Watermoor C of E Primary School
Subject Progression 2023-2024
Subject: DT

EYFS: Pre-School	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
We are learning about:	Structure: House Making CP: Junk Modelling		CP: Junk Modelling		CP: Junk Modelling	
Development Matters 3-4:	Be able to express a point of view. Use talk to organise themselves and their play Use one-handed tools and equipment, for example, making snips in paper with scissors. Use a comfortable grip with good control when holding pens and pencils. Show a preference for a dominant hand Explore different materials freely, to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. Join different materials and explore different textures. Create closed shapes with continuous lines, and begin to use these shapes to represent objects. Draw with increasing complexity and detail, such as representing a face with a circle and including details. Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. Choose the right resources to carry out their own plan. Use large-muscle movements to wave flags and streamers, paint and make marks. Realise tools can be used for a purpose Learn new vocabulary Make healthy choices about food, drink, activity and toothbrushing Talk about the differences between materials and changes they notice. (Cooking)					
Sticky Knowledge 'I will know that…'	To explore different materials freely, in order to develop their ideas about how to use them and what to make. To develop their own ideas and then decide which materials to use to express them. Join different materials and explore different textures Start to eat independently and learning how to use a knife and fork. Make healthy choices about food, drink, activity and toothbrushing. Use knives to chop a range of ingredients.					
Key Vocabulary:	House, cut, stick, fix, join, fold, build, glue, masking tape, Sellotape, card, scissors, hole punch, stapler, split pin, paper fastener, lolly stick, craft stick, bottle top, string, fabric, ribbon, box modelling, Food: hard, soft, lumpy, rough, smooth, sweet, sour, crunchy, healthy, cutting.					

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EYFS: Reception	Autumn Term	Spring Term	Summer Term
We are learning about:	Textiles: A Christmas Bookmark Food and Nutrition: Breadstick Sparklers and baking Gingerbread Biscuits Structures: Junk modelling - Rockets	Food and Nutrition: Exotic fruit skewers Easter Crafts: Hanging Egg Decoration Structures: Junk Modelling	Structures: Materials: Boat making (sink or float) Food and Nutrition: Making a picnic Making Playdough Structures: Junk Modelling
Development Matters Reception:	• Progress towards a more fluent style of moving, with developing control and grace. • Develop their small motor skills so that they can use a range of tools competently, safely and confidently. • Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor. • Explore, use and refine a variety of artistic effects to express their ideas and feelings. • Return to and build on their previous learning, refining ideas and developing their ability to represent them. • Create collaboratively, sharing ideas, resources and skills. • Articulate their ideas and thoughts in well-formed sentences. • Connect one idea or action to another using a range of connectives. • Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen.		
Sticky Knowledge 'I will know that…'	How to use scissors safely Use simple tools and techniques Select tools & techniques to shape, assemble and join stirring, mixing, pouring, blending will combine ingredients Understand different media can be combined for a purpose To create a textiles product (bookmark) following their own design.	To design and create a hanging Easter egg decoration To create a fruit skewer and talk about the importance of healthy eating. Know and talk about the different factors that support their overall health and wellbeing: healthy eating. Understand need for variety in food begin to understand that eating well contributes to good health Dismantle, examine, talk about existing objects/structures Use language of designing and making (join, build, shape, longer, shorter, heavier etc.)	To understand what waterproof means and to test whether materials are waterproof. To test and make predictions for which materials float or sink. To design a boat. That different ingredients make different food What ingredients are needed to make play dough Share creations and explain the process they have used
Key Vocabulary:	Stick, glue, colour, scissors, tools, safe, stir, pour, mix bookmark, embroider, sew, Victorian	Join, build, shape, sculpture, healthy, exotic, egg, Easter, Christian, healthy	Float, sink, materials, ingredients, waterproof, absorb, wet, dry, leak, experiment
Early Learning Goal/s: **Communicaton and Language: (**Speaking): Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. **Physical Development** (Fine Motor): Use a range of small tools, including scissors, paintbrushes and cutlery. **Expressive Arts and Design** (Creating with Material): Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Share their creations, explaining the process they have used.			

