Design Technology Knowledge Progression Through School

Design Technology Links to the EYFS Curriculum				
Nursery	**Physical Development:** • Use large-muscle movements to wave flags and streamers, paint and make marks. • Choose the right resources to carry out their own plan. • Use one-handed tools and equipment, for example, making snips in paper with scissors. **UTW:** Explore how things work **Expressive Arts and Design:** • 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, 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.			
Reception (ELG)	**Physical Development-** Fine Motor Skills • Use a range of small tools, including scissors, paintbrushes and cutlery. **Expressive Arts and Design-** Creating with Materials • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • Share their creations, explaining the process they have used.			
Area of Design Technology	**Structures**	**Mechanisms**	**Cooking and Nutrition**	**Textiles**
Nursery	To know what they want to build. To know you can build with a variety of construction materials. To know the name and purpose of different tools. To know tools must be used safely.	To explore how things work (UTW)	To recognise and name some common foods. To know that different foods have different tastes. To know how to wash and dry their hands independently.	To know the name of different tools, knows their purpose and understands they need to be used safely. Eg. Scissors- cutting. Sellotape/ masking tape/ glue-sticking. Knows how to hold scissors and use them to make snips in paper.
Reception	To know to join construction pieces together to build and balance. To know there are a range of different materials that can be	To know that a split pin can be used to make something move. To know how to use different tools including scissors safely.	To know what textures are and can use them to describe different fruits and vegetables – soft, hard, sweet, sour, crunchy, smooth. To recognise and name some common fruits and vegetables.	To know that a design is a way of planning our idea before we start. To know that threading is putting one material through an object.

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	used to make a model and that they are all slightly different. To make simple suggestions to fix their junk model. To know how to use simple tools to join. Eg. tape/stapler/glue To know that 'waterproof' materials are those which do not absorb water.	To know that card can bend and fold. To return to and build on their previous learning, refining ideas and developing their ability to represent them.	To know vegetables are grown. To know that eating fruit and vegetables is good for us. To know there is a sequence to follow when preparing food.	To knwo that weaving uses the under- over technique.
Year 1	Recognising that different structures are used for different purposes. Exploring the features of structures. Describing structures as buildings or freestanding structures. Creating supporting structures to aid stability. To understand that cylinders are a strong type of structure (e.g. the main shape used for windmills and lighthouses). To understand that axles are used in structures and mechanisms to make parts turn in a circle.	Technical Recognising and exploring everyday objects that have mechanisms. Recognising everyday objects that use a slider mechanism (eg. drawers, sliding doors, paper trimmer). To know that a mechanism is the parts of an object that move together. To know that a slider mechanism moves an object from side to side. To know that a slider mechanism has a slider, slots, guides and an object. To know that bridges and guides are bits of card that purposefully restrict the movement of the slider. Many things that move have parts inside to help them work. Mechanisms usually limit unwanted movement.	To know that a blender is a machine which mixes ingredients together into a smooth liquid. To know that a fruit has seeds and a vegetable does not. To know that fruits grow on trees or vines. To know that vegetables can grow either above or below ground. To know that vegetables is any edible part of a plant.	To know that 'joining technique' means connecting two pieces of material together. To know that there are various temporary methods of joining fabric by using staples, glue or pins. To understand that different techniques for joining materials can be used for different purposes. To understand that a template (or fabric pattern) is used to cut out the same shape multiple times.

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	To begin to understand that different structures are used for different purposes. To know that a structure is something that has been made and put together. To know that the sails or blades of a windmill are moved by the wind. To know that a structure is something built for a reason. To know that stable structures do not topple. To know that adding weight to the base of a structure can make it more stable. Additional To know that the purpose is what something is for. To know that a plan is deciding what to do first and next. To know the names of common pieces of equipment. To know that some tools are sharp like scissors and knives.	An axle allows the wheel to turn without falling off. To know that wheels need to be round to rotate and move. To understand that for a wheel to move it must be attached to a rotating axle. To know that an axle moves within an axle holder which is fixed to the vehicle or toy. To know that the frame of a vehicle (chassis) needs to be balanced. Additional To know that the 'user' is the person who will use the product. To know that different users may want different things from a design. To know that designers usually design and make something to solve a problem. To know that who they are designing for makes a difference to what they design. To know that the purpose is what something is for. To know that existing products can help when deciding what to design. To know that drawings are a way to explain ideas. To know that a plan is deciding what to do first and next To know that choosing different materials or components will		

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	To know that a structure is something that has been made and put together. To know that design criteria is a list of points to ensure the product meets the clients needs and wants. To know that a windmill harnesses the power of wind for a purpose like grinding grain, pumping water or generating electricity. To know that windmill turbines use wind to turn and make the machines inside work. To know that a windmill is a structure with sails that are moved by the wind. To know the three main parts of a windmill are the turbine, axle and structure. To know that windmills are used to generate power and were used for grinding flour.	have an effect on what their product does or looks like. To know that a mock-up is a model of how something works. To know that different equipment does different things. To know the names of common pieces of equipment. To know that some tools are sharp like scissors and knives. To know that following instructions helps with safety. To know that cutting in a straight line can be helpful when making. To know that different materials can be shaped by different tools. To know that some products will be better than others. To know that their ideas or products can be made better. To know that many things that move have parts inside to help them work. To know that mechanisms usually limit unwanted movement. To know that a slider mechanism moves an object in a straight line (eg. left/right, up/down). To know that sliding mechanisms are designed to keep movement in one direction (eg. using guides/rails etc). To know that in Design and technology we call a plan a 'design'.		

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		To know that their final product might be different to their original idea. To know that their ideas can make someone else's work better. To know that other people's ideas can help make their work better. To know some real-life items that use wheels such as wheelbarrows, hamster wheels and vehicles.		
Year 2	To know that materials can be manipulated to improve strength and stiffness. To know that a structure is something which has been formed or made from parts. 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 is one which does not bend easily.	To know everyday objects have mechanisms. To know many things that move have parts inside to help them work. To know mechanisms usually limit unwanted movement. To know everyday objects utilise wheels and axles. To know wheels must be able to turn to work effectively. To know axles allow wheels to turn without falling off. To know that mechanisms are a collection of moving parts that work together as a machine to produce movement. To know that there is always an input and output in a mechanism. To know that an input is the energy that is used to start something working. To know that an output is the movement that happens as a result of the input. To know that a lever is something that turns on a pivot.	To know that 'diet' means the food and drink that a person or animal usually eats. To know what makes a balanced diet. To know that the five main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar. To know that I should eat a range of different foods from each food group, and roughly how much of each food group. To know that 'ingredients' means the items in a mixture or recipe. To know how to cut, grate, snip and spread to prepare foods. To know how to review and give a score to evaluate.	To know that sewing is a method of joining fabric To know that different stitches can be used when sewing. To understand the importance of tying a knot after sewing the final stitch. To know that a thimble can be used to protect my fingers when sewing

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		To know that a linkage mechanism is made up of a series of levers. Additional To know the features of a fairground wheel include the wheel, frame, pods, a base an axle and an axle holder. To know some real-life objects that contain mechanisms.		