

	Reception EYFS 2	Links to KS1 Curriculum
Fundamental Skills and Knowledge	<p>Uses 3D and 2D structures to explore materials and/or to express ideas.</p> <p>Talks about their plans.</p> <p>Uses different materials, tools and techniques in a variety of ways to join and make structures.</p> <p>Talks about their ideas to solve problems and tries different ways of doing things.</p> <p>Plans before they make.</p> <p>Chooses the most appropriate materials and tools for a task, manipulating materials and joining materials in different ways.</p> <p>Talks about their design, solves problems, makes changes and modifies their designs when necessary.</p>	<p>Design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p>Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing).</p> <p>Select from and use a wide variety of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p> <p>Explore and evaluate a range of existing products.</p> <p>Evaluate their ideas and products against design criteria.</p> <p>Build structures, exploring how they can be made stronger, stiffer and more stable. Explore and use mechanisms (for example, levers, sliders, wheels and axles) in their products.</p>
Early Learning Goal	<p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>Share their creations, explaining the process they have used.</p> <p>Make use of props and materials when role playing characters in narratives and stories.</p>	

Year 1	Autumn Term – cooking and nutrition	Spring Term - Mechanisms	Summer Term - Textiles
Pathway	Fruit and vegetables	Making a moving story book	Puppets
Skills	<p>Design</p> <ul style="list-style-type: none"> • Designing smoothie carton packaging by-hand or on ICT software. <p>Make</p> <ul style="list-style-type: none"> • Chopping fruit and vegetables safely to make a smoothie. • Suggesting information to be included on packaging. <p>Evaluate</p> <ul style="list-style-type: none"> • Tasting and evaluating different food combinations. • Describing appearance, smell and taste. 	<p>Design</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. <p>Make</p> <ul style="list-style-type: none"> • Following a design to create moving models that use levers and sliders. • To know that a mechanism is the parts of an object that move together. • To know that a slider mechanism moves an object from side to side. • To know that a slider mechanism has a slider, slots, guides and an object. • To know that bridges and guides are bits of card that purposefully restrict the movement of the slider. <p>Evaluate</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. 	<p>Design</p> <ul style="list-style-type: none"> • Using a template to create a design for a puppet. <p>Make</p> <ul style="list-style-type: none"> • Cutting fabric neatly with scissors. • Using joining methods to decorate a puppet. • Sequencing steps for construction. • To know that 'joining technique' means connecting two pieces of material together. • To know that there are various temporary methods of joining fabric by using staples, glue or pins. <p>Evaluate</p> <ul style="list-style-type: none"> • Reflecting on a finished product, explaining likes and dislikes
Knowledge	<ul style="list-style-type: none"> • To understand the difference between fruits and vegetables. • To understand that some foods typically known as vegetables are actually fruits (e.g. cucumber). • To know that a blender is a machine which mixes ingredients together into a smooth liquid. • To know that a fruit has seeds and a vegetable does not. • To know that fruits grow on trees or vines. • To know that vegetables can grow either above or below ground. • To know that vegetables can come from different parts of the plant (e.g. roots: potatoes, leaves: lettuce, fruit: cucumber). 	<ul style="list-style-type: none"> • To know that a mechanism is the parts of an object that move together. • To know that a slider mechanism moves an object from side to side. • To know that a slider mechanism has a slider, slots, guides and an object. • To know that bridges and guides are bits of card that purposefully restrict the movement of the slider. • To know that in DT we call a plan a 'design'. 	<ul style="list-style-type: none"> • To understand that different techniques for joining materials can be used for different purposes. • To understand that a template (or fabric pattern) is used to cut out the same shape multiple times. • To know that drawing a design idea is useful to see how an idea will look.
Entitlement Vocabulary	Blender, Carton, Fruit, Healthy, Ingredients, Peel, Peeler, Recipe, Slice, Smoothie, Stencil, Template, Vegetable	Assemble, Design, Evaluation, Mechanism, Model, Sliders, Stencil, Target audience, Template, Test	Decorate, Design, Fabric, Glue, Model, Hand puppet, Safety pin, Staple, Stencil, Template

