

Design Technology Curriculum Map

"Our DREAM is for greatness in our learning. To BELIEVE, in our unique talents and gifts and ACHIEVE a better world, living life to the full."



Year A		
Key Stage One		
Autumn 2	Spring 1	Summer 1
<u>Textiles: Puppets</u>	<u>Structures: King/Queen's throne</u>	<u>Mechanisms: Making a moving monster</u>
Exploring different ways of joining fabrics before creating their own hand puppets based upon characters from a well-known fairy-tale. Children work to develop their technical skills of cutting, gluing, stapling and pinning. - To join fabrics together using different methods - To use a template to create my design - To join two fabrics together accurately - To embellish my design using joining methods - Evaluate my puppet	Using the Magical topic theme and History focus on medieval times and castles as inspiration, children help King/Queen by making him a brand-new throne. When designing the throne, they consider his needs and what s/he likes and explore ways of building it so that it is strong. - To explore the concept and features of structures and the stability of different shapes - To understand that the shape of the structure affects its strength - To make a structure according to design criteria - To produce a finished structure and evaluate its strength, stiffness and stability	After learning the terms; pivot, lever and linkage, children design a monster which will move using a linkage mechanism. Children practise making linkages of different types and varying the materials they use to bring their monsters to life. - To look at objects and understand how they move - To explore different design options - To make a moving monster - Evaluate moving monster
Year A		
Lower Key Stage 2		
Autumn 2	Spring 2	Summer 2
<u>Digital world: Electronic charm</u>	<u>Structures: Constructing a castle</u>	<u>Structure: Pavilions</u>
Designing, coding, making and promoting a Micro:bit electronic charm to use in low-light conditions. Children develop their understanding of programming to monitor and control their products. To understand the impact of the digital revolution in the world of (D&T) product design	Learning about the features of a castle, children design and make one of their own. Using configurations of handmade nets and recycled materials to make towers and turrets and constructing a base to secure them. - To recognise how multiple shapes (2D and 3D) are combined to form a strong and stable structure - To design a castle	Exploring pavilion structures, children learn about what they are used for and investigate how to create strong and stable structures before designing and creating their own pavilions, complete with cladding. - To create a range of different shaped frame structures - To design a structure

- To write a program to initiate a flashing LED panel after button press and/or automatically initiate using the Micro:bit light sensing, as part of an eCharm - To create and decorate a foam pouch for the eCharm, using a template - To design a display badge and/or stand using CAD (computer-aided design) software for an eCharm product	- To construct 3D nets - To construct my final product - To evaluate my final product	- To build a frame structure - To add cladding to a frame structure - To evaluate my final product
Year A		
Key Stage 2		
Autumn 2	Spring 1	Summer 2
<u>Textiles: Bunting</u>	<u>Electrical systems: Steady hand game</u>	<u>Mechanical systems: Making a pop-up book</u>
Selecting suitable fabrics, using templates, pinning, decorating and stitching to create bunting for a WW1 celebration. - To design bunting according to design brief - To mark and cut fabric according to a design - To assemble bunting - To decorate bunting	Design and create a steady hand game, use nets to create the bases and apply knowledge of electrical circuits to build an operational circuit with a buzzer that completes the circuit when the handle makes contact with the wire. - To understand how motors are used in electrical products. - To investigate an existing product to determine the factors that affect the product's form and function. - To put findings from research into practice to develop an improved product. - To develop a DIY kit for another individual to assemble their product.	Creating a four-page pop-up storybook design linked to Anglo-Saxons incorporating a range of mechanisms and decorative features, including: structures, levers, sliders, layers and spacers. - To design a pop-up book - To design a pop-up book - To use layers and spacers to cover the working of mechanisms - To create a high-quality product suitable for a target user

Year B		
Key Stage One		
Autumn 2	Spring 1	Summer 2
<u>Food: Fruit and vegetables</u>	<u>Mechanisms: Fairground wheel</u>	<u>Mechanisms: Wheels and Axles</u>
Handling and exploring fruits and vegetables and learning how to identify which category they fall into, before undertaking taste testing to establish their chosen ingredients for the smoothie they will make a design packaging for. - To identify if a food is a fruit or a vegetable - To identify where plants grow and which parts we eat - To taste and compare fruit and vegetables - To make a fruit and vegetable smoothie	Designing and creating their own Ferris wheels, considering how the different components fit together so that the wheels rotate and the structures stand freely. Pupils select appropriate materials and develop their cutting and joining skills The Aliens could stumble across a fairground and decide that they want to learn how to make a ferris wheel to take back and make on their own planet. - To explore wheel mechanisms and design a wheel - To select appropriate materials - To build and test a moving wheel - To make and evaluate a structure with a rotating wheel	Designing and creating their own vehicle that includes wheels, axles and axle holder, which will allow the wheels to move. Pupils will test their mechanism, identifying what stops wheels from turning, knowing that a wheel needs a n axle in order to move. - To understand how wheels move - To identify what stops wheels from turning - To design a moving vehicle - To build a moving vehicle
Year B		
Lower Key Stage 2		
Autumn 2	Spring 2	Summer 2
<u>Textiles: Fastenings</u>	<u>Food: Eating seasonally</u>	<u>Electrical systems: Torches</u>
Building upon their sewing skills from previous years, pupils design and create a book sleeve; exploring a variety of fastenings and selecting the most appropriate for their design based on strength and appropriate-use. - To identify and evaluate different types of fastenings - To design a product to meet design criteria - To make and test a paper template - To assemble a book jacket	Discovering when and where fruits and vegetables are grown. Learning about seasonality in the UK and the relationship between the colour of fruits and vegetables and their health benefits by making three dishes. - To know that climate affects food growth - To understand the advantages of eating seasonal foods grown in the UK - To create a recipe that is healthy and nutritious using seasonal vegetables - To safely follow a recipe when cooking	Applying their scientific understanding of electrical circuits, children create a torch, designing and evaluating their product against set design criteria. - To learn about electrical items and how they work - To analyse and evaluate electrical products - To design a product to fit a set of specific user needs - To make and evaluate a torch
Year B		

Key Stage 2		
Autumn 1	Spring 2	Summer 2
<u>Structure: Bridges</u>	<u>Digital world: Navigating the world</u>	<u>Cooking & Nutrition: What could be healthier?</u>
After learning about various types of bridges and exploring how the strength of structures can be affected by the shapes used, create their own bridge and test its durability - using woodworking tools and techniques - To explore how to reinforce a beam (structure) to improve its strength - To build a spaghetti truss bridge - To build a wooden truss bridge - To complete, reinforce and evaluate my truss bridge	Programming a navigation tool to produce a multifunctional device for trekkers. Combining 3D objects to form a complete product in CAD 3D modelling software and presenting a pitch to 'sell' their product. - To write a design brief and criteria based on a client request - To write a program to include multiple functions as part of a navigation device - To develop a sustainable product concept - To develop 3D CAD skills to produce a virtual model - To present a pitch to 'sell' the product to a specified client	Researching and modifying a traditional bolognese sauce recipe to make it healthier. Children cook their healthier versions, making appropriate packaging and learn about farming cattle. - To understand where food comes from - To understand the term 'healthy' - To adapt a traditional recipe - To complete a food product