Falcons Primary School Design and Technology Skills Progression

At Falcons the children will undertake a variety of creative and practical activities. They will be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They will consider a range of relevant contexts when designing products.

For each design and technology topic the children will undertake a process of research, design, make and evaluate. As they move up the school the processes and complexity of these stages will develop as their skills grow. Details of how these skills will progress are shown below.

The children will further develop their technical knowledge across a range of subject areas: structures, mechanisms, textiles, cooking and nutrition and electrical systems.

EYFS Curriculum Map

Learning Objectives: • To explore and investigate the tools and materials in the junk modelling area. • To develop scissor skills. • To investigate cutting different materials. • To learn how to plan and select the correct resources needed to make a model. • To verbally plan and create a junk model. • To share a finished model and talk about the processes in its creation. • To explore different ways to temporarily join materials together.	**Physical Development** • Develop small motor skills so that they can use a range of tools competently, safely and confidently. • **ELG: Fine Motor Skills:** Use a range of small tools, including scissors, paint brushes and cutlery. **Expressive arts and design** • Explore, use and refine a variety of artistic effects to express ideas and feelings. • **ELG: Creating with Materials:** Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. **Characteristics of effective learning** • Playing and exploring. • Active learning. • Creating and thinking critically.

Structures: Boats	EYFS Outcomes
Learning Objectives: • To understand what waterproof means and to test whether materials are waterproof. • To test and make predictions for which materials float or sink. • To learn about the different features and structures of boats and ships. • To investigate how the shape and structure of boats affects the way they move. • To design a boat. • To create a boat based upon their own design.	**Communication and language** • 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. • **ELG: Speaking:** Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. • **ELG: Speaking:** Offer explanations for why things might happen. **Understanding the world** • Explore the natural world around them. **Characteristics of effective learning** • Playing and exploring • Active learning • Creating and thinking critically **Expressive arts and design** Explore, use and refine a variety of artistic effects to express their ideas and feelings. • **ELG: Creating with materials:** Share their creations, explaining the process they have used.

Food: Summer Salad	EYFS Outcomes
Learning Objectives: • To explore fruits and vegetables and the differences between them. • To use adjectives to describe how fruits and vegetables look, feel, smell and taste. • To design a rainbow salad recipe. • To create a rainbow salad and talk about the importance of healthy eating. • To practise cutting with a knife. • To learn how to use a knife safely. • To describe the finished product and evaluate the process. .	**Communication and language** • Learn new vocabulary. • Use new vocabulary throughout the day. • **ELG: Speaking:** Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. **Personal, social and emotional development** • Know and talk about the different factors that support their overall health and wellbeing: healthy eating. • **ELG: Managing self:** Manage their own basic hygiene and personal needs, including…understanding the importance of healthy food choices. **Understanding the world** • Explore the natural world around them. • **ELG: The Natural World:** Explore the natural world around them, making observations and drawing pictures of animals and plants. **Characteristics of effective learning** • Playing and exploring • Physical development • Develop small motor skills so that they can use a range of tools competently, safely and confidently. • **ELG: Fine Motor Skills:** Use a range of small tools, including scissors, paint brushes and cutlery.

Textiles: Flower threading	EYFS Outcomes
• To look at different flower images and discuss the different colours and shapes they notice. • To use a hole punch to create their own pattern. • To develop scissor skills. • To develop weaving skills. • To describe the finished product and evaluate the process.	**Physical development** • Develop their small motor skills so that they can use a range of tools competently, safely and confidently. • **ELG: Fine motor skills:** Use a range of small tools, including scissors, paint brushes and cutlery. **Expressive arts and design** • 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. • **ELG: Creating with Materials:** Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • **ELG: Creating with Materials:** Share their creations, explaining the process they have used. **Characteristics of effective learning** • Active learning • Creating and thinking critically

Structures

		Year 1	Year 2
		Constructing a windmill. (Weather)	**Baby Bear's Chair.**
	Design	• Learning the importance of a clear design criteria • Including individual preferences and requirements in a design	• Generating and communicating ideas using sketching and modelling.
Skills	Make	• Making stable structures from card, tape and glue • Learning how to turn 2D nets into 3D structures • Following instructions to cut and assemble the supporting structure of a windmill • Making functioning turbines and axles which are assembled into a main supporting structure	• 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.
	Evaluate	• Peer evaluation.	• Testing the strength of own structure. • Identifying the weakest part of a structure. • Evaluating the strength, stiffness and stability of own structure.
Knowledge	Technical	• To understand that the shape of materials can be changed to improve the strength and stiffness of structures. • To understand that cylinders are a strong type of structure (e.g.the main shape used for windmills and lighthouses). • To understand that axles are used in structures and mechanisms to make parts turn in a circle. • To begin to understand that different structures are used for different purposes. • To know that a structure is something that has been made and put together.	• 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.
	Additional	• To know that a client is the person I am designing for. • To know that a design criteria is a list of points to ensure the product meets the client's needs and wants. • To know that a windmill harnesses the power of wind for a purpose like grinding grain, pumping water or generating electricity. • To know that windmill turbines use wind to turn and make the machines inside work.	

