



Design and Technology Medium Term Plan

Year 1 DT	Autumn	Spring	Summer
Concepts	Structures	Textiles	Cooking and nutrition
Overview	Learning what a windmill is and constructing a model windmill by reference to design criteria created for the client, Mouse, who lives in the windmill in Old Amsterdam.	Choosing a character to base their puppet on, children will design a puppet, explore joining techniques before constructing their final piece and decorating it keeping with the design of their chosen character.	Children prepare and blend chosen fruits and vegetables to make smoothies and design packaging for their drinks to reflect the ingredients.
What we need to know	<p>To understand that the shape of materials can be changed to improve the strength and stiffness of structures.</p> <p>To understand that cylinders are a strong type of structure (and, therefore, they are the main shape used for windmills and lighthouses).</p> <p>To understand that axles are used in structures and mechanisms to make parts turn in a circle.</p> <p>To begin to understand that different structures are used for different purposes.</p> <p>To know that a structure is something that has been made and put together.</p>	<p>To know that 'joining technique' means connecting two pieces of material together.</p> <p>To know that there are various temporary methods of joining fabric by using staples, glue or pins.</p> <p>To understand that different techniques for joining materials can be used for different purposes.</p> <p>To understand that a template (or fabric pattern) is used to cut out the same shape multiple times.</p>	<p>To understand the difference between fruits and vegetables.</p> <p>To understand that some foods typically known as vegetables are actually fruits (e.g. cucumber).</p> <p>To know that a blender is a machine which mixes ingredients together into a smooth liquid.</p> <p>To know that a fruit has seeds and a vegetable does not.</p> <p>To know that fruits grow on trees or vines.</p>

		To know that drawing a design idea is useful to see how an idea will look.	To know that vegetables can grow either above or below ground. To know that vegetables can come from different parts of the plant.
Sequence of learning	<p>Designing the structure.</p> <p>Assembling the structure.</p> <p>Assembling the windmill.</p> <p>Testing and evaluating.</p>	<p>Joining fabrics.</p> <p>Designing my puppet.</p> <p>Making and joining my puppet.</p> <p>Decorating my puppet.</p>	<p>Fruit or vegetable?</p> <p>Where fruit and vegetables grow.</p> <p>Smoothie ingredients tasting.</p> <p>Making smoothies.</p>
Building on what we know	<p>Physical development</p> <ul style="list-style-type: none"> Develop small motor skills so that they can use a range of tools competently, safely and confidently. ELG: Fine Motor Skills: Use a range of small tools, including scissors, paint brushes and cutlery. <p>Expressive arts and design</p> <ul style="list-style-type: none"> Explore, use and refine a variety of artistic effects to express 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. ELG: Creating with Materials: Safely use and explore a variety of materials, tools and techniques, experimenting 	<p>Physical development</p> <ul style="list-style-type: none"> Develop their small motor skills so that they can use a range of tools competently, safely and confidently. ELG: Fine Motor Skills: Use a range of small tools, including scissors, paint brushes and cutlery. <p>Expressive arts and design</p> <ul style="list-style-type: none"> ELG: Creating with materials: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. <p>Expressive arts and design</p>	<p>Physical development</p> <ul style="list-style-type: none"> Develop small motor skills so that they can use a range of tools competently, safely and confidently. ELG: Fine Motor Skills: Use a range of small tools, including scissors, paint brushes and cutlery. <p>Communication and language</p> <ul style="list-style-type: none"> Learn new vocabulary. Use new vocabulary throughout the day. ELG: Speaking: Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. <p>Personal, social and emotional development</p> <ul style="list-style-type: none"> Know and talk about the different factors that support their overall health and wellbeing: healthy eating.

	<p>with colour, design, texture, form and function.</p> <p>Characteristics of effective learning</p> <ul style="list-style-type: none"> • Playing and exploring. • Active learning. • Creating and thinking critically. 	<ul style="list-style-type: none"> • Explore, use and refine a variety of artistic effects to express their ideas and feelings. • ELG: Creating with materials: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • ELG: Creating with materials: Share their creations, explaining the process they have used. <p>Characteristics of effective learning</p> <ul style="list-style-type: none"> • Playing and exploring • Active learning • Creating and thinking critically 	<ul style="list-style-type: none"> • ELG: Managing self: Manage their own basic hygiene and personal needs, including...understanding the importance of healthy food • <u>ELG: Creating with Materials:</u> Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • <u>ELG: Creating with Materials:</u> Share their creations, explaining the process they have used. <p>Characteristics of effective learning</p> <ul style="list-style-type: none"> • Playing and exploring • Active learning
Vocabulary	Axle, bridge, design, design criteria, model, net, packaging, structure, template, unstable, stable, strong, weak	Decorate, design, fabric, glue, model, hand puppet, safety pin, staple, stencil, template	Fruit, vegetable seed, leaf, root, stem, smoothie, healthy, carton, design, flavour, peel Slice
Disciplinary Knowledge	<p>Learning the importance of a clear design criteria.</p> <p>Including individual preferences and requirements in a design.</p> <p>Making stable structures from card, tape and glue.</p> <p>Learning how to turn 2D nets into 3D structures.</p>	<p>Using a template to create a design for a puppet.</p> <p>Cutting fabric neatly with scissors.</p> <p>Using joining methods to decorate a puppet.</p> <p>Sequencing steps for construction.</p> <p>Reflecting on a finished product, explaining likes and dislikes.</p>	<p>Designing smoothie carton packaging by-hand or on ICT software.</p> <p>Chopping fruit and vegetables safely to make a smoothie.</p> <p>Identifying if a food is a fruit or a vegetable.</p> <p>Learning where and how fruits and vegetables grow.</p>

	<p>Following instructions to cut and assemble the supporting structure of a windmill.</p> <p>Making functioning turbines and axles which are assembled into a main supporting structure.</p>		<p>Tasting and evaluating different food combinations.</p> <p>Describing appearance, smell and taste.</p> <p>Suggesting information to be included on packaging.</p>
--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------