

GLT Primary Design & Technology Progression document

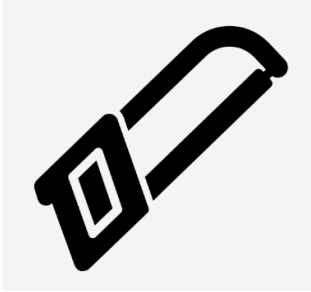
These 'Big Ideas' are the crucial knowledge and skills essential to pupils achieving and exceeding the expected standard in Design & Technology. These 'Big Ideas' build progressively as pupils move throughout the school. Pupils will encounter these 'Big Ideas' during every D&T unit that they are taught and will also encounter these 'Big Ideas' in Foundation Stage. This will allow them to make connections between different learning and build the schema they need. Below is a summary of the 'Big Ideas' for Design & Technology.

	Big Ideas		
		Description	Units
	DESIGN	Primary Design & Technology designing is about children exploring how things work and developing ideas for products that suit real needs. They learn to work in a variety of meaningful contexts—such as home, school, stories, the community, or the wider environment—and think about who their product is for, what it is for, and how it will work. Pupils gather information about users' needs, create simple design criteria, and use these to shape and refine their ideas. As they grow in confidence, they explore materials freely, experiment with colour, texture, form and function, and build on previous learning to improve their designs. They learn to plan what to do next, choose appropriate tools, materials and components, and justify these choices based on their characteristics, functionality and aesthetic qualities.	All units
	MAKE	Primary Design & Technology making focuses on developing children's practical skills, creativity, and understanding of materials, tools, and food. Pupils learn to use tools safely and effectively, developing fine motor skills and working through multi-step processes to measure, cut, shape, assemble, join and finish materials with increasing accuracy. They explore a wide range of resources—using wood, paper and card to make a construction, textiles, mechanical parts and food ingredients. Children learn safe and hygienic practices, particularly when preparing food. In cooking and nutrition, they discover where food comes from, understanding that it is grown, reared or caught in the UK and beyond, and that seasons affect availability. They begin to make healthy choices, learn to sort foods into groups, and prepare simple dishes safely using techniques like cutting, peeling and grating. As they progress, they understand how a balanced diet supports health and how recipes can be adapted for appearance, taste, texture or aroma.	All units
	EVALUATE	Primary Design & Technology evaluating is about children reflecting on both their own products and existing examples to deepen their understanding of design. Pupils learn to talk about their ideas, explain the processes they used, and make simple judgements against design criteria. As they progress, they identify strengths and areas for improvement, consider feedback from others—especially intended users—and refine their work accordingly. Older pupils evaluate their products more critically, assessing quality, functionality and how well their designs meet the original specification and user needs. When examining existing products, children explore who the product is for, what it is for, how it works, and how and where it is used. They think about materials, methods of construction, and why certain choices were made. Over time, they compare how well products are designed and made, how effectively they fulfil their purpose, their cost, and how innovative they are.	All units

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Big Ideas			
		Description	Units
	TECHNICAL KNOWLEDGE	Primary Design & Technology technical knowledge helps children understand how materials, mechanisms, structures, electrical systems and food processes work so they can design and make effective products. Pupils learn the basic characteristics of materials and components, how simple mechanisms like levers, sliders, wheels and axles create movement, and how structures can be made stronger, stiffer and more stable. They explore textiles by assembling simple 3D products from fabric shapes and learn that ingredients can be combined based on their sensory qualities. Throughout, they use correct technical vocabulary linked to their projects. As children progress, they draw on learning from science and maths to improve functionality, understanding that materials have both functional and aesthetic qualities and can be combined for better performance. They explore how mechanical and electrical systems work through inputs, processes and outputs, and they begin to create functional products using circuits, programmable components and computer control. Older pupils investigate more complex mechanisms such as cams, pulleys and gears; build stronger shell or frame structures; create textiles products from varied fabric pieces; and understand how recipes can be adapted by changing ingredients.	All units
	ENVIRONMENT & SUSTAINABILITY	Primary Design & Technology environment and sustainability introduces children to the natural world and the impact of materials on it. Pupils begin by exploring natural materials, understanding their properties, and learning simple concepts of waste, recycling, and reusing. They develop curiosity about where materials come from and participate in discussions about caring for the environment. As they progress, children distinguish between natural and man-made materials, explore sustainable materials in projects, and understand the importance of avoiding waste. They learn about the 3Rs—Reduce, Reuse, Recycle—and start to consider the effects of littering and pollution. Older pupils evaluate how sustainable materials are, the wider environmental impact of products, and innovations such as biodegradable plastics and renewable energy, linking sustainability directly to design and making.	All units

