St Joseph's Catholic Primary School

St. Alban
Catholic Schools' Partnership

Knowledge and Skills – Progression Ladder

Subject: Design and Technology (DT) Years: 1-6							
YEAR GROUP	**EYFS**	**YEAR 1**	**YEAR 2**	**YEAR 3**	**YEAR 4**	**YEAR 5**	**YEAR 6**
Products		Knows what products are and how to identify them.	Can name key products of current day and the past.			Recognise that key events and individuals in design and technology have helped shape the world.	Understand how key events and individuals in design and technology have helped shape the world.
	Use talk & listening to: • Explore new vocabulary • Explain why things happen/how they work	Explore and evaluate a range of existing products.	Evaluates products against design criteria.	Begin to investigate and analyse a range of products.	Investigate and analyse a range of products.	A knowledge of aesthetics and good design.	A knowledge of products which have achieved aesthetics and design well.
				Conduct surveys to find out more information.	Use questionnaires to find out more information.	Familiar with a range of research methodology	Knowledge of research methodology including: surveys/questionnaires/interviews.
Design: Purposes		Knows what design criteria are and key elements which make it up;	Design purposeful, functional, appealing products for themselves	Use research and design criteria to develop products aimed at specific individuals.	Use research and develop design criteria to inform the design of functional, appealing products that	Use research and develop design criteria to inform the design of functional, appealing products that are fit for purpose, aimed at	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.

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St. Alban
Catholic Schools' Partnership

Knowledge and Skills – Progression Ladder

		Understands 'purpose' Recognise that design is a cyclical process	and other users based on the design criteria. Understands that design is a cyclical process		are aimed at particular individuals.	particular individuals and groups.	SMSC & British Values: knowledge of democratic systems for research and why they are fundamental to society.
			Knows designing can be for oneself and for a user; Understands 'user.'	Recognise that the user has requirements.	Identify the user's requirements.	Understanding the user's requirements support direction of design process.	Understanding the user's requirements support direction of design process.
						Understands function and aesthetics.	The aim of design to create a balance between function and aesthetics.
Design: Drawings					Recognise different types of diagrams	Be familiar with a range of diagrams.	Know and understand different types of diagrams and ways of presenting ideas.
	Carefully develop and share ideas, experiences and imagination independently or collaboratively.	Mind-mapping, sketching, labelled drawings, simple modelling (2D).	Generate, develop, model and communicate ideas through talking, drawing, templates, mock-ups (and ICT).	Generate, develop, model and communicate ideas through discussion, annotated sketches and prototypes (2D).	Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional diagrams and prototypes (2D).	Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes and pattern pieces (3D).	Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design (3D).

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St. Alban
Catholic Schools' Partnership

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Technical Knowledge: Processes	Understand some important processes and changes in the natural world and around them.	Understand what a mechanism is, such as levers, switches and linkages, and begin to understand how they work.	Explore and use mechanisms, in their products.	Use mechanical systems e.g. gears, pulleys, levers in their products.		Understand mechanical systems. Use mechanical systems e.g. gears, pulleys, levers in their products.	
Technical Knowledge: Processes cont.	Know a range of joining techniques, such as gluing, taping, tying, stapling etc	Know an increasing range of joining techniques, such as gluing, taping, tying, stapling etc Explores a range of construction principles and comments on successes. Know how to improve a structure.	Knows key principles of structure building including: leverage, weight-loading, strong shapes e.g. arches/triangles etc. Build structures, exploring how they can be made stronger, stiffer and more stable	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
					Understand the name and uses of electrical equipment. Understand electrical systems. Use electrical systems in their products e.g. circuits		
							Apply their understanding of computing to programme, monitor and control their products.

