Knowledge in Design Technology Substantive knowledge concerns the key facts, concepts, principles and explanatory frameworks in a subject.

Disciplinary Knowledge needed in order to think, process and understand with the subject. Substantive knowledge in design technology is based on the knowledge of four key elements of the process of design (design, make, evaluate and technical knowledge). All of these elements are taught in all year groups.

Disciplinary knowledge in design and technology is the process of enabling children to use their substantive knowledge of products and materials around them to make links between and across different areas of the curriculum. Knowledge in design and technology will equip the children with the opportunity to explain how and why products have changed over time and how they might be further improved in the future. They can use their knowledge and understanding to suggest how existing products may be improved with the advances in modern technology. They will show they have the cultural capital to become global citizens in an ever changing and technologically advancing world.

Disciplinary Knowledge in DT – progression from Nursery to Year 2

	Nursery	Reception	Year 1	Year 2
Design The art or process of deciding how something will look or work.	Choose to make something that represents an idea e.g build a shelter for an animal	Design something based on a specific given idea e.g a Christmas card, something that can fly, a birthday cake, easter card	Can create a design based on a theme, for a specific person or purpose, that incorporates a movable image Design a structure that is free standing	Design a paper tower that can bear a weight
Make Create something by combining materials or putting parts together.	Use appropriate scissors to make snips at paper or materials Use construction kits, blocks, large materials to create an idea Mark make and attribute lines and shapes to a design Explore different materials freely to develop ideas about how to use them and what to make	Use scissors to cut along straight and curved lines and around shapes Use a ruler to draw and measure lines Manipulate fabric and yarns by poking, pulling, threading and weaving Develop small motor skills so a range of tools can be used competently	Use scissors to cut shapes specifically for templates or purpose with a degree of accuracy Use rulers and scissors accurately Can use the ‘up and under’ weaving method accurately and consistently Can make their own examples of different joins Combine materials	Use a template to transfer a pattern Cut out and join fabric shapes using a template Use a needle and thread to create small even stitches Transform flat paper by folding and creasing in the form of origami to make a hat

Evaluate Form an opinion of the value or quality of something after careful thought.	Talk about what they have made or seen Explore how things work Talk about different materials and changes they notice	Sort objects according to size, shape and colour Identify that objects are made from different materials Can describe what fair means e.g. when sharing out toys Return to and build on previous learning, refining ideas and developing their ability to represent them	Identify a range of materials and sort by their properties Identify limitations of techniques or materials and make design adjustments as needed Can suggest ways in which their completed product could be improved e.g. structurally or decoratively Can carry out a fair test	Evaluate, draw conclusions from and record results Test and record how much weight paper can hold Conduct a fair test systematically
Apply Use something or make something work in a particular situation.	Explore with construction kits and blocks to build towers and buildings Use threading cards and laces to complete a 'stitch'	Identify different types of building blocks Thread different sized objects onto laces (narrow and wide holes)	Can explain and demonstrate the meaning of balance using blocks Create a running stitch Select tools for sewing Thread a needle	Make paper waterproof
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	Use duplo or lego to make simple moving vehicles	Create paper dolls joined together by folder paper	Build structures that are freestanding using a range of different materials	Create a simple wheel mechanism Use wheel mechanisms to propel a vehicle Fold paper to increase strength and stability

Cooking and Nutrition Use the basic principles of a healthy and varied diet to prepare dishes Understand where food comes from	Name some vegetables Uses their senses to make understand their surroundings Holds a spoon, knife and fork and will feed themselves	Distinguish between fruit and vegetables Identify the five senses Uses a knife and fork to cut up or make attempts to cut up food	Explain that vegetables contain vitamins and minerals that the body needs Modify food to suit their food senses e.g seasoning and breadcrumb Can use a knife safely and accurately with control using the claw and bridge techniques Can use appropriate vocabulary to describe tastes and textures Use the techniques of grating and ribboning safely and with control	Prepare a range of salad vegetables Shape and season a bread snack Shape and form ingredients to make delicious food Use a range of culinary techniques+