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Disciplinary Knowledge		
<i>Working as a Designer / Engineer / Chef</i>		
		
DESIGNING	MAKING	EVALUATING

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SUBSTANTIVE KNOWLEDGE					DISCIPLINARY KNOWLEDGE	
<i>Factual technical knowledge and skills for each of these individual subject disciplines.</i>					<i>Working as a Working as a Designer / Engineer / Chef</i>	
Structures	Mechanical Systems	Electrical Systems	Textiles	Food & Nutrition		DESIGNING <i>Primary Design & Technology designing is about children exploring how things work and developing ideas for products that suit real needs.</i>
Learning about structures teaches pupils how objects are shaped and built to stay strong and stable. Children explore how different materials and joining methods affect a structure's strength. They investigate key ideas such as tension, compression, and the use of shapes like triangles to improve stability. A range of structures are studied; frame structures, free standing structures and shell structures. Through practical tasks, pupils design, make, and test their own structures, developing problem-solving and evaluation skills.	Mechanical systems teaching introduces pupils to the ways machines and products move using simple mechanisms. Children learn about components such as levers, linkages, sliders, wheels, axles and cams to understand how motion can be created or changed. By designing and testing their own mechanisms, pupils develop problem-solving skills and an understanding of how mechanical ideas apply to everyday products.	Electrical systems use electrical energy to power components such as bulbs, motors, or buzzers. In primary D&T, pupils learn how to build simple circuits using batteries, wires, and switches. They explore how switches control the flow of electricity and how different components respond. Pupils apply this understanding to create products such as torches, alarms, or moving models.	Children learn how textiles can be joined, shaped, and decorated to create useful products. They practise techniques such as stitching, cutting, and fastening. Pupils explore different fabrics and understand their properties and suitability for tasks. They then design and make textile items that are both functional and appealing.	Food and Nutrition focuses on understanding the importance of a balanced diet and healthy eating. Pupils learn to plan, prepare, and cook simple food safely. They explore different food groups, sources of nutrients, and how ingredients affect taste, texture, and appearance.		MAKING <i>Primary Design & Technology making focuses on developing children's practical skills, creativity, and understanding of materials, tools, and food.</i>
						EVALUATING <i>Primary Design & Technology evaluating is about children reflecting on both their own products and existing examples to deepen their understanding of design.</i>

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EYFS	
Development matters : 3 & 4 year olds will be learning to;	Development matters: Children in reception will be learning to:
PSED: Select and use activities and resources, with help when needed. . This helps them to achieve a goal they have chosen, or one which is suggested to them. PD: Use large-muscle movements to wave flags and streamers, paint and make marks.Choose the right resources to carry out their own plan. For example, choosing a spade to enlarge a small hole they dug with a trowel. Use one-handed tools and equipment, for example, making snips in paper with scissors. UTW: Explore how things work. EAD: Make imaginative and complex ‘small worlds’ with blocks and construction kits, such as a city with different buildings and a park. Explore different materials freely, to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. Create closed shapes with continuous lines and begin to use these shapes to represent objects.	PD: Progress towards a more fluent style of moving, with developing control and grace. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Use their core muscle strength to achieve a good posture when sitting at a table or on the floor. EAD: Explore, use and refine a variety of artistic effects to express their ideas and feelings. Return to and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills.
Early Learning goal	<i>Physical Development (Fine Motor Skills)</i> <i>Expressive Arts & Design</i>
Children at the expected level of development will: Physical Development (Fine Motor Skills)- Use a range of small tools, including scissors, paintbrushes and cutlery. Expressive Arts & Design - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Share their creations, splaining the process they have used.	

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Nursery						
Term	1	2	3	4	5	6
Unit / theme title						
DM objectives covered						

Reception						
Term	1	2	3	4	5	6
Unit / theme title						
DM objectives covered						

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Disciplinary Knowledge				
	EYFS - <i>Reception</i>	Y1/2	Y3/4	Y5/6
DESIGNING 	• Use drawing to represent ideas and begin to talk about these. • To begin to develop their own ideas and choose resources. • To choose the right resource to carry out a task e.g. spade for digging.	• Work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment. • State what products they are designing and making • Say whether their products are for themselves or other users • Describe what their products are for • Say how their products will work • Say how they will make their products suitable for their intended users. • Use simple design criteria to help develop their ideas • Plan by suggesting what to do next • Select from a range of tools and equipment, explaining their choices • Select from a range of materials and components according to their characteristics	• Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and wider environment • Describe the purpose of their products • Indicate the design features of their products that will appeal to intended users • Explain how particular parts of their products work • 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 • Explain their choice of materials and components according to functional properties and aesthetic qualities	
			• Gather information about the needs and wants of particular individuals and groups • Develop their own design criteria and use these to inform their ideas • Order the main stages of making	• Carry out research, using surveys, interviews, questionnaires and web-based resources • Identify the needs, wants, preferences and values of particular individuals and groups • Develop a simple design specification to guide their thinking • Produce appropriate lists of tools, equipment and materials that they need • Formulate step-by-step plans as a guide to making

