

DT key knowledge

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	0-3 yrs Understands that different objects are made of different things. Know that smaller objects fit into larger objects. 3-4 yrs Aut 1 Understand that blocks/construction can be stacked if it is a flat surface but a curved surface cannot be stacked. Know that they can choose things in the environment that help them with their own goals.	3-4 yrs Aut 2 Understand that print has meaning – it tells us something i.e. logos.	0-3 yrs Understand that different materials in the environment can be used to make models i.e. blocks, materials Know that different materials can represent our ideas. 3-4 yrs Spring 1 Understand that different materials can represent our ideas Know the differences between materials such as playdough is soft/squishy and clay is harder. Know the difference between materials such as light can shine through some materials because they are thinner, some materials sink because they are heavy whilst others float because they are light and changes such as melting ice, cooking ingredients.	0-3 - Identify where they can fit in relation to spatial awareness or if something is 'too small' or 'too high'. 3-4 yrs Spring 2 Know that tools can be used to change materials (rolling pin, scissors, dough cutters). Know how to use writing equipment to make marks.	0-3 yrs Knows that materials in the environment can be used to represent other things Understand that some things can be stacked and that size contributes to this i.e. a large block might not balance on a small block. Know how to match a puzzle piece by shape. Identify that we can record our ideas.	

Reception	Explore tools and materials used for junk modelling. Cut different materials using different scissor types. Select the correct resources needed to make a model.		Develop threading and weaving skills using ribbons on wire racks. Develop threading and weaving skills using wool through ten frames. Identify ways to use threading to make a product.		Identify what waterproof means. Identify which materials will float and sink. Identify how the shape and structure of boats affects the way they move.	
Year 1	A structure is something that has been made and put together. A design criteria is a list of what to include when making a product. An axle helps the turbine move.		Joining technique means connecting two pieces of material together. A template is used to cut out the shape multiple times. A design helps to see how an idea will look.		Know that some foods, typically known as vegetables, are actually fruits. A fruit has seeds and a vegetable does not. Fruits grow on trees or vines. A blender is a machine which mixes ingredients together into a smooth liquid.	
Year 2		Shapes and structures with wide, flat bases or legs are the most stable. Materials can be manipulated to improve strength and stiffness. A 'stable' structure is one which is firmly fixed and unlikely to change or move.		Different materials have different properties and are therefore suitable for different uses. Features of a Ferris wheel include the wheel, frame, pods, a base, an axle and an axle holder. It is important to test my design as I go along so that I can solve any problems that may occur.		Mechanisms are a collection of moving parts that work together with a machine to produce movement. There is always an input and output in a mechanism. An input is the energy that is used to start something working.

				Explain that a mechanism is parts of an object that move together.		An output is the movement that happens as a result of the input. A lever is something that turns on a pivot, and linking mechanisms are made up of a series of levers.
Year 3	Not all fruits and vegetables are grown in Britain. Many foods are imported from all across the globe. Fruits and vegetables are full of vitamins, minerals and fibre which help us heal and grow.		A combination of electronics and items that you can wear to help you with day-to-day activities such as purchasing goods. A micro: bit is a programmable electronic device that can be coded to carry out certain functions.		Castles can have lots of features such as towers, turrets, battlements and moats.	
Year 4		The purpose of a pavilion is a light, flexible space which can be permanent but is often temporary. Different materials can create different effects. Explore how to make a stable structure. Identify how to select suitable materials.		Chassis is the frame of a car on which everything else is built. Explore how to design a shape that reduces air resistance. Moving things have kinetic energy. Nets are flat shapes that can be turned into 3D structures. Explore how to measure, mark and cut accurately.		Identify a variety of electrical products and why they are useful. Explore how to make a working switch. Explore how to design a product. Explore how to make and evaluate a product.
Year 5	In a series circuit, electricity only flows in one direction.		Identify what mechanical systems are.	Identify where meat comes from. Learning that beef is from cattle and how beef is		



	When there is a break in a series circuit, all components turn off. An electric motor converts electrical energy into rotational movement, causing the motor's axle to spin. A motorised product is one which uses a motor to function.		Explore the difference between levers and linkages. Identify how to create a design criteria. Explore how to use mechanical systems to make a mechanical poster.	reared and processed, including key welfare issues. A recipe can be adapted to make it healthier by substituting ingredients. A nutritional calculator shows how healthy a food option is. 'Cross-contamination' means that bacteria and germs have been passed onto ready-to-eat foods and it happens when these foods mix with raw meat or unclean objects.		
Year 6		It is important to design clothing with the client/target customer in mind. The use of a template (or clothing pattern) helps to accurately mark out a design on fabric. Understand the importance of consistently sized stitches	n	Identify that structures can be strengthened by manipulating materials and shape. Understand what a 'footprint plan' is. In the real world, design can impact users in positive and negative ways. Explain that a prototype is a cheap model to test a design		Explain the difference between 'form' and 'function' Define the terms - 'fit for purpose' and 'form over purpose' Identify diagram perspectives - 'top view', 'side view' & 'back'