Marston Moreteyne School *Design and Technology* Curriculum- Based on the eight "Big Ideas"

Processes	Creativity	Investigation	Materials	Nature	Significance	Humankind	Comparison

The "Aspects" below are progressive and start from Nursery through to Year Four. They allow children to encounter and revisit their learning through a variety of subject lenses. Over time, these encounters help children to build conceptual frameworks that enable a better understanding of increasingly

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Mechanisms and Movement Exploration and play leads into a developing understanding of mechanisms include sliders, levers, linkages, gears, pulleys and cams. They explore ad use. This leads into designing own products using knowledge. **Electricity** Children know that many appliances at home and school need electricity to work. The appliances need to be attached to electricity through a plug and socket, or use batteries. Identify products that use electricity to make them work. This leads into a deeper understanding of circuits and their different components.	**Generation of Ideas** Children start by exploring a range of resources such as blocks and construction kits. They move onto creating and sharing ideas to make products inspired by existing products, stories or their own ideas. They learn that ideas can be communicated in a variety of different ways and that design criteria are the exact goals a project must achieve to be successful. **Structures** Children begin by exploring different materials. They will then create simple models or structures by understanding properties. They use this to make structures stronger, stiffer and more stable. This leads onto the creation of a prototype. **Use of ICT** Digital devices record children work and they learn to use computers to create simple plans for a design. Children move onto writing simple instructions to make something move on a tablet or screen, progressing further to remotely controlling a device such as a light, speaker or buzzer.	**Investigation** Exploration of simple tools with practical tasks and experiments with joining materials. Children then develop their thinking and understand that specific tools are used for particular purposes and select tools accordingly. Children develop skills further by exploring more complex joining techniques in their work. **Evaluation** Children share their creations and responding to questions. They begin to understand that it's possible to change and alter designs and ideas and identify strengths and weaknesses. This will lead onto comparing finished products with specific design criteria and saying what they could do to improve in the future.	**Cutting and Joining Textiles** Children learn to cut and glue fabric as well as learning how to use simple stitches, such as running stitch. This develops onto more complex stitching and investigations with weaving on a loom. **Materials for Purpose** Children know that different materials are suitable for different purposes, such as construction kits for modelling and ingredients for baking. This leads into an understanding of their specific properties. For example, glass is transparent, so it is suitable to be used for windows. With developing understanding children choose appropriate components and materials and suggest ways of manipulating them to achieve the desired effect. Children will be able to plan which materials will be needed for a task and explain why. **Decorating and Embellishing Textiles** Children begin by decorating fabric with materials and small objects such as buttons and sequins using glue, stapling or tying. This develops into embellishment as a way of making something more attractive and techniques such as applique. Skills can develop further to embellish loom weaving fabric using bows and tassels or natural and silk flowers. Block printing can also be used to create decorative, repeated patterns.	**Food Preparation and Cooking** Children look at a recipes as a set of instructions for preparing a specific dish. Skills develop when ingredients need to be prepared beforehand such as peeling, grating, chopping and slicing, in order to prepare a simple dish. Cooking techniques will eventually lead to including baking, boiling, grilling and roasting. **Nutrition** Children are taught the difference between healthy and unhealthy foods and what foods form part of a healthy diet. Children learn about the five main food groups and how they should be eaten regularly to form a balanced diet. **Origins of Food** Children are taught that food comes from different sources such as plants and animals. They are able to give examples of what they provide (cows = beef, pigs = pork, poultry = chicken). They go on to learn that factor such as rainfall, climate and soil can affect food growth and can compare different world locations.	**Significant People** Children start by understanding that important products help people and that they are significant because they have change the way people live their lives. Children go on to learn about engineers, scientists, designers and inventors and how key events in design and technology have shaped the world. They will build up their knowledge to explain how and why a significant designer has shaped the world.	**Everyday Products** Children know that everyday products are objects that are used routinely at home and school and that these can be improved in different ways. They know that they have been designed for specific tasks and know how an existing product benefits the user and how design features are the aspects of a product's design that the designer would like to emphasise **Staying Safe** Developing hygiene and safety rules are made to keep people safe from danger during practical tasks. This leads onto an understanding of electricity and chemical safety.	**Compare and Contrast** This begins with sharing creations and noticing how the work of others can be the same or different. Then, two products can be compared by looking at particular characteristics and design which is better suited to the purpose. Work from different designers can also be compared by assessing specific criteria such as their visual impact, fitness for purpose and target market. This can lead to the creation of a comparison table on which products can be judged or scored

For I know the plans I have for you," declares the LORD, "plans to prosper you and not to harm you, plans to give you hope and a future. Jeremiah 29:11