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Disciplinary Knowledge

	EYFS - <i>Reception</i>	Y1/2	Y3/4	Y5/6
MAKING 	- To use a variety of materials. - To begin to talk about their creations. - To explore using a range of media. - To be able to make imaginative and complex small worlds with blocks and construction resources. - To be able to use different materials to develop their ideas. - To be able to create closed shapes with continuous lines and use shapes to represent objects. - Join different materials and explore different textures. - To be able to explore using a variety of materials safely. - To be able to safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. - To be able to hold scissors correctly - To be able to use a range of small tools, including scissors, paintbrushes and cutlery. - To be able to make a model using materials of their choosing.	- Follow procedures for safety and hygiene - Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components - Measure, mark out, cut and shape materials and components - Assemble, join and combine materials and components - Use finishing techniques, including those from art and design	- Follow procedures for safety and hygiene - Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components	
			- Measure, mark out, cut and shape materials and components with some accuracy - Assembly, join and combine materials and components with some accuracy - Apply a range of finishing techniques, including those from art and design, with some accuracy	- Accurately measure, mark out, cut and shape materials and components - Accurately assemble, join and combine materials and components - Accurately apply a range of finishing techniques, including those from art and design - Use techniques that involve a number of steps - Demonstrate resourcefulness when tackling practical problems

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Disciplinary Knowledge				
	EYFS - <i>Reception</i>	Y1/2	Y3/4	Y5/6
EVALUATING 	To be able to share their creations, explaining processes they have used.	- Talk about their design ideas and what they are making - Make simple judgements about their products and ideas against design criteria - Suggest how their products could be improved	- Identify the strengths and areas for development in their ideas and products - Consider the views of others, including intended users, to improve their work	
			- Refer to their design criteria as they design and make - Use their design criteria to evaluate their completed products	Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make

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Substantive Knowledge				Big Ideas :				
								
Thread		EYFS - Reception	Y1/2		Y3/4	Y5/6		
Structures	SUGGESTED UNITS		Free Standing Structures	Shell Structures	Shell structures (with CAD)	Frame Structures		
Structures	Prior Learning		<i>Experience of using construction kits to build walls, towers and frameworks.</i> <i>Experience of using basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card.</i> <i>Experience of different methods of joining card and paper.</i>	<i>Experience of Using different joining, cutting and finishing techniques with paper and card.</i> <i>A basic understanding of 2-D and 3-D shapes in mathematics and the physical properties and everyday uses of materials in science.</i>	<i>Experience of using different joining, cutting and finishing techniques with paper and card.</i> <i>A basic understanding of 2-D and 3-D shapes in mathematics and the physical properties and everyday uses of materials in science.</i> <i>Familiarity with general purpose software that can be used to draw accurate shapes, such as Google Docs, or simple computer-aided design (CAD), such as 2D Primary by Techsoft.</i> <i>Experience of making a basic net using paper/card</i>	<i>Experience of using measuring, marking out, cutting, joining, shaping and finishing techniques with construction materials.</i> <i>Basic understanding of what structures are and how they can be made stronger, stiffer and more stable.</i>		

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Substantive Knowledge				Big Ideas :		
				    		
Thread		EYFS - Reception	Y1/2		Y3/4	Y5/6
Structures	SUGGESTED UNITS		Free Standing Structures	Shell Structures	Shell structures (with CAD)	Frame Structures
Structures	Designing	Use drawing to represent ideas and begin to talk about these. To begin to develop their own ideas and choose resources. To choose the right resource to carry out a task e.g. spade for digging.	Generate ideas based on simple design criteria and their own experiences, explaining what they could make. Develop, model and communicate their ideas through talking, mock-ups and drawings.		Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and the functional and aesthetic purposes of the product. Develop ideas through the analysis of existing shell structures and use computer-aide design to model and communicate ideas.	Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources. Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches.