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KS1: Y1	Autumn Term	Spring Term	Summer Term
What are we learning about?	Mechanisms – Making a moving story book	Structures – Constructing a windmill	Cooking and nutrition – Making Smoothies
National Curriculum Statements	Explaining how to adapt mechanisms, using bridges or guides to control the movement. Designing a moving storybook 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.	Finding the middle of an object. Puncturing holes. Adding weight to a structure. Creating supporting structures. Cutting evenly and carefully. Evaluating and improving a product.	Designing smoothie carton packaging by hand. Chopping fruit and vegetables safely to make a smoothie. Juicing fruits to make a smoothie. Identifying if a food is a fruit. Learning where and how fruits and vegetables grow. Tasting and evaluating different foods. Describing appearance, smell and taste. Suggesting information to be included on packaging.
Sticky Knowledge 'I will know that…'	A mechanism is the parts of an object that move together. A slider mechanism moves an object from side to side or up and down. A slider mechanism has a slider, slots, guides and an object. Bridges and guides are bits of card that purposefully restrict the movement of the slider.	That the sails or blades of a windmill are moved by the wind. That windmills are used to generate power and were used for grinding flour. That a structure is something built for a reason. That stable structures do not topple. That adding weight to the base of a structure can make it more stable.	That a blender is a machine which mixes ingredients together into a smooth liquid. That a fruit has seeds and a vegetable does not. That fruits grow on trees or vines. That vegetables can grow either above or below ground. That vegetables are any edible part of a plant.
Key Vocabulary:	Adapt, assemble, design, design, criteria, input, mechanism, model, sliders, test	Base, centre, equal, middle, rotate, rotor, rotor blades, sails, stable, structure, windmill	Blend, ingredients, compare, recipe, flavour, fruit, vegetables, smoothie, healthy

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KS1: Y2	Autumn Term 1	Autumn Term 2	Spring Term	Summer Term
What are we learning about?	Structures – Baby Bears Chair	Textiles – Pouches	Food and Nutrition – A balanced diet: wraps	Mechanisms – Moving Monster Fairground
National Curriculum Statements	Generating and communicating ideas using sketching and modelling. Learning about different types of structures, found in the natural world and in everyday objects. Making a structure according to design criteria. Creating joints and structures from paper/card and tape. Building a strong and stiff structure by folding paper. Exploring the features of structures. Comparing the stability of different shapes. Testing the strength of their own structures. Identifying the weakest part of a structure. Evaluating the strength, stiffness and stability of their own structure.	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.	Chopping foods safely to make a wrap. Grating foods to make a wrap. Snipping smaller foods instead of cutting. Spreading soft foods to make a wrap. Identifying the five food groups. Learning about a balanced diet. Tasting and evaluating different food combinations. Describing appearance, smell and taste. Designing three wrap ideas.	Creating a design criteria for a moving monster as a class. Designing a moving monster for a specific audience in accordance with a design criteria. 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. Evaluating own designs against design criteria. Using peer feedback to modify a final design.

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Sticky Knowledge 'I will know that…'	To know that shapes and structures with wide, flat bases or legs are the most stable. To understand that the shape of a structure affects its strength. To know that materials can be manipulated to improve strength and stiffness. To know that a structure is something which has been formed or made from parts. To know that a 'stable' structure is one which is firmly fixed and unlikely to change or move. To know that a 'strong' structure is one which does not break easily. To know that a 'stiff' structure or material is one which does not bend easily.	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.	That 'diet' means the food and drink that a person or animal usually eats. What makes a balanced diet. That the five main food groups are: carbohydrates, fruits and vegetables, protein, dairy and oils and spreads. That I should eat a range of different foods from each food group, and roughly how much of each food group. That 'ingredients' means the items in a mixture or recipe. How to cut, grate, snip and spread to prepare foods. How to review and give a score to evaluate.	o 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 an 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.
Key Vocabulary:	Structure: design criteria, man-made, natural, properties, structure, stable, shape, model, test	Fabric, knot, needle, needle threader, running stitch, sew, template, thread	Balanced, carbohydrates, dairy, diet, menu, proteins, vegetables	Axle, design criteria, input, linkage, mechanical, output, pivot, wheel

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KS2: Y3	Autumn Term		Spring Term	Summer Term
What are we learning about?	Electrical Posters	Textiles: Crosstitch and Applique	Structures: Constructing a Castle	Cooking and Nutrition – Eating Seasonally
National Curriculum Statements	Carrying out research based on a given topic (for example, The Romans) to develop a range of initial ideas. Generating a final design for the electric poster with consideration for the client's needs and design criteria. Planning the positioning of the bulb (circuit component) and its purpose. Mounting the poster onto corrugated card to improve its strength and withstand the weight of the circuit on the rear. Measuring and marking materials out using a template or ruler. Fitting an electrical component (bulb). Learning 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 their 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 they fulfil their needs.	Designing and making a template from an existing cushion and applying individual design criteria. Following design criteria to create a cushion. 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. Evaluating an end product and thinking of other ways to create similar items.	Designing a castle with key features to appeal to a specific person/purpose. Drawing and labelling a castle design using 2D shapes. 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.	Describing how climate affects where foods grow. Identifying seasonal ingredients from the UK. Tasting seasonal ingredients. Describing the texture and flavour of ingredients. Peeling foods by hand or with a peeler. Cutting ingredients safely. Choosing ingredients based on a design brief. Following the instructions within a recipe. Describing the benefits of seasonal fruits and vegetables and their impact on the environment.

