

Curriculum Progression Map -



	FOOD TECHNOLOGY	TEXTILES	STRUCTURE	MECHANISMS/ MECHANICAL SYSTEM	ELECTRICAL SYSTEMS	DIGITAL WORLD
KEY TOPIC/VALUE	Fruit and Vegetable Master Classes	Threading Master Classes		Cutting and Joining Master Classes		
NURSERY	<ul style="list-style-type: none"> To develop cutting skills using playdough through <i>Master Classes</i> and practice in continuous provision. To begin to chop soft fruits and vegetables for snack with a safety knife and with the support of an adult. To taste a variety of fruits and vegetables and say which they like/dislike. 	<ul style="list-style-type: none"> To develop threading and weaving skills through <i>Master Classes</i> and practice in continuous provision To begin to develop fine motor skills with a variety of materials. Begin to explore fine motor/threading and weaving (under, over technique) with a variety of materials, including large bobbins, buttons and outdoor weaving frames. 		<ul style="list-style-type: none"> To develop scissor and joining skills through <i>Master Classes</i> and practice in continuous provision Begin to explore joining materials with glue and tape. To investigate cutting different materials. To begin to develop fine motor/scissor skills with a variety of materials. Begin to describe their finished model in a simple sentence. 		

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RECEPTION	<p>Soup</p> <p>Designing a soup recipe as a class.</p> <ul style="list-style-type: none"> • Designing soup packaging. • Chopping plasticine safely. • Chopping vegetables with support. • Designing a soup recipe as a class. • Designing soup packaging 	<p>Bookmarks</p> <ul style="list-style-type: none"> • Discussing what a good design needs. • Designing a simple pattern with paper. • Designing a bookmark. • Choosing from available materials. • Developing fine motor/cutting skills with scissors. • Exploring fine motor/threading and weaving (under, over technique) with a variety of materials. • Using a prepared needle and wool to practise threading. <ul style="list-style-type: none"> • Reflecting on a finished product and comparing to their design. 		<p>Junk Modelling</p> <p>Making verbal plans and material choices</p> <ul style="list-style-type: none"> • Improving fine motor/scissor skills with a variety of materials. • Joining materials in a variety of ways (temporary and permanent). • Joining different materials together. • Describing their junk model, and how they intend to put it together • Giving a verbal evaluation of their own and others' junk models with adult support. • Checking to see if their model matches their plan. • Considering what they would do differently if they were to do it again. • Describing their favourite and least favourite part of their model. 		

Curriculum Progression Map -



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YEAR 1	<p><u>Smoothies</u></p> <p>Designing smoothie carton packaging by-hand.</p> <ul style="list-style-type: none"> • Chopping fruit and vegetables safely to make a smoothie. • Juicing fruits safely to make a smoothie • Tasting and evaluating different food combinations. • Describing appearance, smell and taste. • Suggesting information to be included on packaging. • Comparing their own smoothie with someone else's 	<p><u>Puppets</u></p> <p>Using a template to create a design for a puppet</p> <ul style="list-style-type: none"> • Cutting fabric neatly with scissors. • Using joining methods to decorate a puppet. • Sequencing steps for construction. • Reflecting on a finished product, explaining likes and dislikes. 		<p><u>Moving Story Book</u></p> <p>Explaining how to adapt mechanisms, using bridges or guides to control the movement.</p> <ul style="list-style-type: none"> • Designing a moving story book for a given audience. • Following a design to create moving models that use levers and sliders. • 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. 		