		• To know that a windmill is a structure with sails that are moved by the wind. • To know the three main parts of a windmill are the turbine, axle and structure.	
Vocabulary		axle bridge design design criteria model net structure template unstable stable strong weak	design criteria man-made natural properties structure stable shape model test

		Year 3	Year 4
		Constructing a Stone Age House (The Pre-historic World)	**Constructing a Saxon House. (Anglo Saxons)**
	Design	• Designing a Stone Age house with key features to appeal to a specific person/purpose. • Drawing and labelling a Stone Age house design using 2D shapes, labelling: -the 3D shapes that will create the features - materials needed and colours.	• Designing a stable Saxon house. • Building frame structures designed to support weight.
Skills	Make	• Constructing a range of 3D geometric shapes using nets. • Creating special features for individual designs.	• Creating a range of frame structures. • Selecting appropriate materials to build a strong structure and cladding. • Finding ways to strengthen a structure. • Creating a design in accordance with a plan.
	Evaluate	• 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.	• Evaluating structures made by the class. • Describing what characteristics of a design and construction made it the most effective. • Considering effective and ineffective designs.
Knowledge	Technical	• To understand that wide and flat based objects are more stable. • To understand the importance of strength and stiffness in structures.	• To understand what a frame structure is. • To know that a 'free-standing' structure is one which can stand on its own.
	Additional	• To know the features of a Stone Age house and their purpose. • To know that a paper net is a flat 2D shape that can become a 3D shape once assembled. • To know that a design specification is a list of success criteria for a product.	• To know that aesthetics are how a product looks. • To know that a product's function means its purpose. • To know that architects consider light, shadow and patterns when designing.
Vocabulary		2D 3D design key features net scoring shape stable stiff strong structure tab	3D shapes natural design criteria reinforce structure

			Year 5	Year 6
			Building Bridges	**Playgrounds**
		Design	• Designing a stable structure that is able to support weight. • Creating a frame structure with a focus on triangulation.	• Designing a playground featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs.
Skills		Make	• 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 appropriating materials is an important part of the design process. • Understanding basic wood functional properties.	• 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.
		Evaluate	• 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.	• 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.
Knowledge		Technical	• 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 properties. • To understand the material (functional and aesthetic) properties of wood.	• To know that structures can be strengthened by manipulating materials and shapes.
		Additional	• To understand the difference between arch, beam, truss and suspension bridges.	• To understand what a 'footprint plan' is.

		• To understand how to carry and use a saw safely	• 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.
Vocabulary		beam bridge arch bridge truss bridge strength corrugation lamination stiffness rigid joints mark out hardwood softwood wood file/rasp sandpaper saw evaluate accuracy	apparatus equipment playground landscape features cladding

Mechanisms/Mechanical Systems

		Year 1	Year 2
		Wheels and Axles.(Transport)	**Making a moving monster.**
	Design	• Designing a vehicle that includes wheels, axles and axle holders, that when combined, will allow the wheels to move. • Creating clearly labelled drawings that illustrate movement.	• Creating a class design criteria for a moving monster. • Designing a moving monster for a specific audience in accordance with a design criteria.
Skills	Make	• Adapting mechanisms: - when they do not work as they should. - to fit their vehicle design. - to improve how they work after testing their vehicle	• 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
	Evaluate	• Testing wheel and axle mechanisms, identifying what stops the wheels from turning, and recognising that a wheel needs an axle in order to move	• Evaluating own designs against design criteria. • Using peer feedback to modify a final design.
Knowledge	Technical	• To know that wheels need to be round to rotate and move. • To understand that for a wheel to move it must be attached to a rotating axle. • To know that an axle moves within an axle holder which is fixed to the vehicle or toy. • To know that the frame of a vehicle (chassis) needs to be balanced.	• 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.
	Additional	• To know some real-life items that use wheels such as wheelbarrows, hamster wheels and vehicles.	• To know some real-life objects that contain mechanisms.
Vocabulary		axle axle holder chassis diagram dowel equipment mechanism wheel	axle design criteria input linkage mechanical output pivot