Year 2	Autumn Term – Mechanisms	Spring Term - Textiles	Summer Term – Food and Nutrition
Pathway	Making Monsters	Pouches	A balanced diet
Skills	<p><u>Design</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. <p><u>Make</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>Evaluate</u></p> <ul style="list-style-type: none"> •Evaluating own designs against design criteria. • Using peer feedback to modify a final design. 	<p><u>Design</u></p> <ul style="list-style-type: none"> •Designing a pouch. <p><u>Make</u></p> <ul style="list-style-type: none"> •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. <p><u>Evaluate</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 positive aspects of their peers' 	<p><u>Design</u></p> <ul style="list-style-type: none"> • Designing a healthy wrap based on a food combination which work well together. <p><u>Make</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>Evaluate</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.
Knowledge	<ul style="list-style-type: none"> • To know that mechanisms are a collection of moving parts that work together as a machine to produce movement. • To know that there is always an input and output in a mechanism. • To know that an input is the energy that is used to start something working. • To know that an output is the movement that happens as a result of the input. • To know that a lever is something that turns on a pivot. • To know that a linkage mechanism is made up of a series of levers. 	<ul style="list-style-type: none"> • To know that sewing is a method of joining fabric. • To know that different stitches can be used when sewing. • To understand the importance of tying a knot after sewing the final stitch. • To know that a thimble can be used to protect my fingers when sewing. 	<ul style="list-style-type: none"> • To know that 'diet' means the food and drink that a person or animal usually eats. • To understand what makes a balanced diet. • To know where to find the nutritional information on packaging. • To know that the five main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar. • To understand that I should eat a range of different foods from each food group, and roughly how much of each food group. • To know that nutrients are substances in food that all living things need to make energy, grow and develop. • To know that 'ingredients' means the items in a mixture or recipe. • To know that I should only have a maximum of five teaspoons of sugar a day to stay healthy. • To know that many food and drinks we do not expect to contain sugar do; we call these 'hidden sugars'.
Entitlement Vocabulary	Evaluation, Input, Lever, Linear motion, Linkage, Mechanical, Mechanism, Motion, Oscillating	Accurate, Fabric, Knot, Pouch, Running-stitch, Sew, Shape, Stencil, Template, Thimble	Appearance, Balanced, Carbohydrates, Combination, Dairy, Design, Design brief, Diet, Feel, Grate, Grater, Menu, Oils, Prepare, Proteins, Review, Scissors, Smell, Snip, Spreads

Year 3	Autumn Term – Cooking and nutrition	Spring Term - Textiles	Summer Term - Structures
Pathway	Eating Seasonally	Egyptian Collars	Constructing a castle
Skills	<p>Design</p> <ul style="list-style-type: none"> • Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish. <p>Make</p> <ul style="list-style-type: none"> • Knowing how to prepare themselves and a workspace to cook safely in, learning the basic rules to avoid food contamination. • Following the instructions within a recipe. <p>Evaluate</p> <ul style="list-style-type: none"> • 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>Design</p> <p>Designing and making a template from an existing item and applying individual design criteria.</p> <p>Make</p> <ul style="list-style-type: none"> • Following design criteria to create an Egyptian collar. • Selecting and cutting fabrics with ease using fabric scissors. • Threading needles and tying knots with greater independence. • Sewing cross stitch to join fabric. • Decorating fabric using appliqué. • Completing design ideas for embellishing the collars based on design ideas. <p>Evaluate</p> <ul style="list-style-type: none"> • Evaluating an end of project product and thinking of other ways in which to create similar items. 	<p>Design</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 and colours. • Designing and/or decorating on CAD software. <p>Make</p> <ul style="list-style-type: none"> • Constructing a range of 3D geometric shapes using nets. • Creating features for individual designs. • Making facades from recycled materials. <p>Evaluate</p> <ul style="list-style-type: none"> • 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.
Knowledge	<ul style="list-style-type: none"> • To know that not all fruits and vegetables can be grown in the UK during various seasons. • To know that climate affects food growth. • To know that cooking instructions are known as a 'recipe'. • To know that food is imported into and exported from the UK and how this can negatively impact the environment. • To know that each fruit and vegetable gives us nutritional benefits. • To understand that vitamins, minerals and fibre are important for energy, growth and maintaining health. • To know that similar coloured fruits and vegetables often have similar nutritional benefits. • To know safety rules for using, storing and cleaning a knife safely. 	<ul style="list-style-type: none"> • To know that applique is a way of mending or decorating a textile by applying smaller pieces of fabric to larger pieces. • To know that when two edges of fabric have been joined together it is called a seam, and that it is important to leave space on the fabric for the seam. 	<ul style="list-style-type: none"> • To understand that wide and flat based objects are more stable. • To understand the importance of strength and stiffness in structures. • To know the following features of a castle: flags, towers, battlements, turrets, curtain walls, moat, drawbridge and gatehouse - and their purpose. • To know that a façade is the front of a structure. • To understand that a castle needed to be strong and stable to withstand enemy attack. • To know that a paper net is a flat 2D shape becomes a 3D shape once assembled. • To know that a design specification is a list of success criteria for a product.
Entitlement Vocabulary	Climate, Dry climate, Exported, Imported, Mediterranean climate, Nationality, Nutrients, Polar climate, Recipe, Seasonal food, Seasons, Temperate climate, Tropical climate	Accurate, Applique, Cross-stitch, Cushion, Decorate, Detail, Fabric, Patch, Running-stitch, Seam, Stencil, Stuffing, Target audience, Target customer, Template	2D shapes, 3D shapes, Castle, Design criteria, Evaluate, Façade, Feature, Flag, Net, Recyclable, Scoring, Stable, Strong, Structure, Tab, Weak

