DT progression:

Our key concepts for DT have been taken from the National curriculum. Through practical activities the pupil's will be taught skills that will support them in designing, making, evaluating and that support their development of technical knowledge. The three year program has been written in a cyclical format, to allow pupils to revisit learning in the key concepts through topics such as Textiles, Structures, Mechanisms and Tool safety.

Pre Scheme A

Explore different materials freely, in order to develop their ideas about how to use them and what to make. To make simple choices from a selection by reaching, or exchanging symbols or using Makaton. Select and use activities and resources, with help when needed.

Use large-muscle movements to wave flags and streamers, paint and make marks

Gross and fine motor skills activities including large posting and threading activities.

To show increasing control in pushing, patting.

Pull and push apart larger construction pieces.

Join different materials and explore different textures.

Use a range of small tools, including scissors, paintbrushes and cutlery.

Create closed shapes with continuous lines, and begin to use these shapes to represent objects.

Explore how things work.

Exploring and investigating different products for example, moving toys.

Make imaginative and complex 'small worlds' with blocks and construction kits.

Vocabulary

From core vocab tracker - blue, green, red, more, stop,

From extended core vocab tracker - I see, I want, yellow, orange, purple, pink, black, white.

<u>Subject vocab</u>make, build

Composite Component							
	Pre-scheme A	Scheme A	Scheme B	Scheme C	Scheme D		
Design	Explore different materials freely, in order to develop their ideas about how to use them and what to make	To make a choice from a selection. Follow a design.	To make design choices. Make a model based on a chosen design.	To design a product for a purpose. Learn the importance of clear	To design a product for a specific purpose and user. Design a product identifying and		
	To make simple choices from a selection by reaching, or exchanging symbols	by communicating choices. Choose the right resources to carry out their own plan.	Plan what they are going to make by drawing it first. Use a tick list to say what resources they	design criteria. Generate and communicate ideas using sketching and modelling.	naming the components required. Generate ideas through sketching		
	or using Makaton. 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	Think and talk about what they are going to make before they do it.	are going to need to make their product or outcome.	Personalise a design.	and discussion. Model ideas through the use of prototypes. Discuss sustainability.		

	to them. Explore different materials freely, in order 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.				
Make	Join different	To make following	To make by	To make by	To make with
	materials and	clear visual step by	sequencing the steps	selecting tools and	increasing
	explore different	step instructions.	for construction.	materials.	independence, skill
	textures.	Develop their fine	To cut shapes with	To follow a design	and accuracy.
	Use one-handed	motor skills so that	scissors.	brief.	To use tools safely.

tools and equipment,	they can use a range			
for example, making	of tools	To use glue	Make a structure	To measure, mark
snips in paper with	competently, safely	accurately.	according to given	out and cut
scissors.	and confidently		design criteria.	accurately.
		To use tape		
Use a range of small	To learn to cut with	accurately.	To use tools safely	Measure, mark and
tools, including	scissors.			cut components
scissors,		To assemble	To measure and	accurately using a
paintbrushes and	To fold paper	materials.	mark out.	ruler and scissors.
cutlery.				
	To use a hammer	To use templates.	Learn how to	Use a craft knife
create	safely.		turn 2D nets into	safely to cut shapes
collaboratively,		Make a model based	3D structures.	accurately.
sharing ideas,		on a chosen design.		
resources and skills.			Make mechanisms	Use a hand drill
		Manipulate materials	and/or structures	safely to drill holes
Safely use and		to create different	using sliders, pivots	accurately in the
explore a variety of		effects by cutting,	and folds to	project piece.
materials, tools and		creasing, folding,	produce movement.	
techniques,		weaving.		Assemble
experimenting with			knows how to	components
colour, design,			strengthen a	accurately.
texture, form and			structure,	
function.			reinforce.	Select appropriate
				materials for joining
Develop their small			Create joints and	including the speed
motor skills so that			structures from	at which the glue
they can use a range			paper/card/tape/gl	needs to dry/set.

	of tools competently, safely and confidently.			ue.	can apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
Evaluate	Share their creations, explaining the process they have used.	To investigate a range of products. To begin to investigate and evaluate. Reflect on a finished product, explaining likes and dislikes	To evaluate a range of products. Describe what is liked about a creation and whether it works well. Suggest improvements that could be made after Testing.	To evaluate and refine a product for a purpose. Suggest points for improvements for own makes and those designed by Others. Test and evaluate an end product against the original design criteria.	To evaluate and refine a product for a purpose and its user. Test and adapt a design to improve it as it is developed. To explore and evaluate products by discussion. Test and evaluate an end product and give points for further

					improvements. Improve a design plan based on peer evaluation.
Technical knowledge: textiles	Gross and fine motor skills activities including large posting and threading activities. To show increasing control in pushing, patting. Pull and push apart larger construction pieces. Exploring and investigating different products for example, light up toys, moving toys, electronic toys.	To develop fine motor skills. To thread large items. To thread smaller items.	To join materials. Learn different ways in which to join fabrics together pinning, stapling, glueing. To lace 2 pieces of fabric together. To use glue to add an embellishment. To thread a plastic needle. To begin to sew by threading.	To join two pieces of fabric. To lace 2 pieces of fabric together accurately. To thread a large needle. Tie knots with greater independence. To cut a textile. To stitch a decoration to a textile. To decorate with stitches.	To sew with a running stitch. To sew with blanket stitch. To thread a needle. To use a knot. To sew two pieces of fabric together To learn to sew a running stitch. To learn to sew a blanket stitch. To use a pattern piece. Neatly pin and cut fabric using a template. To embellish a textile by sewing on buttons and sequins.