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Substantive Knowledge				Big Ideas :		
				    		
Thread		EYFS - Reception	Y1/2		Y3/4	Y5/6
Structures	SUGGESTED UNITS		Free Standing Structures	Shell Structures	Shell structures (with CAD)	Frame Structures
Structures	Making	• To use a variety of materials. • To begin to talk about their creations. • To explore using a range of media. • To be able to make imaginative and complex small worlds with blocks and construction resources. • To be able to use different materials to develop their ideas. • Join different materials and explore different textures. • To be able to explore using a variety of materials safely. • To be able to safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • To be able to hold scissors correctly • To be able to use a range of small tools, including	• Plan by suggesting what to do next. • Select and use tools, skills and techniques, explaining their choices. • Select new and reclaimed materials and construction kits to build their structures. • Use simple finishing techniques suitable for the structure they are creating.		• Plan the order of the main stages of making. • Select and use appropriate tools and software to measure, mark out, cut, score, shape and assemble with some accuracy. • Explain their choice of materials according to functional properties and aesthetic qualities. • Use computer generated finishing techniques suitable for the product they are creating.	• Formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used. • Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks. • Use finishing and decorative techniques suitable for the product they are designing and making.

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Substantive Knowledge				Big Ideas :				
								
Thread		EYFS - Reception	Y1/2		Y3/4	Y5/6		
Structures	SUGGESTED UNITS		Free Standing Structures	Shell Structures	Shell structures (with CAD)	Frame Structures		
		scissors, paintbrushes and cutlery. • To be able to make a collage or model using materials of their choosing.						

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Substantive Knowledge				Big Ideas :		
				    		
Thread		EYFS - Reception	Y1/2		Y3/4	Y5/6
Structures	SUGGESTED UNITS		Free Standing Structures	Shell Structures	Shell structures (with CAD)	Frame Structures
Structures	Evaluating	To be able to share their creations, explaining processes they have used.	Explore a range of existing Freestanding structures in the school and local Environment e.g. everyday products and buildings. Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design Criteria.	Investigate and evaluate a range of existing shell Structures including the Materials, Components and techniques that have been used. Test and evaluate their own products against design criteria and the intended user and purpose.	Investigate and evaluate a range of shell structures including the materials, components and techniques that have been used. Test and evaluate their own products against design criteria and the intended user and purpose.	Investigate and evaluate a range of existing frame structures. Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. Research key events and individuals relevant to frame structures.

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Substantive Knowledge				Big Ideas :		
				    		
Thread		EYFS - Reception	Y1/2		Y3/4	Y5/6
Structures	SUGGESTED UNITS		Free Standing Structures	Shell Structures	Shell structures (with CAD)	Frame Structures
Structures	Technical knowledge	Construction kits e.g Duplo, lego Basic cutting and joining techniques.	Know how to Make Freestanding Structures stronger, stiffer and more stable. Know and use Technical Vocabulary relevant to the project.	Develop and use knowledge of how to construct strong, stiff shell structures. Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. Know and use Technical Vocabulary relevant to the project.	Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. Develop and use knowledge of how to construct strong, stiff shell Structures. Know and use technical vocabulary relevant to the Project. Technical knowledge of navigating around specific computer software	Understand how to strengthen, stiffen and reinforce 3-D frameworks. Know and use technical vocabulary relevant to the project.

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Substantive Knowledge			Big Ideas :				
Thread		EYFS	Y1/2		Y3/4	Y5/6	
<i>Mechanisms</i>	SUGGESTED UNITS		Sliders & Leavers	Wheels & axles	Levers and linkages	Pulleys	Cams
<i>Mechanisms</i>	Prior Learning		• Early experiences of working with paper and card to make simple flaps and hinges. • Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape.	• Assembled vehicles with moving wheels using construction kits. • Explored moving vehicles through play. • Gained some experience of designing, making and evaluating products for a specified user and purpose. • Developed some cutting, joining and finishing skills with card.	• Explored and used mechanisms such as flaps, sliders and levers. • Gained experience of basic cutting, joining and finishing techniques with paper and card.	• Experience of axles, axle holders and wheels that are fixed or free moving. • Basic understanding of electrical circuits, simple switches and components. • Experience of cutting and joining techniques with a range of materials including card, plastic and wood. • An understanding of how to strengthen and stiffen structures.	• Experience of axles, axle holders and wheels that are fixed or free moving. • Basic understanding of different types of movement. • Experience of cutting and joining techniques with a range of materials including card, plastic and wood. • An understanding of how to strengthen and stiffen structures.

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Substantive Knowledge			Big Ideas :				
Thread		EYFS	Y1/2		Y3/4	Y5/6	
<i>Mechanisms</i>	SUGGESTED UNITS		Sliders & Levers	Wheels & axles	Levers and linkages	Pulleys	Cams
<i>Mechanisms</i>	Designing	Making objects move Exploring how objects move. e.g exploring cotton reels, small balls.	• Generate ideas based on simple design criteria and their own experiences, explaining what they could make. • Develop, model and communicate their ideas through drawings and mock-ups with card and paper.	• Generate initial ideas and simple design criteria through talking and using own experiences. • Develop and communicate ideas through drawings and mock-ups.	• Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user. • Use annotated sketches and prototypes to develop, model and communicate ideas.	• Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. • Develop a simple design specification to guide their thinking. • Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views.	• Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. • Develop a simple design specification to guide their thinking. • Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views.