Year 4	Autumn Term - Electrical Systems	Spring Term - Mechanical Systems	Summer Term – Digital World
Pathway	Torches	Making a Slingshot	Mindful Moments timer
Skills	<p><u>Design</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. <p><u>Make</u></p> <ul style="list-style-type: none"> • 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. <p><u>Evaluate</u></p> <ul style="list-style-type: none"> • Evaluating electrical products. • Testing and evaluating the success of a final product. 	<p><u>Design</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. <p><u>Make</u></p> <ul style="list-style-type: none"> • Measuring, marking, cutting and assembling with increasing accuracy. • Making a model based on a chosen design. <p><u>Evaluate</u></p> <ul style="list-style-type: none"> • Evaluating the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance. 	<p><u>Design</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. <p><u>Make</u></p> <ul style="list-style-type: none"> • Developing a prototype case for my mindful moment timer. • Creating a 3D structure using a net. • Programming a micro:bit in the Microsoft micro:bit editor, to time a set number of seconds/minutes upon button press. <p><u>Evaluate</u></p> <ul style="list-style-type: none"> • 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 changes made. • Documenting and evaluating my project. • Understanding what a logo is and why they are important in the world of design. • Testing my program for bugs (errors in the code). • Finding and fixing the bugs (debug) in my code.
Knowledge	<ul style="list-style-type: none"> • To understand that electrical conductors are materials which electricity can pass through. • To understand that electrical insulators are materials which electricity cannot pass through. • To know that a battery contains stored electricity. • To know that an electrical circuit must be complete for electricity to flow. • To know that a switch can be used to complete and break an electrical circuit. • To know the features of a torch: case, contacts, batteries, switch, reflector, lamp, and lens. 	<ul style="list-style-type: none"> • To understand that all moving things have kinetic energy. • To understand that kinetic energy is energy that something/one has by being in motion. • To know that air resistance is the level of drag an object has as it is going through the air. • To understand that the shape of a moving object will affect how it moves. • To understand that products change and evolve over time. • To know that aesthetics means how a product looks in design and technology. • To know what a template is. • To know what a birds-eye view means. • To know what graphics are 	<ul style="list-style-type: none"> • To understand what variables are in programming. • To know some of the features of a Micro:bit. • To know that an algorithm is a set of instructions to be followed by the computer. • To know that it is important to check my code for errors (bugs). • To know that a simulator can be used as a way of checking your code works before installing it onto an electronic device. • To understand the terms 'ergonomic' and 'aesthetic'. • To know that a prototype is a 3D model made out of cheap materials, that allows us to test design ideas and make better decisions about size, shape and materials.

	<ul style="list-style-type: none"> • To know facts from the history and invention of the electric light bulb(s) - by Sir Joseph Swan and Thomas Edison. 	<ul style="list-style-type: none"> •To know that it is important to assess and evaluate design ideas and models against a list of design criteria. 	
Entitlement Vocabulary	Battery, Bulb, Buzzer, Cell, Component, Conductor, Copper, Design criteria, Electrical item, Electricity, Electronic item, Function, Insulator, Series circuit, Switch, Test, Torch, Wire	Aesthetic, Air resistance, Chassis, Design, Design criteria, Function, Graphics, Kinetic energy, Mechanism, Net, Structure	2D, Advantage, Assemble, Block, Brand identity, Branding, Bug, CAD, Clipart, Coding, Criteria, Debug, Design, Develop, Disadvantage, Ergonomic, Evaluate, Form, Function, Instructions, Join, Logo, Loop, Mindfulness, Model, Net, Pause, Process, Program, Prototype, Research, Sketchpad, Template, Test, Timer, User, Variable