Curriculum Progression Map -



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YEAR 2	<p><u>Balance Diet</u></p> <ul style="list-style-type: none"> • Designing three wrap ideas based on a food combination which work well together. • Chopping foods safely to make a wrap. • Constructing a wrap that meets a design brief. • Grating foods to make a wrap. • Snipping smaller foods instead of cutting • 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 food by giving a score. 	<p><u>Pouches</u></p> <ul style="list-style-type: none"> • Designing a pouch. • Selecting and cutting fabrics for sewing. • Decorating a pouch using fabric glue or running stitch. • Threading a needle. • Sewing running stitch, with evenly spaced, neat, even stitches to join fabric. • Neatly pinning and cutting fabric using a template. • 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. 		<p><u>Fairground Wheel</u></p> <ul style="list-style-type: none"> • Selecting a suitable linkage system to produce the desired motion. • Designing a wheel. • Selecting materials according to their characteristics. • Following a design brief. • Evaluating different designs. • Testing and adapting a design. 		

Curriculum Progression Map -



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YEAR 3	<p><u>Eating seasonally</u></p> <p>Designing a recipe for a savoury tart.</p> <p>Following the instructions within a recipe.</p> <ul style="list-style-type: none"> • Tasting seasonal ingredients. • Selecting seasonal ingredients. • Peeling ingredients safely. • Cutting safely with a vegetable knife. • Establishing and using design criteria to help test and review dishes. • Describing the benefits of seasonal fruits and vegetables and the impact on the environment. • Suggesting points for improvement when making a seasonal tart. 	<p><u>Egyptian Collars</u></p> <p>Designing and making a template from an existing cushion and applying individual design criteria.</p> <ul style="list-style-type: none"> • Following design criteria to create a cushion or Egyptian collar. • Selecting and cutting fabrics with ease using fabric scissors. • Threading needles with greater independence. • Tying knots with greater independence. • Sewing cross stitch to join fabric. • Decorating fabric using appliqué. • Completing design ideas with stuffing and sewing the edges (Cushions) or embellishing the collars based on design ideas (Egyptian collars). <p>Evaluating an end product and thinking of other ways in which to create similar items.</p>	<p><u>Constructing a Castle</u></p> <ul style="list-style-type: none"> • Designing a castle with key features to appeal to a specific person/purpose. • Drawing and labelling a castle design using 2D shapes, labelling: -the 3D shapes that will create the features - materials needed and colours. • Designing and/or decorating a castle tower on CAD software. • Constructing a range of 3D geometric shapes using nets. • Creating special features for individual designs. • Making facades from a range of recycled materials. • Evaluating own work and the work of others based on the aesthetic of the finished product and, in comparison to the original design. • Suggesting points for modification of the individual designs. 	<p><u>Pneumatic toys</u></p> <ul style="list-style-type: none"> • Designing a toy which uses a pneumatic system. • Developing design criteria from a design brief. • Generating ideas using thumbnail sketches and exploded diagrams. • Learning that different types of drawings are used in design to explain ideas clearly. • Creating a pneumatic system to create a desired motion. • Building secure housing for a pneumatic system. • Using syringes and balloons to create different types of pneumatic systems to make a functional and appealing pneumatic toy. • Selecting materials due to their functional and aesthetic characteristics. • Manipulating materials to create different effects by cutting, creasing, folding and weaving. • Using the views of others to improve designs. • Testing and modifying the outcome, suggesting improvements. • Understanding the purpose of exploded-diagrams through the eyes of a designer and their client. 	<p><u>Electric poster</u></p> <ul style="list-style-type: none"> • Carry out research based on a given topic (e.g. The Romans) to develop a range of initial ideas. • Generate a final design for the electric poster with consideration to the client's needs and design criteria. • Design an electric poster that fits the requirements of a given brief. • Plan the positioning of the bulb (circuit component) and its purpose. • Create a final design for the electric poster. • Mount the poster onto corrugated card to improve its strength and allow it to withstand the weight of the circuit on the rear. • Measure and mark materials out using a template or ruler. • Fit an electrical component (bulb). • Learn ways to give the final product a higher quality finish (e.g. framing to conceal a roughly cut edge). • Learning to give and accept constructive criticism on own work and the work of others. • Testing the success of initial ideas against the design criteria and justifying opinions. • Revisiting the requirements of the client to review developing design ideas and check that they fulfil their needs. 	<p><u>Wearable technology</u></p> <ul style="list-style-type: none"> • Problem solving by suggesting which features on a Micro:bit might be useful and justifying my ideas. • Drawing and manipulating 2D shapes, using computer-aided design, to produce a point of sale badge. • Developing design ideas through annotated sketches to create a product concept. • Developing design criteria to respond to a design brief. • Following a list of design requirements. • Writing a program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm. • Analysing and evaluating wearable technology. • Using feedback from peers to improve design.