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Sticky Knowledge 'I will know that…'	To understand that an electrical system is a group of parts (components) that work together to transport electricity around a circuit. To understand common features of an electric product (switch, battery or plug, dials, buttons, etc.) To list examples of common electric products (kettle, remote control, etc.) To understand that an electric product uses an electrical system to work (function). To know the name and appearance of a bulb, battery, battery holder and crocodile wire to build simple circuits.	Appliqué is a way of mending or decorating a textile by applying smaller pieces of fabric. When two edges of fabric have been joined together, it is called a seam. It is important to leave space on the fabric for the seam. Some products are turned inside out after sewing so the stitching is hidden.	o 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.	That seasonal means foods that grow in a given season in a given country. Some seasonal foods that grow in the UK and what season they grow in. That eating seasonal foods can have a positive impact on the environment. How to describe the flavour and texture of foods. How to cut and peel safely. That the appearance of food is as important as taste. That similar coloured fruits and vegetables often have similar nutritional benefits.
Key Vocabulary:	Battery, bulb, circuit, circuit component, crocodile wire, electrical system, sketch	Appliqué, cross-stitch, decoration, embellish, fabric, patch, seam, thread	2D, 3D, castle, key features, net, scoring, stable, stiff, strong, structure	Seasonal, tropical, Mediterranean, temperate, export, import

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KS2: Y4	Autumn Term A	Autumn B	Spring Term	Summer Term
What are we learning about?	Cooking and Nutrition: Adapting a recipe	Textiles: Attaching fasteners Making a felt bauble with button attachments and ribbon handle	Mechanism: Make a bronze age cart/waggon	Structures: Making a pyramid
National Curriculum Statements	Know where and how a variety of ingredients are grown, reared, caught and processed Use research to inform design and develop design criteria Investigate a range of existing products in a range of relevant contexts eg culture, industry	Use research to inform design and develop design criteria Evaluate own and others' work suggesting improvements and consider the views of others to improve their work Select from and use a wider range of tools, equipment, materials and components accurately to make prototypes	Select from and use a wider range of tools, equipment, materials and components accurately to make prototypes Identify wider range of mechanical systems and how they work (gears, pulleys, cams, levers and linkages) Evaluate own and others' work suggesting improvements and consider the views of others to improve their work	Select from and use a wider range of tools, equipment, materials and components accurately to make prototypes Apply understanding of how to strengthen, stiffen in order to reinforce more complex structures Evaluate own and others' work suggesting improvements and consider the views of others to improve their work
Sticky Knowledge 'I will know that…'	• Describe features of biscuits using taste, texture and appearance. • Follow a recipe with support. • Adapt a recipe using additional ingredients. • Evaluate	• Identify the features, benefits and disadvantages of a range of fastening types. • Write design criteria and design a felt bauble that satisfies the criteria. • Make a template. • Assemble their bauble using any stitch they are comfortable with.	• Work independently to produce an accurate, functioning cart. • Design a shape that is suitable for the project. • Produce panels that will fit the cart and can be assembled effectively using the tabs they have designed. • Construct cart effectively. Conduct a trial accurately and draw conclusions and improvements from the results.	• Produce a range of free-standing frame structures of different shapes and sizes. • Design a pyramid that is strong, stable and aesthetically pleasing. • Select appropriate materials and construction techniques to create a stable, free-standing frame structure. • Select appropriate materials and techniques to add cladding to their pyramid.

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Key Vocabulary:	adapt addition appearance buttery combine comment compare construct cream hygiene ingredients layout market research modify multiplication opinion pounds sieve sift	Criteria Fabric Fastening Fix Mock-up Stitch Template	chassis energy kinetic mechanism design structure graphics research model template	Natural Reinforce Structure 3D shapes Cladding Design criteria Innovative