Year 5	Autumn Term – Mechanical Systems	Spring Term - Structures	Summer Term – Electrical Systems
Pathway	Making a Pop-up book	Bridges	Doodlers
Skills	<p>Design</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. <p>Make</p> <ul style="list-style-type: none"> • 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. <p>Evaluate</p> <ul style="list-style-type: none"> • Evaluating the work of others and receiving feedback on own work. • Suggesting points for improvement. 	<p>Design</p> <ul style="list-style-type: none"> • Designing a stable structure that can support weight. • Creating a frame structure with a focus on triangulation. <p>Make</p> <ul style="list-style-type: none"> • 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. <p>Evaluate</p> <ul style="list-style-type: none"> • 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>Design</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. <p>Make</p> <ul style="list-style-type: none"> • 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. <p>Evaluate</p> <ul style="list-style-type: none"> • 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.
Knowledge	<ul style="list-style-type: none"> • To know that mechanisms control movement. • To understand that mechanisms can be used to change one kind of motion into another. • To understand how to use sliders, pivots and folds to create paper-based mechanisms. 	<ul style="list-style-type: none"> • To understand some different ways to reinforce structures. • To understand how triangles reinforce bridges. • To know that properties are words that describe the form and function of materials. • To understand why material selection is important. • To understand the material properties of wood. • To understand the difference between arch, beam, truss and suspension bridges. • To understand how to carry and use a saw safely. 	<ul style="list-style-type: none"> • To know that series circuits only have one direction for the electricity to flow. • To know what happens when there is break in a circuit, • To know that an electric motor converts electrical energy into rotational movement. • To know a motor is used in a motorised product • To know that product analysis is critiquing the strengths and weaknesses of a product. • To know what 'configuration' means.
Entitlement Vocabulary	Aesthetic, Computer-aided design (CAD), Caption, Design, Design brief, Design criteria, Exploded-diagram, Function, Input, Linkage, Mechanism, Motion, Output, Pivot, Prototype, Slider Structure, Template	Abutment, Accurate, Arched bridge, Beam bridge, Coping saw, Evaluation, File, Mark out, Material properties, Measure, Predict, Reinforce, Research, Sandpaper, Set square, Suspension bridge, Tenon saw, Test, Truss bridge, Wood	Circuit component, Configuration, Current, Develop, DIY, Investigate, Motor, Motorised, Problem solve, Product analysis, Series circuit Stable, Target user

Year 6	Autumn Term – Textiles	Spring Term – Structures	Summer Term – Cooking and Nutrition
Pathway	Waistcoats	Playgrounds	Come Dine with Me
Skills	<p>Design</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. <p>Make</p> <ul style="list-style-type: none"> • 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. <p>Evaluate</p> <ul style="list-style-type: none"> • Reflecting on their work continually throughout the design, make and evaluate process. 	<p>Design</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. <p>Make</p> <ul style="list-style-type: none"> • 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. <p>Evaluate</p> <ul style="list-style-type: none"> • 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>Design</p> <ul style="list-style-type: none"> • Writing a recipe, explaining the key steps, method and ingredients. • Including facts and drawings from research undertaken. <p>Make</p> <ul style="list-style-type: none"> • 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. <p>Evaluate</p> <ul style="list-style-type: none"> • 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.
Knowledge	<ul style="list-style-type: none"> • To understand that it is important to design clothing with the client/ target customer in mind. • To know that using a template (or clothing pattern) helps to accurately mark out a design on fabric. • To understand the importance of consistently sized stitches. 	<ul style="list-style-type: none"> • To know that structures can be strengthened by manipulating materials and shapes. • To understand what a 'footprint plan' is. • To understand that in the real world, design, can impact users in positively and negatively. • To know what a prototype is 	<ul style="list-style-type: none"> • To know that 'flavour' is how a food or drink tastes. • To know that countries have 'national dishes'. • To know what 'processed food' means. • To understand that it is important to wash fruit and vegetables before eating and why. • To understand the term 'From Farm to Fork'.
Entitlement Vocabulary	Accurate, Adapt, Annotate, Design, Design criteria, Detail, Fabric, Fastening, Knot, Properties, Running-stitch, Seam, Sew, Shape, Target audience, Target customer, Template, Thread, Unique, Waistcoat, Waterproof	Adapt, Apparatus, Bench hook, Cladding, Coping saw, Design, Dowel, Evaluation, Feedback, Idea, Jelutong, Landscape, Mark out, Measure, Modify, Natural materials, Plan view, Playground, Prototype, Reinforce, Sketch, Strong, Structure, Tenon saw, Texture, User, Vice, Weak	Accompaniment, Collaboration, Cookbook, Cross-contamination, Equipment, Farm, Flavour, Illustration, Ingredients, Method, Preparation, Processed, Reared, Recipe, Research, Storyboard, Target audience, Unit of measurement