Technical knowledge: Structures	Make imaginative and complex 'small worlds' with blocks and construction	To build a stable structure. To explore which	Make a structure according to given design criteria.	To know how to strengthen and support materials.	To know how to strengthen, stiffen, reinforce complex structures.
	with different buildings and a park. Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. Return to and build on their previous learning, refining ideas and developing their ability to represent them.	when building structures. To use junk modelling materials to create models. To balance blocks.	materials can be manipulated to improve strength and stiffness. Making - to build a stable structure from card, tape and glue. To build a strong and stiff structure by folding paper To know that cylinders are strong structures. To build a strong and stiff structure by folding paper. Learn about	 housing for their moving mechanism. To know that shapes and structures with wide, flat bases are most stable. To know the shape of a structure affects its strength. Build frame structures designed to support weight. To create a 3D box from a 2D net to house a system. 	Reinforce corners to strengthen a structure. Understand how triangles can be used to reinforce. Find different ways to reinforce structures. Identify stronger and weaker structures with reasons.

		different types of structures found in the natural world and in everyday objects. Build structures designed to support weight. Test the strength of their own structures.		
Technical knowledge: Mechanisms	To identify simple mechanisms eg spring, lever, slider. To make a wheeled moving product. Know that a wheel needs an axle in order to Move. To identify a spring	To follow instructions to make a simple moving mechanism with levers and sliders, wheels and axles, pneumatic systems To make a wheeled product powered by wind.	To use a mechanical system in their product with levers and sliders, cams, wheels and axles, pneumatic systems Identify mechanisms in everyday objects To make a wheeled product powered	To use a more complex mechanical system in their product. To add electrical control to a mechanism. To make a wheeled product powered by solar. Design a product

	Learn that levers and sliders are mechanisms and can make things move. To use a lever in a mechanism. To use a slider in a mechanism.	To show how pneumatic systems create movement. To use a lever, slider and pivot in a mechanism. Use syringes and balloons to create different types of pneumatic systems to make a functional and appealing pneumatic product e.g. a toy.	by elastic bands. To know how pneumatic mechanisms create movement. Build secure housing for a pneumatic system. To use a cam in a mechanism. Explore cams and learn that different shaped cams produce different follower movements.	which uses a pneumatic system to lift a load. Learn the key components used to create a functioning circuit Understand that breaks in a circuit will stop it from working.

			DT topics		
		Scheme A	Scheme B	Scheme C	Scheme D
Term 2	Key Concept (NC)	Technical knowledge , Make	Technical knowledge , Make	Technical knowledge , Make	Technical knowledge , Make
	Торіс	Textiles: Threading & making a textile	Textiles: Lacing and sticking on an embellishment.	Textiles: Lacing and stitching on an embellishment.	Textiles: Sewing stitches, running and blanket
	Composite Skills	Make: To make following clear visual step by step instructions. Technical knowledge:	Make: To make by sequencing the steps for construction. Technical knowledge:To join materials.	Make:To make by selecting tools and materials. Technical knowledge:To join two	Make: To make with increasing independence, skill and accuracy. Technical knowledge:To sew with a running stitch.
		To develop fine motor skills.		pieces of fabric.	To sew with blanket stitch.
Term 4	Key Concept (NC)	Technical knowledge. Evaluate.	Technical knowledge. Evaluate.	Technical knowledge. Evaluate.	Technical knowledge. Evaluate.
	Торіс	Mechanisms: Spring	Mechanisms: Pneumatics Structures -boxes	Mechanisms: Pneumatics. Structures-nets	Mechanisms: Pneumatic machines.

	Composite Skills	Evaluate: To investigate a range of products. Technical knowledge:	Evaluate: To evaluate a range of products. Technical knowledge:	Evaluate: To evaluate and refine a product for a purpose.	Evaluate: To evaluate and refine a product for a purpose and its user.
		To identify simple mechanisms.	To follow instructions to make a simple moving mechanism.	Technical knowledge: To use a mechanical system in their product. To create a housing for their moving mechanism.	Technical knowledge: To use a more complex mechanical system in their product.
Term 6	Key Concept (NC)	Technical knowledge. Making.	Technical knowledge. Making.	Technical knowledge. Making.	Technical knowledge. Making.
	Topic	Structures: Building structures	Structures: bridges	Structures: shelters	Structures: Structural challenges
	Composite Skills	Making: To make following clear visual step by step instructions.	Making: To make by sequencing the steps for construction. Technical Knowledge:	Making: To make by selecting tools and materials. Technical Knowledge:	Making: To make with increasing independence, skill and accuracy. Technical Knowledge:
		Technical Knowledge: To explore which materials to use when building structures.	Make a structure according to given design criteria.	To know how to strengthen and support materials.	To know how to strengthen, stiffen, reinforce complex structures.

