St. Joseph's Catholic Primary School

Key Stage 1 Design and Technology Progression Overview

	Design		Make		Evaluate			Technical Knowledge	Food Technology	
NC LO	- design purposeful, functional, appealing products for themselves and other users based on design criteria - generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology		- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] - select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics		explore and evaluate a range of existing products evaluate their ideas and products against design criteria			- build structures, exploring how they can be made stronger, stiffer and more stable - explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products	- use the basic principles of a healthy and varied diet to prepare dishes - understand where food comes from.	
Yr	**Context, Uses & Purposes**	**Ideas**	**Planning**	**Practical Skills & Techniques**	**Own Ideas and Products**	**Existing Products**	**Key Events/ Individuals**	**Making Products Work**	**Where Food Comes From**	**Food Preparation, Cooking & Nutrition**
Year 1	D1 State the purpose of the design and the intended user	D2 use own ideas to design something and describe how their own idea works D3 explain to someone else how they want to make their product and make a simple plan before making **Use imagination to form simple images from given starting points or a description**	M1 Choose from appropriate resources and tools **Begin to control lines to create simple drawings**	M2 Follow procedures for safety M3 Assemble join and combine materials and components M4 Use simple fixing materials e.g – paper clips tape, glue staples **Know how to roll, squeeze and press clay to make shapes and add materials to make textures** **Use thick felt tip pens, crayons, pastels, chalks Hold a large paintbrush correctly**	E1 Talk about their design ideas and what they are making E2Make simple judgements about their products **Describe what can be seen and give an opinion about the work of an artist Ask questions about a piece of art**	E3Explore- what products are, who they are for, how they are made and what materials are used		TK 1Understand how to make their model stronger TK 2Know how to use wheels and axles, when appropriate to do so	FT 1Know where food comes from	FT 2Prepare simple dishes safely and hygienically, without using a heat sources

Year 2	D1 State the purpose of the design and the intended user	D2 use own ideas to design something and describe how their own idea works D3 think of an idea and plan what to do next - explain why they have chosen specific textiles **Work from observation and known objects**	M1 Select from a range of tools and equipment explaining their choices and according to their characteristics	M2 Use and make own templates -M3 Measure mark out, cut out and shape materials and components M4 Use finishing techniques, including those from art and design **Begin to form own 3D pieces** **Know how to make a clay pot and how to join clay together** **Begin to use tools to sculpt clay.** **Create a design by cutting shaping and arranging different materials.** **Know how to mix paints to create all the secondary colours** **Know how to create tints by adding whites** **Know how to create tones by adding black** **Explore the relationship between mood and colour.**	-E1 Make simple judgements about their products and ideas against design criteria E2 Suggest how their products could be improved -E3 Evaluating products and components used **Suggest how artists have used colour to create mood** **Consider specific works of other artisits/designers**	E4 Explore- what products are, who they are for, how they are made and what materials are used		TK 1 Understand about the simple working characteristics of materials and components TK 2 Know the correct technical vocabulary for the projects they are undertaking TK3 Understand how freestanding structures can be made stronger, stiffer and more stable	FT 1Know where food comes from	-FT2 Use the basic principles of a healthy diet to prepare dishes FT3 Use appropriate equipment to weigh and measure ingredients FT4 Prepare simple dishes safely and hygienically, without using a heat sources

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Lower Key Stage 2 Design and Technology Progression Overview

	Design		Make		Evaluate			Technical Knowledge	Food Technology	
NC LO	*use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups* *generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design*		*select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately* *select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities*		*investigate and analyse a range of existing products* *evaluate their ideas and products against their own design criteria and consider the views of others to improve their work* *understand how key events and individuals in design and technology have helped shape the world*			*apply their understanding of how to strengthen, stiffen and reinforce more complex structures* *understand and use mechanical systems in their products* *understand and use electrical systems in their products* *apply their understanding of computing to program, monitor and control their products.*	*understand and apply the principles of a healthy and varied diet* *prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques* *understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed*	
Yr	**Context, Uses & Purposes**	**Ideas**	**Planning**	**Practical Skills & Techniques**	**Own Ideas and Products**	**Existing Products**	**Key Events/ Individuals**	**Making Products Work**	**Where Food Comes From**	**Food Prep, Cooking & Nutrition**
3	Gather information about the needs and wants of particular individuals and groups Develop their own design criteria and use these to inform their ideas	Share and clarify ideas through discussion Model their ideas using prototypes and pattern pieces **Use sketch books to produce a final piece of art**	Select tools and equipment suitable for the task Explain their choice of tools and equipment in relation to the skills and techniques they will be using **Use different grades of pencil to shade and to show tones and textures** **Use a range of brushes to create different effects in painting**	Follow procedures for safety Use a wider range of materials and components, including construction materials and kits, food ingredients. Measure mark out, cut out and shape materials with some accuracy **Select tools and equipment suitable for the task** **Explain their choice of tools and equipment in relation to the skills and techniques they will be using** **Select materials and components suitable for the task** **Develop confidence working with clay adding greater detail and texture** **Add colour once clay is dried.**	Identify the strengths and weaknesses of their own products Explain how to improve a finished model	Investigate - design, materials , what methods of construction have been used, how well products work, how well products achieve their purposes and how well products meet user needs and wants	Identify great designers and their work and use research of designers to influence work Robert Stephenson Lord Armstrong	know how to strengthen a product by stiffening a given part or reinforce a part of the structure Know that a single fabric shape can be used to make a 3D textiles product	Know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world	weigh out ingredients and follow a given recipe to create a dish Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading & baking talk about which food is healthy & which food is not

