

Design & Technology Pathway



Highlighted – sticky knowledge/skills

BT5: Birth to 5 DM – Development Matters

	Nursery	Reception	Year1	Year 2	Expectation
Design	Skills				
	DM - Explore different materials freely, to develop their ideas about how to use them and what to make. Big Acorns DM - Develop their own ideas and then decide which materials to use to express them. – Big Acorns DM - Use their imagination as they consider what they can do with different materials. – Little Acorns	In CP: • Making verbal plans and material choices. • Choosing from available materials. • Describing their junk model, and how they intend to put it together. Mechanisms: Verbally design picture and mechanisms slider type for moving Christmas card to an adult. Textiles: Draw colour design for bookmark including card and ribbons. Food: Verbally and with images, design a soup design as a class – to include ingredients	Structures: Generating and communicating ideas using sketching and modelling. (links to all units) Food: Design smoothie including juice and fruit/veg. Textiles: Using a template to create a design for a puppet to include details of colour and resources	Mechanisms: Creating a class-design criteria for a moving monster. (links to all units) Designing a moving monster for a specific audience in accordance with a design criteria. Food: Designing a healthy wrap based on a food combination which works well together. Textiles: Designing a pouch including decorations, colour of thread and felt.	Design purposeful, functional, appealing products for themselves and other users based on design criteria Generate, develop, model and communicate their ideas through an appropriate medium, e.g. talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

Design & Technology Pathway



Highlighted – sticky knowledge/skills

BT5: Birth to 5 DM – Development Matters

Knowledge				
		To know there are a range to different materials that can be used to make a model and that they are all slightly different. BT5 - Uses their increasing knowledge and understanding of tools and materials to explore their interests and enquiries and develop their thinking Using knowledge from exploration to inform design. Food: To recognise and name some common vegetables.	Know that in D.T we call a plan a 'design'. Know that drawing a design idea is useful to see how an idea will look. Structures: To know that a structure is something which has been formed or made from parts. Learning about different types of structures, found in the natural world and in everyday objects To know that shapes and structures with wide, flat bases or legs are the most stable. To understand that the shape & material	Knowing that their design needs a brief, labelled picture, list of tools and materials. Mechanisms: Know some real-life objects that contain mechanisms. Textiles: Know that sewing is a method of joining fabric. Know that different stitches can be used when sewing.

Design & Technology Pathway



Highlighted – sticky knowledge/skills

BT5: Birth to 5 DM – Development Matters

			of a structure affects its strength. To know that materials can be manipulated to improve strength and stiffness. To know that natural structures are those found in nature and man-made are those made by people. Textiles: Know that 'joining technique' means connecting two pieces of material together. Know that there are various temporary methods of joining fabric by using staples, glue or pins.		
Make	Skills				
	In CP: • BT5 - Uses tools for a purpose	In CP: • Chopping plasticine/dough safely	Structures: Making a structure according to a design.	Mechanisms:	Select from and use a range of tools and equipment to

Design & Technology Pathway



Highlighted – sticky knowledge/skills

BT5: Birth to 5 DM – Development Matters

Exploration & Making – Acorn	• DM - Make simple models which express their ideas. Little Acorns • DM – Build independently with a range of appropriate resources. Little Acorns • DM – Use large and small motor skills to do things independently, for example manage buttons and zips, and pour drinks. Little Acorns • DM – Develop manipulation and control. Little Acorns • DM – Explore different materials and tools Little Acorns • DM - Explore how things work. Big Acorns Textiles: • DM - Explore different materials, using all their senses	• Developing a junk model. • Improving fine motor/scissor skills with a variety of materials. • Joining different materials in a variety of ways (temporary and permanent). • BT5 - Creates representations of both imaginary and real-life ideas, events, people and objects • BT5 - Uses combinations of art forms, e.g. moving, making, drawing, talking, constructing and mapping • BT5 - Develops their own ideas through experimentation with diverse materials, e.g. loose parts to express and communicate their discoveries and understanding. • DM - Create collaboratively, sharing	Creating joints and structures from paper/card and tape. Building a strong and stiff structure by folding paper. Make cylinders from paper/card to create stable structures Cut fringes in the cylinders before sticking to the base of the chair to increase stability. Food: Chopping fruit and vegetables safely to make a smoothie. (chopping) . Begin to use claw/bridge grip to cut.	Making linkages using card for levers and split pins for pivots. Experimenting with linkages adjusting the widths, lengths, and thicknesses of card used. Cutting and assembling components neatly. Food: Chopping/slicing food safely using the bridge/claw grip, a grater, a knife & fork and scissors to snip smaller foods. Spreading soft foods Constructing a wrap that meets a design brief. Textiles: Selecting and cutting fabrics for sewing.	perform practical tasks such as 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 Technical knowledge: - 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.
--	--	--	--	--	--