		Year 3	Year 4
		Pneumatic toys (Rainforests)	**Pulley Systems(Volcanoes)**
	Design	• Designing a rainforest toy which uses a pneumatic system. • Developing design criteria from a design brief. • Generating ideas using thumbnail sketches and exploded diagrams. •Begin to learn that different types of drawings are used in design to explain ideas clearly.	•Design a simple pulley. • Developing design criteria from a design brief. • Experimenting with different pulley systems. • Learning that different types of drawings are used in design to explain ideas clearly.
Skills	Make	• 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.	• Creating a pulley system to move a small load. • Build a secure housing for the pulley system. • Selecting materials due to their functional characteristics.
	Evaluate	• 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.	• Testing and modifying the outcome, suggesting improvements. • Evaluating the work of others and receiving feedback on own work.
Knowledge	Technical	• To understand how pneumatic systems work. • To understand that pneumatic systems can be used as part of a mechanism. • To know that pneumatic systems operate by drawing in, releasing and compressing air.	• To understand how pulley systems work. • To understand that pulley systems can be used as part of a mechanism. • To know that pulley systems can be used to move heavy loads.
	Additional	• To understand how sketches, drawings and diagrams can be used to communicate design ideas. • To know that exploded-diagrams are used to show how different parts of a product fit together.	

		• To know that thumbnail sketches are small drawings to get ideas down on paper quickly.	
Vocabulary		mechanism lever pivot linkage system input output pneumatic system component thumbnail sketch research adapt properties reinforce motion	Pulley mechanism load design brief design criteria housing

		Year 5	Year 6
		Pop up books – The Alps	**Automata Toys - Victorians**
	Design	• 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.	•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.
Skills	Make	• 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.	• 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.
	Evaluate	• Evaluating the work of others and receiving feedback on own work. • Applying points of improvement to their books.	• 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.
Knowledge	Technical	• 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.	•To understand that the mechanism in an automata uses a system of cams, axles and followers. • To understand that different shaped cams produce different outputs.

	Additional	• To know that a design brief is a description of what I am going to design and make. • To know that designers often want to hide mechanisms to make a product more aesthetically pleasing.	• To know that an automata is a hand powered mechanical toy. • To know that a cross-sectional diagram shows the inner workings of a product.
Vocabulary		design input motion mechanism criteria research reinforce model	accurate assembly-diagram automata cam component diagram dowel finish follower frame function linkage mechanism model

Cooking and Nutrition

		Year 1	Year 2
		Fruit and Vegetables	**Healthy Eating – a balanced diet**
	Design	• Designing a healthy smoothie	• Designing a healthy wrap based on a food combination which works well together.
Skills	Make	• Chopping fruit and vegetables safely to make a smoothie. • Identifying if a food is a fruit or a vegetable. • Learning where and how fruits and vegetables grow.	• Slicing food safely using the bridge or claw grip. • Constructing a wrap that meets a design brief.
	Evaluate	• Tasting and evaluating different food combinations. • Describing appearance, smell and taste.	• 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	Cooking and Nutrition	• Understanding 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).	• 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'.
Vocabulary		Fruit vegetable seed leaf root stem smoothie healthy design flavour peel slice	balanced diet carbohydrate dairy fruit ingredients oils sugar protein vegetable design criteria

		Year 3	Year 4
		Where does our food come from? Eating seasonally.	**Adapting a recipe.**
	Design	• Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish.	• Designing a biscuit within a given budget, drawing upon previous taste testing judgements.
Skills	Make	• Knowing how to prepare themselves and a work space to cook safely in, learning the basic rules to avoid food contamination. • Following the instructions within a recipe.	• Following a baking recipe, from start to finish, including the preparation of ingredients. • Cooking safely, following basic hygiene rules. • Adapting a recipe to improve it or change it to meet new criteria.
	Evaluate	• 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.	• 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).
Knowledge	Cooking and Nutrition	• To know that not all fruits and vegetables can be grown in the UK. • To know that climate affects food growth. • To know that vegetables and fruit grow in certain seasons. • To know that cooking instructions are known as a 'recipe'. • To know that imported food is food which has been brought into the country. • To know that exported food is food which has been sent to another country. • To understand that imported foods travel from far away and this can negatively impact the environment. • To know that each fruit and vegetable gives us nutritional benefits because they contain vitamins, minerals and fibre. • To understand that vitamins, minerals and fibre are important for energy, growth and maintaining health.	• To know that the amount of an ingredient in a recipe is known as the 'quantity.' • To know that it is important to use oven gloves when removing hot food from an oven. • To know the following cooking techniques: sieving, creaming, rubbing method, cooling. •To understand the importance of budgeting while planning ingredients for biscuits.

