



D & T Curriculum Intent

Children will revisit the four stages of the design process: research, design, make and evaluate in each year group. Children will use their creative ability to practically create a range of products that have a purpose for an intended audience.

As part of our progressive DT curriculum we intend for children to develop important skills which should equip them for their secondary education and their lives.

D & T Curriculum Map 2019-2020

	Autumn	Spring	Summer
EYFS	<p>Junk modelling Expressive art and design Children will begin to construct with a purpose in mind whilst using a variety of resources and tools fit for purpose.</p>	<p>Chinese Dragon Expressive art and design Children will make red envelopes using different tools to join the sides selecting the best tool for the purpose. They will create a Chinese Dragon selecting tools and techniques needed to shape, assemble and join materials they are using.</p>	<p>Pirates Expressive art and design Children will design treasure maps and will experiment to create different textures. Through this they will develop an understanding that different medias can be combined to create new effects.</p>
Year 1	<p>Structures: Freestanding structures This unit will teach children how to design and build a chair. Children will learn about the style of different chairs, considering different materials and make their own models according to their design. To evaluate their work, they will test whether the chair will stand alone.</p>	<p>Mechanisms: Sliders and Levers In this unit, children will focus on sliders and levers. Children will explore and evaluate a collection of books and everyday products that have moving parts including those with levers and sliders. Following this, they will work towards designing and making their own/class moving picture book.</p>	<p>Food: Preparing Fruits and Vegetables In this unit, children will examine a range of fruit and vegetables. The children will be provided with opportunities to handle, smell and taste fruit and vegetables before deciding which would be suitable for a fruit kebab.</p>
Year 2	<p>Textiles: Templates and joining techniques In this unit, the children will focus on templates and joining techniques. Children will investigate and evaluate different puppets for children. They will make drawings of existing products, stating the user and purpose. They will demonstrate the correct use of appropriate tools to mark out, tape or pin the fabric to the templates and cut out the relevant fabric pieces. After making their product, they will evaluate their work against the intended purpose and the intended user</p>	<p>Food: Preparing Fruits and Vegetables In this unit building on prior knowledge of fruits and vegetables explored in year 1. Children will taste test some different smoothies. They will then design their own thinking about flavours that work well together. We will discuss basic food preparation hygiene. As well as different utensils we will need to use. Then, in the context of a party, children will make a smoothie using different fruits and evaluate their own product.</p>	<p>Mechanisms: Wheels and axles In this unit, children will focus on wheels and axles. The children will have the opportunity to explore and evaluate a range of wheeled products such as toy vehicles and everyday objects. Children will be taught how to mark out, hold, cut and join materials and components correctly. Using a sample of materials and components, children will assemble some examples of wheel, axle and axle holder combinations. After distinguishing between fixed and freely moving</p>



			<p>axles, children will generate initial ideas and simple design criteria before making their own moving creature. They will evaluate their ideas and product against their design criteria.</p>
<p>Year 3</p>	<p>Mechanical systems: Levers and linkages In this unit, the children will develop on prior mechanical units by focusing on levers and linkages. The children will investigate, analyse and evaluate books and cards that have a range of lever and linkage mechanisms. Children will generate a range of ideas and design criteria that will be used to guide the development and evaluation of their products. Using annotated sketches and prototypes, children will develop their design ideas. After considering the main stages, they will assemble high-quality products, drawing on their knowledge and skills. The children will evaluate their final product against the intended purpose and with the intended user, drawing on the design criteria previously agreed</p>	<p>Structures: Shell structures In this unit, the children will build on their previous unit of free standing structures by focusing on shell structures. Children will research different features of moneyboxes. Children will take apart a small charity collection moneybox to look at the parts of a net including tabs and faces. They will determine which designs are the most effective through discussing graphics including colours, style, logo and font. The children will develop their understanding of stiffening and strengthening their shell structures by folding and shaping, corrugating, ribbing and laminating. They will design and make their packaging thinking about the strengths and weakness of existing moneyboxes and evaluate their final product.</p>	<p>Electrical systems: Simple circuits and switches In this unit, children will develop on their prior learning by creating a torch through using simple programming and control. The children will discuss, investigate and disassemble relevant battery-powered products. Children will agree on a design criterion that can be used to guide the development and evaluation of the children's products, including safety features. Using annotated sketches, cross sectional and exploded diagrams, children will design their torches. Children will write, test and debug programs that will control the electrical products they have made for a clearly defined purpose such as the torch being switched off when it isn't in use. The children will evaluate their ideas and products against their own design criteria and will identify the strengths and areas for improvement in their work.</p>
<p>Year 4</p>	<p>Textiles: 2-D shape to 3-D product Children will investigate a range of textile products that a selection of stiches, joins, fabrics, finishing techniques, fastenings and purposes. They will be given the opportunity to disassemble products to gain an understanding of 3D shape, patterns and seam allowances. The children will evaluate their final product in relation to their design brief and criteria. The product should be tested by the intended user and for its purpose and others' views sought to help with identifying possible improvements.</p>	<p>Food: Healthy and varied diet Children will generate ideas through discussion to develop some design criteria including appearance, taste, texture and aroma or an appealing product. They will plan the main stages of their recipe, listing ingredients, utensils and equipment. Using annotated sketches children will develop and communicate their ideas. Children will select from a range of utensils and ingredients, thinking about sensory characteristics, to make their savoury wraps before evaluating their finished product.</p>	<p>Mechanical systems: Pneumatics/hydraulics In this unit, children will be introduced to hydraulics. The children will build on their prior learning from exploring simple mechanisms such as sliders and levels, and simple structures. They will investigate, analyse and evaluate familiar objects that use air and/or water to make them work. Building on their previous units of work, children will understand ways in which hydraulics systems can be used to operate levers. The children will develop a design brief considering the purpose and users of the product. They will</p>