Curriculum Progression Map -



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YEAR 4	<p><u>Adapting a recipe</u> Designing a biscuit within a given budget, drawing upon previous taste testing judgements.</p> <ul style="list-style-type: none"> Following a baking recipe, including the preparation of ingredients. Cooking safely, following basic hygiene rules. Adapting a recipe to meet the requirements of a target audience. Evaluating a recipe, considering: taste, smell, texture and appearance. Describing the impact of the budget on the selection of ingredients. Evaluating and comparing a range of food products. Suggesting modifications to a recipe (e.g. This biscuit has too many raisins, and it is falling apart, so next time I will use less raisins). 	<p><u>Fastening</u></p> <ul style="list-style-type: none"> Writing design criteria for a product, articulating decisions made. Designing a personalised book sleeve. Making and testing a paper template with accuracy and in keeping with the design criteria. Measuring, marking and cutting fabric using a paper template. Selecting a stitch style to join fabric. Working neatly by sewing small, straight stitches. Incorporating a fastening to a design. Testing and evaluating an end product against the original design criteria. Deciding how many of the criteria should be met for the product to be considered successful. Suggesting modifications for improvement. Articulating the advantages and disadvantages of different fastening types. 	<p><u>Pavillion</u></p> <ul style="list-style-type: none"> Designing a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect. Building frame structures designed to support weight. Creating a range of different shaped frame structures. Making a variety of free standing frame structures of different shapes and sizes. Selecting appropriate materials to build a strong structure and cladding. Reinforcing corners to strengthen a structure. Creating a design in accordance with a plan. Learning to create different textural effects with materials. Evaluating structures made by the class. Describing what characteristics of a design and construction made it the most effective. Considering effective and ineffective designs. 	<p><u>Making a slingshot car</u></p> <ul style="list-style-type: none"> Designing a shape that reduces air resistance. Drawing a net to create a structure from. Choosing shapes that increase or decrease speed as a result of air resistance. Personalising a design. Measuring, marking, cutting and assembling with increasing accuracy. Making a model based on a chosen design. Evaluating the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance. 	<p><u>Torches</u></p> <ul style="list-style-type: none"> Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas. Making a torch with a working electrical circuit and switch. Using appropriate equipment to cut and attach materials. Assembling a torch according to the design and success criteria. Evaluating electrical products. Testing and evaluating the success of a final product. 	<p><u>Mindful moments timer</u></p> <ul style="list-style-type: none"> Writing design criteria for a programmed timer (Micro:bit). Exploring different mindfulness strategies. Applying the results of my research to further inform my design criteria. Developing a prototype case for my mindful moment timer. Using and manipulating shapes and clipart by using computer-aided design (CAD), to produce a logo. Following a list of design requirements. Developing a prototype case for my mindful moment timer. Creating 3D structures using modelling materials. Programming a micro:bit in the Microsoft micro:bit editor, to time a set number of seconds/minutes upon button press. Investigating and analysing a range of timers by identifying and comparing their advantages and disadvantages. Evaluating my Micro:bit program against points on my design criteria and amending them to include any changes I made. Documenting and evaluating my project. Understanding what a logo is and why they are important in the world of design and business. Testing my program for bugs (errors in the code). Finding and fixing the bugs (debug) in my code. Using an exhibition to gather feedback. Gathering feedback from the user to make suggested improvements to a product.

