Holme Community School – Long Term Curriculum Planning

Subject	Design and Technology	Cycle	B

What themes/ golden threads weave through the curriculum?	➢ Evolution of Design ➢ Past and Present ➢ Innovators of Design
Why were these themes chosen?	To take inspiration from design throughout history and understand the evolution of design through the ages. Also, to look in greater depth at the innovators of design and how they shaped present day designs.
What are the overall aims of this curriculum?	The national curriculum for design and technology aims to ensure that all pupils: ➢ develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world ➢ build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users ➢ critique, evaluate and test their ideas and products and the work of others ➢ understand and apply the principles of nutrition and learn how to cook.

Year Group		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	**Topic Heading: Discovery in Design** What are the building blocks for this subject to ensure children are KS1 ready?	**Expressive arts and design: Exploring and using media and materials. ELG:** Children sing songs, make music and dance, and experiment with ways of changing them. They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. **Expressive arts and design: Being imaginative. ELG:** Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own n ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories.					
Year 1/2	**Topic Heading: *Explorers in Design***	**Innovation: Structures** **Who's Been Sitting In My Chair!** **(Structures, Stability & Function)**	**Innovation: Mechanisms** **A moving Monster** **(Pivots, Levers & Linkages)**	**Past and Present: Textiles** **Tudor Money Pouches** **(Joining Fabrics and Running Stitch)**		**Innovation: Food and Hygiene** **Wonderful Picnic Wraps!** **(A Balanced Diet – Hidden Sugars)**	**Past and Present: Mechanisms** Ferris Wheel **(components, Rotation, & Structures)**
	Link to themes/key concepts	• **Exploring stability -** Using a scientific approach, children test the stability of 3D shapes that they have moulded themselves and explore man-made and natural structures. • Children have the opportunity to **explore** and build different	• **Explore** everyday objects, children learn that a lever is something that turns on a pivot and that a linkage is a system of levers that are connected by pivots. • **Explore** and experiment with making the linkages	• Introduction to sewing, children **explore** different examples of textiles and learn a simple running stitch. • Beginning to think of who the pouch could belong to and **explore** what it should look like, children create a template and cut out their fabric.		• **Exploration** of what makes a balanced diet, children taste test food combinations of different food groups. • **Explore** a variety of wraps that includes a healthy mix of protein, vegetables	• **Explore** the first ferris wheel created by ***George Washington Gale Ferris Jr.*** • ***Explore mechanisms and structures*** • **Explore**, design and create their own ferris wheels. • **Explore** how the different components

		paper structures while reinforcing their mathematical vocabulary, then test them to destruction!	that will enable their monsters move, varying the width, length and thicknesses of the card they use and demonstrating to the class the success of these adaptations.		and dairy, and learn about the term 'hidden sugars'.	fit together so that their wheels rotate and their structures stands freely.
	Key Knowledge	• 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 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.	• 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. • To know they need to plan where to put their stitches on the pouch template.	• 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 different materials have different properties and are therefore suitable for different uses. • To know the features of a Ferris wheel include the wheel, frame, pods, a base, an axle and an axle holder. • To know that it is important to test my design as I go along so that I can solve any problems that may occur.
	Objectives to be covered	• Designing for others, using criteria and applying their knowledge of structures • Cutting and	• Search and Design • Creating and using design criteria, generating ideas Planning for design and manufacture	• Considering purpose in the design process • Threading a needle • Sewing a running stitch • Preparing fabrics for sewing • Discuss the making process and the finished product	• Designing packaging for their wrap • Preparing food safely and hygienically • Chopping safely	• Designing mechanisms • Measuring and cutting accurately, working to scale and following a design

		assembling accurately • Examples of natural & manmade structures • Testing and evaluating • Understanding the definition and importance of strength, stability and stiffness • Knowing that different shapes can strengthen or weaken structures and that materials can be manipulated to improve strength and stiffness	• Cutting and assembling accurately • Selecting appropriate equipment and materials • Carrying out primary research and applying to design • Learning mechanical components • Identifying input and output	• Identifying parts of a needle (point and eye) • Understand the alternative ways of joining fabrics and embellishments	using the bridge grip • Conducting product research • Evaluating a design • Understanding how fruit and vegetables grow • Knowing the food groups • Understanding what makes a balanced diet	brief • Testing and adapting mechanisms • Researching mechanisms • Understanding how an axle works • Know materials commonly used for wheels
	Key Subject Specific Vocabulary to be taught	design criteria, function, man-made, natural, properties, structure, stable, stiff, strong, test, mould, weak	Axle, design criteria, Evaluation, input, linkage, mechanical, mechanism, output, pivot, wheel, survey	Accurate, fabric, knot, pouch, running stitch, sew, shape Stencil, template, thimble	Alternative diet, balanced diet, evaluation, expensive, healthy, ingredients, nutrients, packaging, refrigerator, sugar	Axle, decorate, evaluation, Ferris wheel, Ferris wheel pod, mechanism, stable, strong, test, waterproof, weak
	Core Activities	• To research, test, design, create and evaluate a chair with a specific use in mind.	• Construction - Moving dragon mechanism	• Visit **Staircase House** (Stockport)- linked to the ***Great Fire of London*** and how life was in 1666 • To research, design, create and evaluate a money pouch with a specific user in mind.	• Visit **Greenbank Farm** to collect seasonal produce • To research, design, and create a healthy wrap with a specific consumer in mind.	• To research, test, design, create and evaluate a Ferris wheel with a specific use in mind.
	Assessment Activities/Key Questions	**Final design, end of unit quiz and knowledge catcher** • **What is a structure?** Something that has been made and put together. • **Which is the man-made structure?** Castle (B). • **Which is the natural object?** Birds nest (A). • **What do we mean by strong?** It does not break easily. • **What do we mean by weak?** It breaks easily.	**Final design, end of unit quiz and knowledge catcher** • **What is a mechanism?** Parts of an object that move together. • **What is a design criteria?** A list of points that a product must achieve. • **What is an input?** The energy that is used to start something working. • **What mechanism is the scissor lift using?** Linkage	**Final design, end of unit quiz and knowledge catcher** • **What do we mean by a joining technique?** To connect two pieces of material together. • **What is a template?** A stencil to help you draw the same shape on materials. • **Which picture shows safety pins?** C • **Which answer is a method of joining fabric?** Sewing (A) • **What is the name of this stitch?** Running stitch. • **What is the name of the tool used to sew?** Needle • **What must you do after sewing the final (last) stitch?** Tie a knot. • **What tool can you use to protect your fingers?** Thimble	**Final design, end of unit quiz and knowledge catcher** • **What is a blender?** A machine that mixes ingredients together into a liquid. • **How do we identify a fruit?** Check for seeds. • **What do we mean by diet?** The food and drink that a person or animal usually eats. • **What is this kitchen appliance called?** Refrigerator • **What does this**	**Final design, end of unit quiz and knowledge catcher** • **What is a mechanism?** Parts of an object that move together. • **What is a structure?** Something that has been made and put together. • **How does a Ferris wheel spin?** It is attached to the axle that rotates. • **What does stable mean?** Does not topple over easily. • **What does strong**

