



The Federation of St Mary's Catholic Schools

"I can do all things through Christ who strengthens me" Philippians 4:13



Design & Technology Curriculum Document

<p>INTENT</p>	<p>The national curriculum for design and technology aims to ensure that all pupils:</p> <ul style="list-style-type: none"> • develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world • build and apply a repertoire of knowledge, understanding and skills in order to design and make high quality prototypes and products for a wide range of users • critique, evaluate and test their ideas and products and the work of others • understand and apply the principles of nutrition and learn how to cook 			
	<p>Design</p>	<p>Make</p>	<p>Evaluate</p>	<p>Technical Knowledge</p>
<p>Year 1</p>	<p>Structures</p> <ul style="list-style-type: none"> • Learning the importance of a clear design criteria • Including individual preferences and requirements in a design. <p>Mechanisms</p> <ul style="list-style-type: none"> • Explaining how to adapt mechanisms, using bridges or guides to control the movement • Designing a moving story book for a given audience • Designing a vehicle that includes wheels, axles and axle holders, which will allow the wheels to move • Creating clearly labelled drawings which illustrate movement 	<p>Structures</p> <ul style="list-style-type: none"> • Making stable structures from card, tape and glue • Following instructions to cut and assemble the supporting structure of a windmill • Making functioning turbines and axles which are assembled into a main supporting structure <p>Mechanisms</p> <ul style="list-style-type: none"> • Following a design to create moving models that use levers and sliders • Adapting mechanisms <p>Food & Nutrition</p> <ul style="list-style-type: none"> • Chopping fruit and vegetables safely to make a smoothie 	<p>Structures</p> <ul style="list-style-type: none"> • Evaluating a windmill according to the design criteria, testing whether the structure is strong and stable and altering it if it isn't. • Suggest points for improvements <p>Mechanisms</p> <ul style="list-style-type: none"> • Testing a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed • Reviewing the success of a product by testing it with its intended audience • Testing mechanisms, identifying what stops wheels from turning, knowing that a wheel needs an axle in order to move 	<p>Structures</p> <ul style="list-style-type: none"> • Describing the purpose of structures, including windmills • Learning how to turn 2D nets into 3D structures • Learning that the shape of materials can be changed to improve the strength and stiffness of structures • Understanding that cylinders are a strong type of structure that are often used for windmills and lighthouses • Understanding that windmill turbines use wind to turn and make the machines inside work • Understanding that axles are used in structures and mechanisms to make parts turn in a circle

		<ul style="list-style-type: none"> Identifying if a food is a fruit or a vegetable Learning where and how fruits and vegetables grow 	<p><u>Food & Nutrition</u></p> <ul style="list-style-type: none"> Tasting and evaluating different food combinations Describing appearance, smell and taste Suggesting information to be included on packaging 	<ul style="list-style-type: none"> Developing awareness of different structures for different purposes <p><u>Mechanisms</u></p> <ul style="list-style-type: none"> Learning that levers and sliders are mechanisms and can make things move Identifying whether a mechanism is a lever or slider and determining what movement the mechanism will make Using the vocabulary: up, down, left, right, vertical and horizontal to describe movement Identifying what mechanism makes a toy or vehicle roll forwards Learning that for a wheel to move it must be attached to an axle <p><u>Food & Nutrition</u></p> <ul style="list-style-type: none"> Understanding the difference between fruits and vegetables Describing and grouping fruits by texture and taste
<p>Year 2</p>	<p><u>Mechanisms</u></p> <ul style="list-style-type: none"> Creating a class design criteria for a moving monster Designing a moving monster for a specific audience in accordance with a design criteria Selecting a suitable linkage system to produce the desired motions 	<p><u>Mechanisms</u></p> <ul style="list-style-type: none"> Making linkages using card for levers and split pins for pivots Experimenting with linkages adjusting the widths, lengths and thicknesses of card used Cutting and assembling components neatly 	<p><u>Mechanisms</u></p> <ul style="list-style-type: none"> Evaluating own designs against design criteria Using peer feedback to modify a final design Evaluating different designs Testing and adapting a design 	<p><u>Mechanisms</u></p> <ul style="list-style-type: none"> Learning that mechanisms are a collection of moving parts that work together in a machine Learning that there is an input and output in a mechanism Identifying mechanisms in everyday objects

	<ul style="list-style-type: none"> • Designing a wheel • Selecting appropriate materials based on their properties <p><u>Food & Nutrition</u></p> <ul style="list-style-type: none"> • Designing a healthy wrap based on a food combination which work well together <p><u>Textiles</u></p> <ul style="list-style-type: none"> • Designing a puppet. 	<ul style="list-style-type: none"> • Selecting materials according to their characteristics • Following a design brief <p><u>Food & Nutrition</u></p> <ul style="list-style-type: none"> • Slicing food safely using the bridge or claw grip • Constructing a wrap that meets a design brief <p><u>Textiles</u></p> <ul style="list-style-type: none"> • Selecting and cutting fabrics for sewing • Decorating a pouch using fabric glue or running stitch. 	<p><u>Food & Nutrition</u></p> <ul style="list-style-type: none"> • Describing the taste, texture and smell of fruit and vegetables • Taste testing food combinations and final products • Describing the information that should be included on a label • Evaluating which grip was most effective <p><u>Textiles</u></p> <ul style="list-style-type: none"> • Troubleshooting scenarios posed by teacher • Evaluating the quality of the stitching on others' work • Discussing as a class, the success of their stitching against the success criteria • Identifying aspects of their peers' work that they particularly like and why. 	<ul style="list-style-type: none"> • Learning that a lever is something that turns on a pivot • Learning that a linkage is a system of levers that are connected by pivots • Exploring wheel mechanisms • Learning how axels help wheels to move a vehicle <p><u>Food & Nutrition</u></p> <ul style="list-style-type: none"> • Understanding what makes a balanced diet • Knowing where to find the nutritional information on packaging • Knowing the five food groups <p><u>Textiles</u></p> <ul style="list-style-type: none"> • Joining items using fabric glue or stitching • Identifying benefits of these techniques • Threading a needle • Sewing running stitch, with evenly spaced, neat, even stitches to join fabric • Neatly pinning and cutting fabric using a template.
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