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Substantive Knowledge			Big Ideas :				
Thread		EYFS	Y1/2		Y3/4	Y5/6	
<i>Mechanisms</i>	SUGGESTED UNITS		Sliders & Leavers	Wheels & axles	Levers and linkages	Pulleys	Cams
<i>Mechanisms</i>	Making	Using construction kit to make moving models. Duplo / Lego with wheels.	- Plan by suggesting what to do next. - Select and use tools, explaining their choices, to cut, shape and join paper and card. - Use simple finishing techniques suitable for the product they are creating.	- Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing. - Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics.	- Order the main stages of making. - Select from and use appropriate tools with some accuracy to cut, shape and join paper and card. - Select from and use finishing techniques suitable for the product they are creating.	- Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. - Select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost.	- Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. - Select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost.

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Substantive Knowledge			Big Ideas :				
Thread		EYFS	Y1/2		Y3/4	Y5/6	
<i>Mechanisms</i>	SUGGESTED UNITS		Sliders & Levers	Wheels & axles	Levers and linkages	Pulleys	Cams
<i>Mechanisms</i>	Evaluating	Talking with an adult about how well their models move	- Explore a range of existing books and everyday products that use simple sliders and levers. - Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria.	- Explore and evaluate a range of products with wheels and axles. - Evaluate their ideas throughout and their products against original criteria.	- Investigate and analyse books and, where available, other products with lever and linkage mechanisms. - Evaluate their own products and ideas against criteria and user needs, as they design and make.	- Compare the final product to the original design specification. - Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. - Consider the views of others to improve their work. - Investigate famous manufacturing and engineering companies relevant to the project.	- Compare the final product to the original design specification. - Test products with the intended user, where safe and practical, and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. - Consider the views of others to improve their work. - Investigate famous manufacturing and engineering companies relevant to the project.
<i>Mechanisms</i>	Technical knowledge	Exploring Constructi on kits e.g duplo, lego	- Explore and use sliders and levers. - Understand that different mechanisms produce different types	- Explore and use wheels, axles and axle holders. - Distinguish between fixed and freely moving axles. - Know and use	- Understand and use lever and linkage mechanisms. - Distinguish between fixed and loose pivots. - Know and use technical vocabulary relevant to the project.	- Understand that mechanical and electrical systems have an input, process and an output. - Understand how gears and pulleys can be used to speed up, slow down or change the direction of	- Understand that mechanical systems have an input, process and an output. - Understand how cams can be used to produce different types of movement and change the direction of

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Substantive Knowledge				Big Ideas :			
Thread		EYFS	Y1/2		Y3/4	Y5/6	
<i>Mechanisms</i>	SUGGESTED UNITS		Sliders & Leavers	Wheels & axles	Levers and linkages	Pulleys	Cams
			of movement. • Know and use technical vocabulary relevant to the project.	technical vocabulary relevant to the project.		movement. • Know and use technical vocabulary relevant to the project.	movement.

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Substantive Knowledge				Big Ideas :		
				    		
Thread		EYFS - Reception	Y1/2	Y3/4		Y5/6
Food	SUGGESTED UNITS		Fruit smoothies or soup (fruit & veg)	Pitta Pizza (including healthy options)	Fruit crumble (including healthy options)	Celebrating culture and seasonality Bread
Food	Prior Learning		• Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. • Experience of cutting soft fruit and vegetables using appropriate utensils.	• Know some ways to prepare ingredients safely and hygienically. • Have some basic knowledge and understanding about healthy eating and The eatwell plate. • Have used some equipment and utensils and prepared and combined ingredients to make a product.		• Have knowledge and understanding about food hygiene, nutrition, healthy eating and a varied diet. • Be able to use appropriate equipment and utensils, and apply a range of techniques for measuring out, preparing and combining ingredients.

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Substantive Knowledge				Big Ideas :		
				    		
Thread		EYFS - Reception	Y1/2	Y3/4		Y5/6
<i>Food</i>	SUGGESTED UNITS		Fruit smoothies or soup (fruit & veg)	Pitta Pizza (including healthy options)	Fruit crumble (including healthy options)	Celebrating culture and seasonality Bread
<i>Food</i>	Designing	Designing a fruit salad / fruit kebab.	• Design appealing products for a particular user based on simple design criteria. • Generate initial ideas and design criteria through investigating a variety of fruit and vegetables. • Communicate these ideas through talk and drawings.	• Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. • Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas.		• Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification. • Explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose. • Use words, annotated sketches and information and communication technology as appropriate to develop and communicate ideas.