St Joseph's Catholic Primary School

St. Alban
Catholic Schools' Partnership

Knowledge and Skills – Progression Ladder

Make: Tools and Equipment	Identify a range of tools. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons.	The name of an increasing range of tools and equipment and how they work. Use an increasing range of tools and equipment to perform practical tasks.	The name of a range of tools and equipment and how they work, such as glue guns, knives, cutters, needles and rulers. Select from and use a range of tools and equipment to perform practical tasks.	The name of a wide range of tools and equipment and how they work. such as saws, hammers, glue guns, knives, cutters, needles and rulers. Select from and use a wider range of tools and equipment to perform practical tasks accurately.	The name of a wide range of tools and equipment and how they work. such as saws, hammers, clamps, glue guns, batteries, knives, cutters, needles and rulers. Select from and use a wider range of tools and equipment to perform practical tasks accurately.	The name of a wide range of tools and equipment and how they work. such as saws, hammers, drills, clamps, glue guns, batteries, knives, cutters, needles and rulers. Select from and use a wider range of tools and equipment to perform practical tasks accurately.	The name of a wide range of tools and equipment and how they work, such as saws, hammers, drills, clamps, glue guns, batteries, knives, cutters, needles and rulers. Select from and use a wider range of tools and equipment to perform practical tasks accurately.
Make: Materials	Identify a range of materials. Use various construction materials and tools effectively with precision and to solve problems.	The name and characteristics of key materials and components. Select from and use a wide range of materials and components including construction materials and textiles according to their characteristics.	The name and characteristics of key materials and components. Select from and use a wide range of materials and components including construction materials and textiles according to their characteristics.	The name and characteristics of a wide range of key materials and components. Select from and use a wider range of materials and components including construction materials.	The name and characteristics of a wide range of key materials and components. Select from and use a wider range of materials and components including construction material and textiles.	The name and characteristics of a wider range of key materials and components. Select from and use a wider range of materials and components including construction material and textiles, according to their functional properties.	The name and characteristics of a wider range of key materials and components. Select from and use a wider range of materials and components including construction material and textiles, according to their functional properties and aesthetic qualities
		Knows how to tie a knot. Thread a needle.	Knows how to tie a double knot.				Knows how to increase the strength of a double knot.

St Joseph's Catholic Primary School

St. Alban
Catholic Schools' Partnership

Knowledge and Skills – Progression Ladder

		Use a basic running stitch for decoration and attachment. Knows sewing is used for decoration and attachment.	Use basic blanket stitch for decoration and attachment.				Use back stitch and cross stitch for decoration and attachment.
Make: Processes	Follows instructions safely. Listens carefully and knows why it is so important.	Able to follow instructions accurately	Knows how to break down a practical task into individual steps.				
		Understands how to measure materials and ingredients.	Able to measure materials and ingredients accurately				
			Understand that products can be made better	Recognise a range of ways in which products could be improved.	Recognise a range of ways in which products could be improved.	Knowledge of how products could be improved	Knowledge of how products could be improved

St Joseph's Catholic Primary School

St. Alban
Catholic Schools' Partnership

Knowledge and Skills – Progression Ladder

Evaluate: Critiquing own work		Able to answer questions about their product.	Able to ask questions.				
		Compare and evaluate their ideas against given design criteria. CoEL (GM): resilience in learning from mistakes.	Evaluate their ideas against their own design criteria and consider the views of others to improve their work. CoEL (GM): resilience in learning from mistakes.	Evaluate and improve their ideas against their own design criteria and consider the views of others to improve their work. CoEL (GM): resilience in learning from mistakes.	Evaluate and improve their ideas against their own design criteria and consider the views of others to improve their work. CoEL (GM): resilience in learning from mistakes.	Evaluate and improve their ideas against their own design criteria and consider the views of others to improve their work. CoEL (GM): resilience in learning from mistakes.	Evaluate and improve their ideas against their own design criteria and consider the views of others to improve their work. CoEL (GM): resilience in learning from mistakes.
Nutrition and Cooking: Food		Understand where food comes from. Know the principles of a healthy, varied diet. Diversity: Knowledge of key foods and products from a range of cultures.	Understand the principles of a healthy and varied diet.	Understand the principles of a healthy and varied diet		Understand the source and characteristics of a broad range of ingredients.	Understand the source, seasonality and characteristics of a broad range of ingredients.

St Joseph's Catholic Primary School

St. Alban
Catholic Schools' Partnership

Knowledge and Skills – Progression Ladder

					Understand the name and use of utensils.	Understand the name and use of a wider range of utensils.	Understand the name and use of a wider range of utensils, including electrical.
Nutrition and Cooking: The Cooking Process			Use the basic principles of a healthy and varied diet to prepare dishes.	Apply the principles of a healthy and varied diet by cooking and preparing savoury dishes.	Apply the principles of a healthy and varied diet by cooking and preparing savoury dishes.		Cook a repertoire of predominately savoury dishes so they are able to feed themselves and others a healthy and varied diet.
					Knows heat can be used to prepare food.	Explore a variety of heating techniques.	Safeguarding (H&S): Cooking on appliances particularly with heat/flames; basic first aid principles including dealing with burns/scolds/minor cuts Understand the heating and cooking processes and the scientific reasoning behind the changes where applicable. Cook using a range of cooking techniques [for example, applying heat in different ways].
					Cook using awareness of taste, texture and smell to decide how to season	Cook using awareness of taste, texture and smell to decide how to season dishes and combine	Cook using awareness of taste, texture and smell to decide how to season dishes and combine

Knowledge and Skills – Progression Ladder

					dishes and combine ingredients.	ingredients; adapting and using their own recipes].	ingredients; adapting and using their own recipes]. Select from and use a wider range of ingredients according to their functional properties and aesthetic qualities.