



Design & Technology Curriculum Map

EYFS When they leave the Early Years, we expect children to be able to:

- Realise tools can be used for a purpose
- Handle tools, objects, construction materials and malleable materials safely and with increasing control
- Use a range of simple tools and techniques competently and appropriately
- Use simple tools to effect changes to materials

- Hold a pencil between thumb and two fingers, no longer using whole hand
- Hold a pencil near the point between two fingers with good control
- Hold a pencil comfortably using a tripod grip
- Show accuracy when drawing and copying

- Use various construction materials
- Join construction pieces together to build and balance
- Construct stacking blocks vertically and horizontally making enclosures and spaces
- Construct with a purpose in mind using a variety of resources
- Select appropriate resources and techniques needed to shape assemble and join materials
- Make use of props and materials when role playing characters in narratives and stories

- Pay attention to their teachers and follow multi-step instructions
- Have a positive sense of self and show perseverance in the face of challenge
- Share creations explaining the process they have used

	Autumn (Bridges)	Spring (Toys)	Summer (Foods)
Year 1	<u>Structures</u> <ul style="list-style-type: none"> Build structures and explain how they can be made stiffer, stronger and more stable. 	<u>Mechanical Systems: Wheels and Axels.</u> <ul style="list-style-type: none"> Create simple designs for a product. Use pictures and words to describe what you want to do. Select from a range of tools to perform practical tasks that join materials safely. Know how to use wheels and axels in a product they have made. 	<u>Food and Nutrition: Origins of food; healthy food types; use simple cooking tools.</u> <ul style="list-style-type: none"> Talk about what they like to eat at home. Discuss healthy foods. Say where foods have come from and give examples of foods that are grown. Use simple tools to help prepare food safely.
Year 2	<u>Structures: Investigate techniques for stiffening and stability.</u> <ul style="list-style-type: none"> Investigate different techniques for stiffening a variety of materials and explore methods to keep structures stable. 	<u>Mechanical Systems: Levers, sliders, wheels and axels.</u> <ul style="list-style-type: none"> Design purposeful and appealing products for others based on design criteria. Generate, develop and talk about ideas through drawing mock ups and communication technology. Safely measure, mark out and cut and shape materials using a range of tools. Evaluate and assess products from a design criteria. 	<u>Food and Nutrition: Variety in food types; origins of foods; safe food prep.</u> <ul style="list-style-type: none"> Understand the need for a variety of foods in a diet. Know that all foods have to be farmed, caught or grown.
Year 3	<u>Structures: Strengthen frames using diagonal struts.</u> <ul style="list-style-type: none"> Strengthen frames in structures using diagonal struts. 	<u>Mechanical Systems: Understand how levers, linkages and pneumatics systems create movement.</u> <ul style="list-style-type: none"> Design own functional product. Analyse existing products considering a wide range of 	<u>Food and Nutrition: Food groups; origins of food; combine ingredients to make foods.</u> <ul style="list-style-type: none"> Talk about the different food groups and name each food group.

		<p>factors. Create designs using sketches, computers and diagrams.</p> <ul style="list-style-type: none"> • Safely measure, mark out, cut and safely join materials. • Choose and plan how to use tools to make products. 	<ul style="list-style-type: none"> • Understand that all foods need to be caught, farmed or grown. • Use a wide range of ingredients and techniques to prepare food and combine ingredients safely.
Year 4	<p><u>Structures:</u> Apply techniques learnt to strengthen structures.</p> <ul style="list-style-type: none"> • Independently choose and use techniques learnt to strengthen structures. • After designing and building structures, consider how theirs and existing products may be improved. 	<p><u>Electrical Systems:</u> Understand and use electrical systems in products.</p> <ul style="list-style-type: none"> • Design a functional and appealing product for a particular purpose and audience. Create designs using exploded diagrams. • Use knowledge of techniques and the functional and aesthetic qualities of a wide range of materials and plan how to use them. • Use techniques which require more accuracy to cut, shape, join and finish e.g. internal shapes and slots in frameworks. 	<p><u>Food and Nutrition:</u> Balanced diet; food and drinks we need to survive; seasonality on food types; locally produced food; read and follow recipes.</p> <ul style="list-style-type: none"> • Understand what makes a healthy, balanced diet and that different foods and drinks provide different substances that we need to survive. • Understand seasonality and the advantages of eating seasonally and locally produced food. • Read and follow recipes.
Year 5	<p><u>Structures:</u> Build complex 3D structures and strengthen.</p> <ul style="list-style-type: none"> • Build complex 3D structures and apply knowledge of strengthening techniques to make them stronger. 	<p><u>Mechanical Systems:</u> Understand more complex mechanical and electrical systems such as Cams.</p> <ul style="list-style-type: none"> • Use own research into existing products and market research to inform the design of an innovative product. • Create prototypes to showcase ideas. • Make careful and precise measurements so that the joins, holes and openings are in exactly the right place. 	<p><u>Food and Nutrition:</u> Food groups, nutrients important to health; origins of foods; food processing.</p> <ul style="list-style-type: none"> • Understand the main food groups and the different nutrients that are important to health. • Know that a variety of foods are grown, reared, caught and processed to make them safe and palatable to eat.

		<ul style="list-style-type: none"> • Produce step by step plans to guide the making of the product, demonstrating that the pupil has knowledge of different materials, tools and techniques. • Make detailed evaluations about own and existing products. Considering the views of others to improve their work. 	<ul style="list-style-type: none"> • Select appropriate ingredients and use a wide range of techniques to combine them.
Year 6	<p><u>Structures:</u> Use a wide range of methods to stiffen, strengthen and reinforce complex structures.</p> <ul style="list-style-type: none"> • Use a wide range of methods to stiffen, strengthen and reinforce complex structure and use them accurately and appropriately. 	<p><u>Electrical Systems:</u> Apply understanding of computing to programme, monitor and control a product using computing- controlled systems.</p> <ul style="list-style-type: none"> • Use research into famous designers to inform the design of own innovative product. Generate, develop and model and communicate ideas through discussion, annotated sketches, cross sectional and exploded diagrams, pattern pieces and CAD. • Apply knowledge of material and techniques to refine and rework product to improve its functionalities, properties and aesthetic qualities. • Use technical knowledge to problem solve. 	<p><u>Food and Nutrition:</u> Plan series of healthy meals; balanced diets; food labels; plan, prepare and cook a dish.</p> <ul style="list-style-type: none"> • Confidently plan a series of healthy meals based on the principles of a healthy balanced diet. • Use information on food labels to inform choices. • Research, plan and cook a savoury dish applying knowledge of techniques and ingredients.