4	use ideas from other people when designing produce a plan and explain it persevere and adapt work when original ideas do not work	Communicate ideas in a range of ways, including by sketches and drawings which are annotated Begin to use Computer Aided Design **Use sketch books to record observations**	Select tools and equipment suitable for the task Explain their choice of tools and equipment in relation to the skills and techniques they will be using Select materials and components suitable for the task **Know how to use line, tone shape and colour to represent figures** **Draw using a variety of tools and surfaces.**	Follow procedures for safety Use a wider range of materials and components, Measure mark out, cut out and shape materials with some accuracy Assemble, join and combine materials and components with some accuracy apply a range of finishing techniques, include those from art and design, with some accuracy **Experiment with colour to create more abstract colour palettes- blues for leaves** **Experiment with watercolour** **Explore intensity of colour to develop shades** **Know how to print on different materials** **Investigate ways of joining clay-scratch and slip** **Create work on a larger scale-** **Use pipe cleaners/wire to create sculptures of human forms.**	Identify the strengths and weaknesses of their ideas and products Consider the views of others, including intended users, to improve their work Refer back to their design criteria as they design and make Use their design criteria to evaluate their completed products	Investigate – who, when and where products were designed and made, and whether products can be recycled or reused	**Anthony Gormley-sculptor**	links scientific knowledge by using lights, switches or buzzers use electrical systems to enhance the quality of the product use IT, where appropriate, to add to the quality of the product	Know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world	How to prepare and cook a variety of dishes safely using a heat source and a range of techniques bring a creative element to the food product being designed

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Upper Key Stage 2 Design and Technology Progression Overview

	Design		Make		Evaluate			Technical Knowledge	Food Technology	
NC LO	*use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups* *generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design*		*select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately* *select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities*		*investigate and analyse a range of existing products* *evaluate their ideas and products against their own design criteria and consider the views of others to improve their work* *understand how key events and individuals in design and technology have helped shape the world*			*apply their understanding of how to strengthen, stiffen and reinforce more complex structures* *understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]* *understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]* *apply their understanding of computing to program, monitor and control their products.*	*understand and apply the principles of a healthy and varied diet* *prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques* *understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed*	
Yr	**Context, Uses & Purposes**	**Ideas**	**Planning**	**Practical Skills & Techniques**	**Own Ideas and Products**	**Existing Products**	**Key Events/ Individuals**	**Making Products Work**	**Where Food Comes From**	**Food Preparation, Cooking & Nutrition**
5	Carry out research, using surveys, interviews, questionnaires Identify the needs, wants, preferences and values of particular individuals and groups	Generate innovative ideas, drawing on research Improve quality of sketch books with mixed media work and annotations. Know which media to use to create maximum impact.	Explain their choice of materials and components according to properties and aesthetic qualities Produce detailed lists of tools, equipment that they need	Follow procedures for safety Use a wider range of materials, tools and components Accurately measure to nearest mm, mark out, cut and shape materials Accurately assemble, join and combine materials/component Use first hand observations using different viewpoints, developing more abstract representations of people/buildings Develop a sense of proportion when drawing Know how to organise line, tone shape and colour to represent features	Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make	Investigate - how much products cost to make, how innovative products are and how sustainable the materials in products are	Identify great designers and their work and use research of designers to influence work Use the work of artists to replicate ideas or inspire own work:	Understand how pneumatic systems create movement Understand how cams, pulleys and gears create movement Know how to make strong, stiff shell structures	Know that seasons may affect the food available and understand how food is processed into ingredients that can be eaten or used in cooking	Prepare dishes safely and hygienically using a heat source Use a range of techniques Know that recipes can be adapted to change the appearance, taste, texture and aroma

				Introduce perspective, fore/back and middle ground Integrate digital images into artwork.						
6	Use market research to develop a simple design specification	Make design decisions, taking account of constraints such as time, resources and cost Develop prototypes	Explain their choice of materials and components according to functional properties and aesthetic qualities Order the main stages of making Produce detailed lists of tools, equipment and materials that they need	know which tool to use for a specific practical task know how to use any tool correctly and safely know what each tool is used for explain why a specific tool is best for a specific action Use techniques that involve a number of steps Use a range of mediums on a range of backgrounds To produce increasingly accurate drawings of people Know how to organise line, tone shape and colour to represent objects in nature. . Use a full range of pencils, charcoals, inks and pastels when creating a piece of observational art. Explore environmental patterns focusing on shape, form, pattern and colour.	Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make Compare their ideas and products to their original design specification	Investigate - how much products cost to make, how innovative products are and how sustainable the materials in products are	Identify great designers and their work and use research of designers to influence work Use the work of artists to replicate ideas or inspire own work:	Know how to reinforce and strengthen a 3D framework Know that a 3D textiles product can be made from a combination of shapes	Know that seasons may affect the food available and understand how food is processed into ingredients that can be eaten or used in cooking	Prepare dishes safely and hygienically using a heat source Use a range of techniques Know that recipes can be adapted to change the appearance, taste, texture and aroma