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Substantive Knowledge				Big Ideas :		
				    		
Thread		EYFS - Reception	Y1/2	Y3/4		Y5/6
<i>Food</i>	SUGGESTED UNITS		Fruit smoothies or soup (fruit & veg)	Pitta Pizza (including healthy options)	Fruit crumble (including healthy options)	Celebrating culture and seasonality Bread
<i>Food</i>	Making	To manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices. To know the difference between healthy and unhealthy. To be able to discuss healthy food choices. To be able to sort healthy foods from less nutritional food. To be able to discuss sensible food choices. Making a fruit salad / fruit kebab.	• Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. • Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product.	• Plan the main stages of a recipe, listing ingredients, utensils and equipment. • Select and use appropriate utensils and equipment to prepare and combine ingredients. • Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics.		• Write a step-by-step recipe, including a list of ingredients, equipment and utensils • Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients. • Make, decorate and present the food product appropriately for the intended user and purpose.

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Substantive Knowledge				Big Ideas :		
				    		
Thread		EYFS - Reception	Y1/2	Y3/4		Y5/6
Food	SUGGESTED UNITS		Fruit smoothies or soup (fruit & veg)	Pitta Pizza (including healthy options)	Fruit crumble (including healthy options)	Celebrating culture and seasonality Bread
Food	Evaluating	To share preferences, likes and dislikes. To use their senses.	• Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences. • Evaluate ideas and finished products against design criteria, including intended user and purpose.	• Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. • Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.		• Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams. • Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements. • Understand how key chefs have influenced eating habits to promote varied and healthy diets.

GLT Primary Design & Technology Progression document

Substantive Knowledge				Big Ideas :		
Thread		EYFS - Reception	Y1/2	Y3/4		Y5/6
Food	SUGGESTED UNITS		Fruit smoothies or soup (fruit & veg)	Pitta Pizza (including healthy options)	Fruit crumble (including healthy options)	Celebrating culture and seasonality Bread
Food	Technical knowledge		• Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. • Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The eatwell plate</i>. • Know and use technical and sensory vocabulary relevant to the project.	• Know how to use appropriate equipment and utensils to prepare and combine food. • Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. • Know and use relevant technical and sensory vocabulary appropriately.		• Know how to use utensils and equipment including heat sources to prepare and cook food. • Understand about seasonality in relation to food products and the source of different food products. • Know and use relevant technical and sensory vocabulary.



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Substantive Knowledge					Big Ideas :	
Thread		EYFS	KS1	Y3/4	Y5/6	
Textiles	SUGGESTED UNITS		Templates & joining techniques <i>glove puppet</i>	2D shape to 3D products - <i>bag</i>	Combining different fabric shapes	Using CAD in textiles
Textiles	Prior Learning		• Explored and used different fabrics. • Practiced threading • Cut and join fabrics with simple techniques. • Thought about the user and purpose of products.	• Have joined fabric in simple ways by glueing and stitching. • Have used simple patterns and templates for marking out. • Have evaluated a range of textile products.	• Experience of basic stitching, joining textiles and finishing techniques. • Experience of making and using simple pattern pieces.	• Experience of stitching, joining and finishing techniques in textiles. • Experience of making and using textiles pattern pieces. • Experience of simple computer-aided design applications.
Textiles	Designing		• Design a functional and appealing product for a chosen user and purpose based on simple design criteria. • Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology.	• Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s. • Produce annotated sketches, prototypes, final product sketches and pattern pieces.	• Generate innovative ideas by carrying out research including surveys, interviews and questionnaires. • Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes and, where appropriate, computer-aided design. • Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design	• Generate innovative ideas through research including surveys, interviews and questionnaires. • Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes including using computer-aided design. • Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification.



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Substantive Knowledge					Big Ideas :	
Thread		EYFS	KS1	Y3/4	Y5/6	
Textiles	SUGGESTED UNITS		Templates & joining techniques <i>glove puppet</i>	2D shape to 3D products - bag	Combining different fabric shapes	Using CAD in textiles
					specification.	
Textiles	Making	Cutting fabric and other materials. Joining fabric and other materials. Threading activities (on card and on wires)	• Select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing. • Select from and use textiles according to their characteristics.	• Plan the main stages of making. • Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. • Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern.	• Produce detailed lists of equipment and fabrics relevant to their tasks. • Formulate step-by-step plans and, if appropriate, allocate tasks within a team. • Select from and use a range of tools and equipment to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost.	• Produce detailed lists of equipment and fabrics relevant to their tasks. • Formulate step-by-step plans and, if appropriate, allocate tasks within a team. • Select from and use a range of tools and equipment, including CAD, to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost.
Textiles	Evaluating	Giving their preferences about what they have made.	• Explore and evaluate a range of existing textile products relevant to the project being undertaken. • Evaluate their ideas	• Investigate a range of 3-D textile products relevant to the project. • Test their product against the original design criteria	• Investigate and analyse textile products linked to their final product. • Compare the final	• Investigate and analyse textile products linked to their final product. • Compare the final product to the original design