Design & Technology Pathway



Highlighted – sticky knowledge/skills

BT5: Birth to 5 DM – Development Matters

	to investigate them. Manipulate and play with different materials. Little Acorns • DM - Join different materials and explore different textures. Big Acorns • DM - Explore different materials freely, to develop their ideas about how to use them and what to make. Big Acorns • DM - Use one-handed tools and equipment, for example, making snips in paper with scissors. eg. Using glue sticks, tape dispensers, jugs, spoons, scoops, scissors. Big Acorns Structures: • BT5 - Uses various construction materials, e.g. joining pieces, stacking	ideas, resources and skills. • DM - Explore, use and refine a variety of artistic effects to express their ideas and feelings. Food: • Chopping and peeling vegetables with adult support. • Prepare other ingredients for the soup together eg. Water, stock cubes, salt & pepper Textiles: • Exploring fine motor/threading and weaving (under, over technique) with a variety of materials. • Cut with scissors the slots in the card ready for weaving. • Use ribbons to thread and weave through the cardboard	Ensure fruit/veg is ready to put in blender eg. Peeling bananas, cutting stalks off strawberries Juicing fruits safely to make a smoothie – using a blender. Textiles: Cutting fabric neatly with scissors. Using joining methods to join and decorate a puppet. Sequencing steps for construction.	Neatly pinning and cutting fabric using a template. Decorating a pouch Threading a needle. Sewing running stitch, with evenly spaced, neat, even stitches to join fabric.	
--	---	--	---	---	--

Design & Technology Pathway



Highlighted – sticky knowledge/skills

BT5: Birth to 5 DM – Development Matters

	vertically and horizontally, balancing, making enclosures and creating spaces • BT5 - Uses 3D and 2D structures to explore materials and/or to express ideas • BT5 - Experiments with ways to enclose a space, create shapes and represent objects • DM - Make imaginative and 'small worlds' with blocks and construction kits. Mechanisms: • BT5 - Plays with a range of materials to learn cause and effect, for example, makes a string puppet using dowels and string to suspend the puppet • BT5 – Show an interest in technological toys.	Mechanisms: • Create a moving slider, by making a slot using scissors and a hole punch and creating a picture on a guide.			
--	--	---	--	--	--

Design & Technology Pathway



Highlighted – sticky knowledge/skills

BT5: Birth to 5 DM – Development Matters

	Operates mechanical toys, e.g. turns the knob on a wind-up toy or pulls back on a friction car				
	• BT5 - Shows skill in making toys work by pressing parts or lifting flaps to achieve effects eg. movements • DM - Explore and talk about different forces they can feel.				
Knowledge					
	BT5 - Talks about why things happen and how things work DM - Talk about the differences between materials and changes they notice.	In CP: • DM - Return to and build on their previous learning, refining ideas and developing their ability to represent them. • BT5 - Looks closely at similarities, differences, patterns and change in nature • BT5 - Knows about similarities and differences in relation	Structures: To know that a 'stable' structure is one which is firmly fixed and unlikely to change or move. To know that a 'strong' structure is one which does not break easily. To know that a 'stiff' structure or material	Mechanisms: Know that mechanisms are a collection of moving parts that work together as a machine to produce movement. Know that there is always an input and output in a mechanism.	

Design & Technology Pathway



Highlighted – sticky knowledge/skills

BT5: Birth to 5 DM – Development Matters

		to places, objects, materials and living things Mechanisms: Know that a mechanism is the parts of an object that move together. Know that a slider mechanism moves an object from side to side. Know that a slider mechanism has a slider, slots, guides and an object. Know that bridges and guides are bits of card that purposefully restrict the movement of the slider. Food: To know that soup ingredients (usually vegetables and liquid) are blended together.	is one which does not bend easily Food: Identifying if a food is a fruit or a vegetable. Learning where and how fruits and vegetable grow. Understanding the difference between fruits and vegetables - Know that a fruit has seeds and vegetables don't. Understand that some foods typically known as vegetables are actually fruits eg. cucumber Know that a blender is a machine which mixes ingredients together into a smooth liquid.	Know that an input is the energy that is used to start something working. Know that an output is the movement that happens as a result of the input. Know that a lever is something that turns on a pivot. Know that a linkage mechanism is made up of a series of levers. Food: Know that 'diet' means the food and drink that a person or animal usually eats. Understand what makes a balanced diet. Know that the five main food groups are:	
--	--	--	--	--	--