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KS2: Y5	Autumn Term	Spring Term	Summer Term
What are we learning about?	Structures: Bridges	Mechanisms: New Gears and Pulleys	Cooking and Nutrition: Developing a recipe
National Curriculum Statements	Designing a stable structure that is able to support weight. Creating a frame structure with 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 saw safely. Identifying where a structure needs reinforcement and using card corners for support. Explaining why selecting appropriate 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.	Noticing wider-reaching problems or needs in the community. Identifying a wide range of needs and potential barriers through market research. Writing more complex problem statements that consider multiple factors and constraints. Creating more complex design criteria that require considering detailed user needs, environmental impact, materials and cost. Coming up with a broader range of ideas and deeper innovation, requiring pupils to think critically about their ideas' practicality and originality. Beginning to use more complex annotated sketches, such as cross-sectional and exploded diagrams and pattern pieces in design. Using a series of prototypes to refine and improve their designs. Consistently apply safety instructions. Select appropriate scissors to handle delicate cutting tasks and challenging materials. Cutting patterns and drawings accurately. In supervised groups, using hot glue guns safely. Recognising that hot glue is useful for joining materials that need a strong bond that sets quickly. Choosing PVA glue over hot glue for its safety when joining materials in less intensive projects. Reflecting on the usability, aesthetics, innovation and sustainability of products and discussing how design choices impact these aspects. Assessing their designs against a more complex set of design criteria that includes functionality, aesthetics, user experience, sustainability and cost. Considering alternative materials, tools or techniques that could enhance the product. Providing feedback that is helpful, specific, and encouraging. Incorporating feedback from peers or users to improve their product further, explaining the changes they made and the impact they had	Explaining the farm-to-fork process. Researching existing recipes. Suggesting alternative ingredients. Analysing nutritional content. Writing an alternative recipe. Understanding cross-contamination. Using preparation skills. Designing a jar label. Making a developed recipe.

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Sticky Knowledge 'I will know that…'	To understand some different ways to reinforce structures. To understand how triangles can be used to reinforce bridges. To know that properties are words that describe the form and function of materials. To understand why material selection is important based on their properties. To understand the material (functional and aesthetic) properties of wood.	Mechanical systems that use gears in everyday objects (e.g. bicycle, clock, etc.). Gears and pulleys allow us to transfer movement and force from one part of a mechanical system to another. Gears allow us to increase the output of a mechanism. Market research is a way of collecting information about problems or needs. Constraints are things that might stop our ideas from being successful. Original and innovative ideas are different from what has been made before. Annotations are detailed labels and comments on diagrams. Risks are things that might happen. Hot glue creates a strong bond quickly. It is often better to choose safer equipment. Sustainability means thinking about the materials that were used to make a product and how the product was made. Their final product can still be improved by different materials or techniques. Evaluating their designs in detail will help them understand their successful and less successful parts. Feedback should be positive, helpful and specific. That explaining how they used feedback to improve their design can help them create better products in the future.	That beef comes from cows reared on farms. That recipes can be adapted to suit nutritional needs and dietary requirements. That nutritional information is found on food packaging. That coloured chopping boards can prevent cross-contamination. That food packaging serves many purposes.
Key Vocabulary:	Arch bridge, beam bridge, truss bridge, corrugation, bench hook/vice, assemble, joints, stability	Pulley, gear, axle, machine, force, sustainability, renewable energy, research	Balanced, recipe, cook, cross-contamination, farm, hygiene, preference, nutrition

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KS2: Y6	Autumn Term A	Autumn Term B	Spring Term	Summer Term
What are we learning about?	Structure: Creating a Benin House	Textiles: Making a Waist Coat	Cooking and nutrition: Come dine with me - Food	Electrical systems/Mechanism: Steady hand game
National Curriculum Statements	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Designing a Benin house featuring a variety of different structures, giving consideration to how the structures will be used. Considering effective and ineffective designs. Building a structure and 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.	Designing a waistcoat in accordance with a specification and design criteria to fit a specific theme. Annotating designs. Using a template when pinning panels onto fabric. Marking and cutting fabric accurately, in accordance with a design. Sewing a strong running stitch, making small, neat stitches and following the edge. Tying strong knots. Decorating a waistcoat – attaching objects using thread and adding a secure fastening. Learning different decorative stitches. Sewing accurately with even regularity of stitches. Evaluating work continually as it is created.	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 in productions. Evaluating health and safety in production to minimise cross contamination.	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 their 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.

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Sticky Knowledge 'I will know that…'	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 positive and negative ways. To know that a prototype is a cheap model to test a design idea.	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.	That 'flavour' is how a food or drink tastes. That many countries have 'national dishes' which are recipes associated with that country. That 'processed food' means food that has been put through multiple changes in a factory. That it is important to wash fruit and vegetables before eating to remove any dirt and insecticides. What happens to a certain food before it appears on the supermarket shelf (farm to fork).	To know that 'form' means the shape and appearance of an object. To know the difference between 'form' and 'function'. To understand that 'fit for purpose' means that a product works how it should and is easy to use. To know that 'form over purpose' means that a product looks good but does not work very well. To know the importance of 'form follows function' when designing: the product must be designed primarily with the function in mind. To understand the diagram perspectives 'top view', 'side view' and 'back'.
Key Vocabulary:	Modelling, design, develop, structure, create	Annotate, decorate, design criteria, fabric, target customer, waistcoat, waterproof	Recipe, ingredients, equipment, nutrition, hygiene	Assemble, battery, bulb, circuit, conductor, copper, insulator, LED, user