own design criteria and use for planning ideas.  Generate innovative ideas that meet needs of user and take into account availability of resources.	Brain Builders: Understand and gather information about what a particular group or people want from a product, using questionnaires, surveys etc.  Describe the purpose of their product.  Identify design features that will appeal to intended users.  Explain how parts of their product will work.  Create a design description for their product.  Highlight the impact of time, resources and cost within their design ideas.  Generate innovative ideas that meet needs of user.
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<p><b>Planning – Communicating ideas and creating prototypes for product</b></p>		<p>Create collaboratively to share ideas and skills.</p> <p>Begin to refine techniques to express their ideas and feelings.</p>	<p>Discuss what their steps for making could be.</p> <p>Represent ideas through talking and drawing.</p>	<p>Discuss what their steps for making could be.</p> <p>Represent ideas through talking, drawing and computing – (where appropriate).</p> <p>Choose materials to use based on suitability of their properties.</p> <p>Create templates/pattern pieces and explore materials whilst developing ideas.</p>	<p>Share and discuss ideas with others.</p> <p>Order the main stages of making.</p> <p>Choose materials to use based on suitability of their properties.</p> <p>Represent ideas in diagrams, annotated sketches and computer based programmes (where appropriate).</p> <p>Create pattern pieces and prototypes .</p>	<p>Share and discuss ideas with others.</p> <p>Order the main stages of making.</p> <p>Choose materials to use based on suitability of their properties.</p> <p>Represent ideas in diagrams, annotated sketches and computer based programmes (where appropriate).</p> <p>Create pattern pieces and prototypes.</p>	<p>Share and discuss ideas with others.</p> <p>Record a step by step plan for making.</p> <p>Produce lists for the tools, equipment and materials they will be using.</p> <p>Choose materials to use based on suitability of their properties and aesthetic qualities.</p> <p>Represent ideas in diagrams, annotated sketches and computer based programmes (where appropriate).</p> <p>Create pattern pieces and prototypes.</p>	<p>Share and discuss ideas with others.</p> <p>Record a step by step plan for making.</p> <p>Produce lists for the tools, equipment and materials they will be using.</p> <p>Choose materials to use based on suitability of their properties and aesthetic qualities.</p> <p>Represent ideas in diagrams, annotated sketches and computer based programmes (where appropriate).</p> <p>Create pattern pieces and prototypes.</p>
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<b>Making – Selecting the tools and applying the practical skills and techniques</b>	Join different materials together using tape and glue, paperclips, fasteners etc.	Make use of props and materials when role playing characters in narratives and stories.	Across KS1: Use materials - construction materials and kits, textiles, food and mechanical components .	Across KS1: Use materials - construction materials and kits, textiles, food and mechanical components .	Across KS2: Use materials - construction materials and kits, textiles, food, mechanical and electrical components .	Across KS2: Use materials - construction materials and kits, textiles, food, mechanical and electrical components .	Across KS2: Use materials - construction materials and kits, textiles, food, mechanical and electrical components .	Across KS2: Use materials - construction materials and kits, textiles, food, mechanical and electrical components .
	Use one-handed tools such as paintbrushes, pencils and scissors	Show growing competence using a range of tool safely and confidently: -	Choose suitable tools for making.	Choose suitable tools for making whilst explaining why they should be used.	Choose suitable tools for making whilst explaining why they should be used.	Choose suitable tools for making whilst explaining why they should be used.	Choose suitable tools for making whilst explaining why they should be used.	Choose suitable tools for making whilst explaining why they should be used.
	Make snips in paper using scissors	Scissors – moving wrist and hands to cut (not arms) with growing accuracy along curved, straight and zig zag lines	Follow safety and food hygiene procedures.	Follow safety and food hygiene procedures.	Use design criteria whilst making.	Use design criteria whilst making.	Use design criteria whilst making.	Use design criteria whilst making.
	Snips paper moving scissors forwards		Measure, mark, cut and shape materials and components.	Measure, mark, cut and shape materials and components.	Follow safety and food hygiene procedures.	Follow safety and food hygiene procedures.	Follow safety and food hygiene procedures.	Follow safety and food hygiene procedures.
	Begins to cut in a line holding the paper with their non-dominant hand	Cutlery – use both knife and fork simultaneously	Join, assemble and combine materials and components.	Join, assemble and combine materials and components.	Measure, mark, cut and shape materials and components with some accuracy.	Measure, mark, cut and shape materials and components with some accuracy.	Measure, mark, cut and shape materials and components accurately.	Measure, mark, cut and shape materials and components accurately.
	Demonstrate growing independence putting on a coat and shoes, begin to do up zips and poppers	Paintbrush – make a range of marks – dot, dash, continuous lines, straight and curved marks, show control staying within lines		Use finishing techniques, including skills learnt in Art.	Join, assemble and combine materials and components with some accuracy.	Join, assemble and combine materials and components with some accuracy.	Join, assemble and combine materials and components accurately.	Join, assemble and combine materials and components accurately.
	Begin to use a knife and fork				Use finishing techniques, including skills learnt in Art with some accuracy.	Use finishing techniques, including skills learnt in Art with some accuracy.	Demonstrate problem solving skills when encountering a mistake or practical problem.	Demonstrate problem solving skills when encountering a mistake or practical problem.
							Use finishing techniques, including skills learnt in Art accurately.	Use finishing techniques that involve a number of steps, including skills learnt in Art accurately.

<b>Evaluation – Referring to planning and initial ideas in evaluating their product.</b>		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.
<b>Teaching cooking and nutrition</b>  <b>Understanding food and food preparation.</b>			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.	

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