GLT Primary Design & Technology Progression document

Substantive Knowledge					Big Ideas :	
Thread		EYFS	KS1	Y3/4	Y5/6	
Textiles	SUGGESTED UNITS		Templates & joining techniques <i>glove puppet</i>	2D shape to 3D products - <i>bag</i>	Combining different fabric shapes	Using CAD in textiles
			throughout and their final products against original design criteria.	and with the intended user. • Take into account others' views. • Understand how a key event/individual has influenced the development of the chosen product and/or fabric.	product to the original design specification. • Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Consider the views of others to improve their work.	specification. • Test products with intended user, where safe and practical, and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Consider the views of others to improve their work
Textiles	Technical knowledge		• Understand how simple 3-D textile products are made, using a template to create two identical shapes. • Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. • Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons. • Know and use technical vocabulary relevant to the	• Know how to strengthen, stiffen and reinforce existing fabrics. • Understand how to securely join two pieces of fabric together. • Understand the need for patterns and seam allowances. • Know and use technical vocabulary relevant to the project.	• A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. • Fabrics can be strengthened, stiffened and reinforced where appropriate.	• A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. • Fabrics can be strengthened, stiffened and reinforced where appropriate. • Know how to use computing software to design the product.



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Substantive Knowledge					Big Ideas :   	
Thread		EYFS	KS1	Y3/4	Y5/6	
<i>Textiles</i>	SUGGESTED UNITS		Templates & joining techniques <i>glove puppet</i>	2D shape to 3D products - <i>bag</i>	Combining different fabric shapes	Using CAD in textiles
			project.			



Substantive Knowledge			Big Ideas :     
Thread		Y4/5	Y5/6
<i>Electrical Systems</i>	SUGGESTED UNITS	<i>Simple Circuits (e.g torch)</i>	<i>Monitoring & Control</i>
<i>Electrical Systems</i>	Prior Learning	- Constructed a simple series electrical circuit in science, using bulbs, switches and buzzers. <i>(NOTE - Science Y4 Electricity unit must be taught first or at the same time)</i> - Cut and joined a variety of construction materials, such as wood, card, plastic, reclaimed materials and glue.	- Initial experience of using computer control software and an interface box, a standalone box or microcontroller, e.g. Crumble. - Some experience of writing and modifying a program to make a light turn on or flash on and off. - Understanding of the essential characteristics of a series circuit and experience of creating a battery powered, functional, electrical product.
<i>Electrical Systems</i>	Designing	Gather information about needs and wants, and develop design criteria to inform the design of products that are fit	Develop a design specification for a functional product that responds automatically to changes in the environment.

GLT Primary Design & Technology Progression document

Substantive Knowledge			Big Ideas :     
Thread		Y4/5	Y5/6
Electrical Systems	SUGGESTED UNITS	<i>Simple Circuits (e.g torch)</i>	<i>Monitoring & Control</i>
		for purpose, aimed at particular individuals or groups. • Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams.	• Generate, develop and communicate ideas through discussion, annotated sketches and pictorial representations of electrical circuits or circuit diagrams.
Electrical Systems	Making	• Order the main stages of making. • Select from and use tools and equipment to cut, shape, join and finish with some accuracy. • Select from and use materials and components, including construction materials and electrical components according to their functional properties and aesthetic qualities.	• Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. • Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product. • Create and modify a computer control program to enable their electrical product to respond to changes in the environment.
Electrical Systems	Evaluating	• Investigate and analyse a range of existing battery-powered products. • Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.	• Continually evaluate and modify the working features of the product to match the initial design specification. • Test the system to demonstrate its effectiveness for the intended user and purpose.
Electrical Systems	Technical knowledge	• Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. • Apply their understanding of computing to program and	• Understand and use electrical systems in their products. • Understand the use of computer control systems in products. • Apply their understanding of computing to program, monitor and control their products.

GLT Primary Design & Technology Progression document

Substantive Knowledge			Big Ideas :     
Thread		Y4/5	Y5/6
<i>Electrical Systems</i>	SUGGESTED UNITS	<i>Simple Circuits (e.g torch)</i>	<i>Monitoring & Control</i>
		control their products. • Know and use technical vocabulary relevant to the project.	• Know and use technical vocabulary relevant to the project.

Possible sequence of units to meet the statutory requirements of the National Curriculum with examples of possible contexts.

Statutory Substantive area to cover.