Curriculum Progression Map -



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YEAR 5	<p>Developing a Recipe</p> <ul style="list-style-type: none"> Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients. Writing an amended method for a recipe to incorporate the relevant changes to ingredients. Designing appealing packaging to reflect a recipe. Researching existing recipes to inform ingredient choices. Cutting and preparing vegetables safely. Using equipment safely, including knives, hot pans and hobs. Knowing how to avoid cross-contamination. Following a step by step method carefully to make a recipe. Identifying the nutritional differences between different products and recipes. Identifying and describing healthy benefits of food groups. 	<p>Stuffed Toys</p> <ul style="list-style-type: none"> Designing a stuffed toy, considering the main component shapes required and creating an appropriate template. Considering the proportions of individual components. Creating a 3D stuffed toy from a 2D design. Measuring, marking and cutting fabric accurately and independently. Creating strong and secure blanket stitches when joining fabric. Threading needles independently. Using appliqué to attach pieces of fabric decoration. Sewing blanket stitch to join fabric. Applying blanket stitch so the spaces between the stitches are even and regular. Testing and evaluating an end product and giving point for further improvements. 	<p>Bridges</p> <ul style="list-style-type: none"> Designing a stable structure that is able to support weight. Creating a frame structure with a focus on triangulation. Making a range of different shaped beam bridges. Using triangles to create truss bridges that span a given distance and support a load. Building a wooden bridge structure. Independently measuring and marking wood accurately. Selecting appropriate tools and equipment for particular tasks. Using the correct techniques to saws safely. Identifying where a structure needs reinforcement and using card corners for support. Explaining why selecting appropriating materials is an important part of the design process. Understanding basic wood functional properties. Adapting and improving own bridge structure by identifying points of weakness and reinforcing them as necessary. Suggesting points for improvements for own bridges and those designed by others. 	<p>Pop-up book</p> <ul style="list-style-type: none"> Designing a pop-up book which uses a mixture of structures and mechanisms. Naming each mechanism, input and output accurately. Storyboarding ideas for a book. Following a design brief to make a pop-up book, neatly and with focus on accuracy. Making mechanisms and/or structures using sliders, pivots and folds to produce movement. Using layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result. Evaluating the work of others and receiving feedback on own work. Suggesting points for improvement. 	<p>Doodlers</p> <ul style="list-style-type: none"> Identifying factors that could be changed on existing products and explaining how these would alter the form and function of the product. Developing design criteria based on findings from investigating existing products. Developing design criteria that clarifies the target user. Altering a product's form and function by tinkering with its configuration. Making a functional series circuit, incorporating a motor. Constructing a product with consideration for the design criteria. Breaking down the construction process into steps so that others can make the product. Carry out a product analysis to look at the purpose of a product along with its strengths and weaknesses. Determining which parts of a product affect its function and which parts affect its form. Analysing whether changes in configuration positively or negatively affect an existing product. Peer evaluating a set of instructions to build a product. 	<p>Monitoring devices</p> <ul style="list-style-type: none"> Researching (books, internet) for a particular (user's) animal's needs. Developing design criteria based on research. Generating multiple housing ideas using building bricks. Understanding what a virtual model is and the pros and cons of traditional and CAD modelling. Placing and manoeuvring 3D objects, using CAD. Changing the properties of, or combining one or more 3D objects, using CAD. Understanding the functional and aesthetic properties of plastics. Programming to monitor the ambient temperature and coding an (audible or visual) alert when the temperature rises above or falls below a specified range. Stating an event or fact from the last 100 years of plastic history. Explaining how plastic is affecting planet Earth and suggesting ways to make more sustainable choices. Explaining key functions in my program (audible alert, visuals). Explaining how my product would be useful for an animal carer including programmed features