			<p>design using annotated sketches and consider the main stages in making before assembling their product. After making their product, they will evaluate their work against the intended purpose and the intended user.</p>
<p>Year 5</p>	<p>Textiles: Combining different fabric shapes In this unit, the children will develop on previous textile units by combining different fabric shapes to create a felt pencil case. Children will generate innovative ideas through research and develop a design brief and criteria for a design specification. They will explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose. Ideas will be communicated through talking, drawing and templates. Designs will be developed to become purposeful, functional and appealing products that are fit for purpose for the intended user. Children will produce detailed lists of equipment and fabrics relevant to their tasks before formulating step-by-step plans. They will select from and use a range of tools and equipment to make products that are accurately assembled and well finished, working within the constraints of time, resources and cost. Final products will be evaluated referring to the design brief and design specification and considering the views of others when identifying improvements.</p>	<p>Structures: Frame Structures Children will investigate and make annotated drawings of a range of portable and permanent frame structures e.g. tents, bus shelters, umbrellas. There is opportunity for children to learn about an individual related to frame structures such as Stephen Sauvestre – the designer of the Eiffel tower. Children will design and make their own frame structure thinking about prior learning and how structures can be made stronger, stiffer and more stable. Children will evaluate their end product against their design criteria seeking evaluation from other people too.</p>	<p>Mechanical systems: Cams In this unit, children will be introduced to different types of movement including rotary, oscillating and reciprocating. They will be given the opportunity to make simple models of different cams after looking at toys which use the cam mechanism. Children will develop an authentic and meaningful design brief communicating their ideas through annotated sketched, indicating the design decisions made, including the location of the components, how they work as a system and the appearance and finishing techniques for the product. After completion, children will test their product to demonstrate its effectiveness for the intended user and purpose, taking into consideration the views of others before evaluating how their work could be improved.</p>



Year 6	<p>Food: celebrating culture and seasonality Children will explore, design, make and evaluate a bread roll. Children will write a step by-step recipe, including a list of ingredients, equipment and utensils; select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients; make, decorate and present the bread appropriately for the intended user and purpose and evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements.</p>	<p>Electrical systems: More complex switches and circuits In this unit, the children will develop on previous electrical units using computer control software and writing and modifying a program to control the sound. Children will develop a design specification for a functional product, such as developing and communicating their ideas through discussion, annotated sketches and pictorial representations of electrical circuits. They will competently formulate a step by-step plan to guide making, listing tools, equipment, materials and components. Children will independently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product before creating and modifying a computer control program to enable their electrical product to respond to changes in the environment. Children will continually evaluate and modify the working features of the product and test the system to demonstrate its effectiveness for the intended user and purpose.</p>	<p>Textiles: Using computer aided design (CAD) in textiles Tablet Case In this unit, the children will develop on previous textile units by using CAD to help design and produce their final product. Children will generate innovative ideas through research and develop a design brief and criteria for a design specification. They will explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose. Ideas will be communicated through talking, drawing and templates. Designs will be developed to become purposeful, functional and appealing products that are fit for purpose for the intended user. Children will produce detailed lists of equipment and fabrics relevant to their tasks before formulating step-by-step plans. They will select from and use a range of tools and equipment to make products that are accurately assembled and well finished, working within the constraints of time, resources and cost. Final products will be evaluated referring to the design brief and design specification and considering the views of others when identifying improvements.</p>
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