		DT					
		Scheme A	Scheme B	Scheme C	Scheme D		
Term 2	Key Concept (NC)	Design. Technical knowledge.	Design. Technical knowledge.	Design. Technical knowledge.	Design. Technical knowledge.		
	Торіс	Mechanisms: cards with levers	Mechanisms: cards with levers, sliders, pivots.	Mechanisms: Cam toy	Mechanisms: Carousel with motor		
	Composite Skills	Design: To make a choice from a selection. Technical	Design: To make choices in design. Technical Knowledge:To follow	Design: To design a product for a purpose. Technical	Design: To design a product for a specific purpose and user. Technical Knowledge:To add		
		Knowledge:To	instructions to make a	Knowledge:To use	electrical control to a		

		identify simple mechanisms.	simple moving mechanism.	mechanical systems in their product.	mechanism.
Term 4	Key Concept (NC)	Design. Technical knowledge	Design. Technical knowledge	Design. Technical knowledge	Design. Technical knowledge
	Торіс	Structures: Pet houses	Structures: 3 little pigs houses	Structures: Structural challenges Cardboard chairs - prototypes	Structures: Cardboard chairs - prototypes Cardboard chairs - life size
	Composite Skills	Technical Knowledge: To explore which materials to use when building structures. Design: To make a choice from a selection.	Technical Knowledge: Make a structure according to given design criteria. Design: To make design choices.	Technical Knowledge: To know how to strengthen materials. Design: To design a product for a purpose.	Technical Knowledge:To know how to strengthen, stiffen, reinforce complex structures. Design: To design a product for a specific purpose and user.
Term 6	Key Concept	Make:Tool safety.	Make:Tool safety.	Make:Tool safety.	Make:Tool safety.
	Торіс	Scissor skills	Scissor skills	Tool safety Secateurs loppers	Tool safety carving
	Composite	Make:To make	Make:To make by	Make: To make by	Make: To make with increasing

	Skills	following clear visual step by step instructions.	sequencing the steps for construction.	selecting tools and materials.	independence, skill and accuracy.
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		DT				
		Scheme A	Scheme B	Scheme C	Scheme D	
Term 2	Key Concept (NC)	Technical knowledge. Evaluate.	Technical knowledge. Evaluate.	Technical knowledge. Evaluate.	Technical knowledge. Evaluate.	
	Торіс	Mechanisms: Sliders moving winter scene/card	Mechanisms: levers & sliders Moving winter scene/card	Mechanisms: pulleys Squashed tomato challenge	Mechanisms: pulleys Squashed tomato challenge	
	Composite Skills	Evaluate:To investigate a range of products.	Evaluate:To evaluate a range of products.	Evaluate: To evaluate and refine a product for a purpose	Evaluate: To evaluate and refine a product for a purpose and its user.	

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		Technical Knowledge: To identify a simple mechanism.	Technical Knowledge: To follow instructions to make a simple moving mechanism.	Technical Knowledge: To use a mechanical system in their product.	Technical Knowledge: To use a more complex mechanical system in their product.
Term 4	Key Concept (NC)	Design, Technical knowledge	Design, Technical knowledge	Design, Technical knowledge	Design, Technical knowledge
	Торіс	Mechanisms: Wheels & axles Types of wheels and	Mechanisms: Wheels and axles Two ways of securing	Mechanisms: Wheels and axles Wind powered cars	Mechanisms: Wheels and axles.
		axies	wheels and axies		Solar cars
	Composite Skills	Technical Knowledge: To identify a simple mechanism.	Technical Knowledge: To follow instructions to make a simple moving mechanism	Technical Knowledge: To use a mechanical system in their product.	Technical Knowledge: To add electrical control to a mechanism.
		Design: To make a choice from a selection.	Design: To make design choices.	Design: Develop and communicate design ideas using annotated sketches, detailed plans.	Design: Can consider the constraints when designing their products.
				can describe how their vehicle mechanism is environmentally friendly	Understand developments in DT, its impact on individuals, society and the environment, the responsibilities of

					designers, engineers and technologists.
Term 6	Key Concept (NC)	Make: Tool safety.	Make: Tool safety.	Make: Tool safety.	Make: Tool safety.
	Торіс	hammers	hammers	Saws, drills	Saws, drills
	Composite skills	Make: To make following clear visual step by step instructions.	Make: To make by sequencing the steps for construction.	Make: To make by selecting tools and materials.	Make: To make with increasing independence, skill and accuracy.