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YEAR 6	<p><u>Come Dine with Me</u></p> <ul style="list-style-type: none"> • Writing a recipe, explaining the key steps, method and ingredients. • Including facts and drawings from research undertaken. • Following a recipe, including using the correct quantities of each ingredient. • Adapting a recipe based on research. • Working to a given timescale. • Working safely and hygienically with independence. • Evaluating a recipe, considering: taste, smell, texture and origin of the food group. • Taste testing and scoring final products. • Suggesting and writing up points of improvements when scoring others' dishes, and when evaluating their own throughout the planning, preparation and cooking process. • Evaluating health and safety in production to minimise cross contamination. 	<p><u>Waistcoats</u></p> <ul style="list-style-type: none"> • Designing a waistcoat in accordance to a specification linked to set of design criteria. • Annotating designs, to explain their decisions. • Using a template when cutting fabric to ensure they achieve the correct shape. • Using pins effectively to secure a template to fabric without creases or bulges. • Marking and cutting fabric accurately, in accordance with their design. • Sewing a strong running stitch, making small, neat stitches and following the edge. • Tying strong knots. • Decorating a waistcoat, attaching features (such as appliqué) using thread. • Finishing the waistcoat with a secure fastening (such as buttons). • Learning different decorative stitches. • Sewing accurately with evenly spaced, neat stitches • Reflecting on their work continually throughout the design, make and evaluate process. 	<p><u>Play ground</u></p> <ul style="list-style-type: none"> • Designing a playground featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs. • Building a range of play apparatus structures drawing upon new and prior knowledge of structures. • Measuring, marking and cutting wood to create a range of structures. • Using a range of materials to reinforce and add decoration to structures. • Improving a design plan based on peer evaluation. • Testing and adapting a design to improve it as it is developed. • Identifying what makes a successful structure. 	<p><u>Automata toys</u></p> <ul style="list-style-type: none"> • Experimenting with a range of cams, creating a design for an automata toy based on a choice of cam to create a desired movement. • Understanding how linkages change the direction of a force. • Making things move at the same time. • Understanding and drawing cross-sectional diagrams to show the inner-workings of my design. • Measuring, marking and checking the accuracy of the jelutong and dowel pieces required. • Measuring, marking and cutting components accurately using a ruler and scissors. • Assembling components accurately to make a stable frame. • Understanding that for the frame to function effectively the components must be cut accurately and the joints of the frame secured at right angles. • Selecting appropriate materials based on the materials being joined and the speed at which the glue needs to dry/set. • Evaluating the work of others and receiving feedback on own work. • Applying points of improvement to their toys. • Describing changes they would make/do if they were to do the project again. 	<p><u>Steady hand game</u></p> <ul style="list-style-type: none"> • Designing a steady hand game - identifying and naming the components required. • Drawing a design from three different perspectives. • Generating ideas through sketching and discussion. • Modelling ideas through prototypes. • Understanding the purpose of products (toys), including what is meant by 'fit for purpose' and 'form over function'. • Constructing a stable base for a game. • Accurately cutting, folding and assembling a net. • Decorating the base of the game to a high-quality finish. • Making and testing a circuit. • Incorporating a circuit into a base. • Testing own and others finished games, identifying what went well and making suggestions for improvement. • Gathering images and information about existing children's toys. • Analysing a selection of existing children's toys. 	<p><u>Navigating the world</u></p> <ul style="list-style-type: none"> • Writing a design brief from information submitted by a client. • Developing design criteria to fulfil the client's request. • Considering and suggesting additional functions for my navigation tool. • Developing a product idea through annotated sketches. • Placing and manoeuvring 3D objects, using CAD. • Changing the properties of, or combining one or more 3D objects, using CAD. • Considering materials and their functional properties, especially those that are sustainable and recyclable (for example, cork and bamboo). • Explaining material choices and why they were chosen as part of a product concept. • Programming an N,E, S, W cardinal compass. • Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool. • Developing an awareness of sustainable design. • Identifying key industries that utilise 3D CAD modelling and explaining why. • Describing how the product concept fits the client's request and how it will benefit the customers. • Explaining the key functions in my program, including any additions. • Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool. • Explaining the key functions and features of my navigation tool to the client as part of a product concept pitch. • Demonstrating a functional program as part of a product concept pitch.

Curriculum Progression Map -