Design & Technology Pathway



Highlighted – sticky knowledge/skills

BT5: Birth to 5 DM – Development Matters

		Know the order of the soup process. Textiles: To know that weaving is putting one material through an object. Know how to make slots in the card/paper bookmark by folding and making snips with scissors.	Know that fruit grow on trees or vines. Know that vegetables can grow either above or below ground. Know that vegetables are any edible part of a plant eg. roots: potatoes, leaves: lettuce. Textiles: Understand that different techniques for joining materials can be used for different purposes. Understand that a template (or fabric pattern) is used to cut out the same shape multiple times.	carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar. Understand that I should eat a range of different foods from each food group, and roughly how much of each food group. Know that 'ingredients' means the items in a mixture of recipe. Textiles: Understand the importance of tying a knot after sewing the final stitch. Know that a thimble can be used to protect my fingers when sewing.	
		Skills & Knowledge			

Design & Technology Pathway



Highlighted – sticky knowledge/skills

BT5: Birth to 5 DM – Development Matters

Evaluate	BT5 PD - Develops own likes and dislikes in food and drink. Little Acorns Say what they have made Can talk about likes and dislikes e.g. appearance	In CP: • Giving a verbal evaluation/opinion of their own and others' junk models and other products with adult support. • Making simple suggestions to fix their junk model. • Checking to see if their model matches their plan/idea with adult prompt. • Considering what they would do differently if they were to do it again. • Describing their favourite and least favourite part of their model. Mechanisms: Review their finished bookmark, seeing whether it moves as planned and if not, think about why and how it can be fixed.	Structures: Exploring the features of structures. Comparing the stability of different shapes. Testing the strength of own structures. Identifying the weakest part of a structure. Evaluating the strength, stiffness and stability of own structure. Food: Tasting and evaluating different food combinations. Describing appearance, smell and taste. Suggesting information to be	Mechanisms: Evaluating own designs against design criteria. Using peer feedback to modify a final design. Food: Describing the taste, texture and smell of fruit and vegetables. Taste testing food combinations and final products. Describing the information that should be included on a label. Evaluating food by giving a score Textiles: Troubleshooting scenarios posed by teacher.	Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria
----------	--	---	---	--	---

Design & Technology Pathway



Highlighted – sticky knowledge/skills

BT5: Birth to 5 DM – Development Matters

		Review the success of their slider card by testing it with its intended audience (parents). Food: Tasting the soup and giving opinions. Describing some of the following when tasting food: look, feel, smell and taste. To know that different vegetables taste different. Textiles: Reflect on their finished bookmark and compare to their design.	included on packaging. Comparing their own smoothie with someone else's Textiles: Reflecting on a finished product, explaining likes and dislikes. (links to other units)	Evaluating the quality of the stitching on others' work. Discussing as a class, the success of their stitching against the success criteria. Identifying aspects of their peers' work that they particularly like and why.	
Vocabulary Bold – sticky words children will know	Scissors Glue Material Stick Cut Fold	plan Safety Food: Tools Mix	Design Evaluate Compare <u>Structures:</u> Function	Design brief/criteria Evaluation <u>Mechanisms:</u> Input Lever	

Design & Technology Pathway



Highlighted – sticky knowledge/skills

BT5: Birth to 5 DM – Development Matters

	Tower Soft Hard Idea	Chop Blend <u>Structures/Mechanisms:</u> Bend Cut Fix Join Scissors Stick Wood Plastic Metal <u>Textiles:</u> Weave Pattern Materials fabric	Man-made Mould Natural Stable Stiff Slot Strong Structure Test Weak <u>Food:</u> Blender Fruit Vegetables Healthy Smoothie Seed Root Leaf Stem Taste Cut Knife Plant Tree Vine Chopping board Select <u>Textiles:</u>	Linkage Mechanical Output Pivot <u>Food:</u> Balanced Carbohydrates Dairy Diet Flavour Grater/grate Ingredients Proteins Snip Spread <u>Textiles:</u> Knot Sew Sewing needle Running-stitch Template	
--	--	--	--	---	--

Design & Technology Pathway



Highlighted – sticky knowledge/skills

BT5: Birth to 5 DM – Development Matters

			Decorate Fabric Glue Hand puppet Safety pins Staple Stencil Template		
--	--	--	--	--	--