GLT Primary Design & Technology Progression document

Structures	Mechanical systems	Electrical Systems	Textiles	Food
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	Autumn	Spring	Summer
Y1	Sliders and Levers Explore and evaluate a collection of books. Demonstrate and replicate sliders and levers. Design and make a 'traction man' based slider and lever character. Evaluate.	Freestanding Structures Investigate a range of bridge structures. 3 main bridge types- beam, truss, suspension Explore and make different joining techniques. Design and make a bridge and evaluate.	Preparing Fruit and Vegetables Fruit and Vegetable tasting. Design and make a smoothie and evaluate.
Y2	Wheels and Axles Investigate a variety of wheeled products and name key parts. Explore the difference between fixed and free axles. Design and make a fire engine and evaluate.	Shell Structures Explore a range of shell structures. Investigate and make shell structure nets. Design and make a box to take to the moon and evaluate.	Templates and Joining Textiles Investigate a range of glove puppets. Explore joining techniques. Design and make a glove puppet animal and evaluate.
Y3	Shell Structures using Computers Investigate a range of packaging . Create a net on a computer. Design and make a 'My favourite things' box. Evaluate.	2D shape to 3D product Investigate a range of bags and sewing techniques. Design and make a bag suitable for a book and evaluate.	Food- Healthy and Varied Investigate and try a range of pizzas. Identify ingredients and skills used to make a pizza. Using equipment safely. Design and make a healthy pitta pizza and evaluate.
Y4	Levers and Linkages Investigate a range of levers and linkages. Make a range of levers and linkages. Design and make a christmas card and evaluate.	Healthy and Varied Diet Investigate and try a range of crumbles/ fruit. Identify ingredients and skills used to make a crumble. Using equipment safely. Design and make a healthy crumble and evaluate.	Simple circuits and switches. Simple programming and control Investigate a range of torches and switches. Make switches (paper clips). Design and make a small torch to use to read in bed. Evaluate.

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	Autumn	Spring	Summer
		(or Pitta Pizzas)	
Y5	Pulleys Investigate and analyse toys that incorporate pulleys or gears. Use construction to investigate a range of pulleys and build a working circuit. Design and make a toy bus and evaluate.	Frame Structure Explore a range of bird hides. Exploring wooden joining techniques. Design and make a prototype model bird hide and evaluate.	Combining different fabric shapes Investigate a range of phone cases and carriers. Investigate a range of stitch types. Design and make phone cases and evaluate.
Y6	Cams Explore a range of moving toys. Explore how to create cams. Design and make a toy for a child in reception involving cams. Evaluate.	Celebrating Culture and Seasonality Food Investigate and taste a range of breads. Explore the use of yeast. Make a simple bread. Design and make a celebration bread. Evaluate.	Using CAD in Textiles or Investigate a range of pencil cases, explore shapes. Design and make a pencil case, creating the design on the computer. Evaluate or
			Monitoring and Control Explore a range of computer controlled products. Use a model circuit and microbit to design and make a security light system for the MUGA to use when dark.

Statutory areas to study from the National Curriculum

KS1 - summary

GLT Primary Design & Technology Progression document

At this stage, children focus on **basic skills and understanding**. The emphasis is on exploring, designing, making, and evaluating in simple ways.

Key areas:

1. Designing

- Generate simple ideas and communicate them through drawings, models, or talking.
- Think about what materials or tools they might need.

2. Making

- Use basic tools and materials safely (e.g., scissors, glue, simple wood or textiles).
- Assemble and join materials to make a product (e.g., simple mechanisms, models, or food).

3. Evaluating

- Talk about their own products and those of others.
- Identify what works well and what could be improved.

4. Technical knowledge

- Understand simple mechanisms (e.g., wheels, sliders, levers).
- Explore materials' properties (e.g., stiff, flexible, waterproof).
- Begin to understand basic nutrition if cooking is involved.

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At this stage, children build on KS1 skills with **more planning, problem-solving, and technical understanding**. The projects become more complex.

Key areas:

1. Designing

- Identify needs, problems, or opportunities and plan a product.
- Produce detailed designs, diagrams, or prototypes.
- Consider purpose, audience, and criteria for success.

2. Making

- Select appropriate tools, materials, and techniques.
- Develop skills in joining, shaping, and finishing materials.
- Include electrical components, more complex mechanisms, or cooking skills.

3. Evaluating

- Test and evaluate their products against design criteria.
- Suggest improvements and reflect on the success of their designs.
- Consider sustainability and impact of materials.

4. Technical knowledge

- Understand more advanced mechanisms (gears, pulleys, cams) and structures.
- Learn about properties and working characteristics of a wider range of materials.
- Apply knowledge of nutrition and food hygiene when cooking.