		• To know safety rules for using, storing and cleaning a knife safely. • To know that similar coloured fruits and vegetables often have similar nutritional benefits.	
Vocabulary		climate diet imported ingredients natural processed reared recipe seasonal seasons sugar	design criteria research texture innovative aesthetic measure cross-contamination diet processed packaging

		Year 5	Year 6
		What could be healthier?	**Come Dine with Me.**
	Design	• 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.	• Writing a recipe, explaining the key steps, method and ingredients. • Including facts and drawings from research undertaken.
Skills	Make	• 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.	• 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.
	Evaluate	• Identifying the nutritional differences between different products and recipes. • Identifying and describing healthy benefits of food groups.	• 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	Cooking and Nutrition	• To understand where meat comes from - learning that where meat comes from and how it is processed, including key welfare issues. • To know that I can adapt a recipe to make it healthier by substituting ingredients. • To know that I can use a nutritional calculator to see how healthy a food option is. • To understand that 'cross-contamination' means bacteria and germs have been passed onto ready-to-eat foods and it happens when these foods mix with raw meat or unclean objects.	• To know that 'flavour' is how something tastes. • To know that many countries have 'national dishes' which are recipes associated with that country. • To know that 'processed food' means food that has been put through multiple changes in a factory. • To understand that it is important to wash fruit and vegetables before eating to remove any dirt and insecticides. • To understand what happens to a certain food before it appears on the supermarket shelf (Farm to Fork).

Vocabulary		reared processed ethical diet supermarket farm balanced	equipment flavours method recipe bridge method cookbook preparation cross-contamination farm to fork storyboard

Textiles

		Year 1	Year 2
		Easter Puppets	**Making a Pouch**
	Design	• Using a template to create a design for a puppet	• Designing a pouch.
Skills	Make	• Cutting fabric neatly with scissors. • Using joining methods to decorate a puppet. • Sequencing the steps taken during construction.	• 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.
	Evaluate	• Reflecting on a finished product, explaining likes and dislikes.	•Troubleshooting scenarios posed by teacher.
Knowledge		• 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. • 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.	• 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.
Vocabulary		decorate design fabric glue model hand puppet safety pin staple stencil template	decorate fabric fabric glue knot needle needle threader running stitch sew template thread

		Year 3	Year 4
		Roman Cushions (Romans)	**Egyptian Collar (Egyptians)**
	Design	• Designing and making a template from an existing cushion and applying individual design criteria.	• Designing and making a template for an Egyptian collar and applying individual design criteria.
Skills	Make	• 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.	• 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 fastening to a design.
	Evaluate	• Evaluating an end product and thinking of other ways in which to create similar items.	• 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.
Knowledge		•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. •To know that it is important to leave space on the fabric for the seam. •To understand that some products are turned inside out after sewing so the stitching is hidden.	• To know that a fastening is something which holds two pieces of material together for example a zipper, toggle, button, press stud and velcro. • To know that different fastening types are useful for different purposes. • To know that creating a mock up (prototype) of their design is useful for checking ideas and proportions.
Vocabulary		appliqué cross-stitch design equipment fabric patch running stitch thread seam texture knot template	appliqué cross-stitch running stitch prototype embellish cotton silk polyester wrinkle tear breathable matt shiny fastenings (zipper toggle button press stud velcro)

		Year 5	Year 6
		Stuffed Toys (Oceans)	**Waistcoats (British Heroes)**
	Design	•Designing a stuffed ocean animal considering the main component shapes required and creating an appropriate template.	•Designing a waistcoat in accordance with a specification and design criteria to fit a specific theme. Annotating designs.
Skills	Make	Considering the proportions of individual components. Creating a 3D stuffed ocean animal 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.	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.
	Evaluate	Testing and evaluating an end product and giving points for further improvements.	Evaluating work continually as it is created.
Knowledge		To know that blanket stitch is useful to reinforce the edges of a fabric material or join two pieces of fabric. To understand that it is easier to finish simpler designs to a high standard. To know that soft toys are often made by creating appendages separately and then attaching them to the main body. To know that small, neat stitches which are pulled taut are important to ensure that the soft toy is strong and holds the stuffing securely.	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.
Vocabulary		accurate annotate appendage blanket-stitch detail design criteria evaluation stuffed toy taut stuffing applique component	annotate decorate panels target customer waistcoat waterproof fastening pattern

Electrical Systems

		Year 6
		Steady Hand Game
	Design	• 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.
Skills	Make	• 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.
	Evaluate	• Testing own and others finished games, identifying what went well and making suggestions for improvement.
Knowledge		•To know that batteries contain acid, which can be dangerous if they leak. • To know the names of the components in a basic series circuit, including a buzzer
Vocabulary		assemble component fine motor skills fit for purpose form function gross motor skills LED user