		• **What do we mean by stable?** It does not topple over easily. • **What do we mean by stiff?** It does not bend easily. • **What is the function of a chair?** To sit on. • **Why is it important to test something?** To find out whether something works as it should.	• **What do you call the pins on the monster?** Pivot • **What do you call the bars on the monster?** Lever • **What is the mechanism called?** Linkage • **What is an output?** The movement that happens as a result of starting the input. • **Which item is not mechanical?** Teddy bear	• **What is a pouch?** A pocket-type, small bag to carry and keep items safe.		• **kitchen appliance do?** Stores and keeps fresh food and drink cold to last longer. • **What are nutrients?** Substances in food that all living things need to make the energy to grow. • **When looking at food packaging you can find…** Information about nutrients. • **It is important to…** Eat a range of foods from different food groups. • **What are ingredients?** Items that make up a mixture e.g. foods that make a recipe.	**mean?** Not easily broken. • **What does weak mean?** Easily broken. • **Which material are stiff?** Metal rod. • **Which material is flexible?** Rubber • **What materials are strong?** Brick
Year 3/4	**Topic Heading: *Inventors in Design***	**Past and Present/Innovation: Electrical Systems** Torches (Electrical Systems)	**Innovation: Food and Nutrition** Adapting a Recipe (Research, Sample, Adapt and Evaluate)	**Evolution and Innovation: Structures** Perfect Pavilions (Design, Stability, Frames and Structures)	**Evolution and Innovation: Mechanisms** Slingshot Cars (kinetic energy, components and resistence)	**Past and Present/Innovation: Textiles** Topic Linked - Story Book Cover (Fastenings)	
	Link to themes/ key concepts	• To research **David Misell's (inventor) first** design of the electrical torch. • Look at previous designs and adapt and modify. • Research and apply their scientific understanding of electrical circuits to create a torch made from easily available materials and objects. • Design and evaluate their product against set design criteria.	• Research the origin of the first cookie and how it has been adapted since the 7th century. • Research who **invented** the first chocolate chip cookies. • Research ***Ruth Graves Wakefield*** and her original recipes and adapt an original recipe.	• Research past architects who have created pavilions and why. • To research why light, shadow and patterns play a large part of pavilion design. • Research innovative pavilion designs by **Yinka Ilori -** (The Colour Design) in the UK and the (Luum Temple) in Mexico by **Co-Lab Design Office**.	• Explore inventor **Isaac Newton's - Newton's Laws of Motion** and covers principles of inertia and momentum. • Research ***Newton's Cradle*** and how this demonstrates the conservation of momentum and kinetic energy in elastic collisions. • Look at previous designs and adapt and modify.	• Research, design and create a book sleeve; exploring a variety of fastenings and selecting the most appropriate one for their design. • Research the history and use of different fastenings for book covers e.g. buttons, toggles, studs, snap fasteners, poppers, eyelets, buckles, zippers, Velcro, hook and Loop, frogging, hooks and eyes, magnets, grommets, brooches, safety Pins, fabric ties and laces. • Suggest improvements to existing designs.	
	Key Knowledge	• To understand that electrical conductors are materials which	• To know that the amount of an ingredient in a	• To understand what a frame structure is. • To know that a 'free-	• To understand that all moving things have kinetic energy.	• To know that a fastening is something that holds two pieces of material together. • To know that different fastening types are useful	

		electricity can pass through. • To understand that electrical insulators are materials which electricity cannot pass through. • To know that a battery contains stored electricity that can be used to power products. • 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.	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 the five different tastes a human tongue can detect.	standing' structure is one that can stand on its own. • To know that a pavilion is a decorative building or structure for leisure activities. • To know that cladding can be applied to structures for different effects. • To know that aesthetics are how a product looks.	• To understand that kinetic energy is the energy that something (object/person) has by being in motion. • To know that air resistance is the level of drag on an object as it is forced through the air. • To understand that the shape of a moving object will affect how it moves due to air resistance.	for different purposes. • To know that creating a mock-up (prototype) of their design is useful for checking ideas and proportions. • To know a 2D net made from card can be created to check the size of the book sleeve, before using fabric.
	Objectives to be covered	• Designing for others • Creating neatly presented work • Making an electrical circuit • Evaluating to improve their work • Testing their final products • Electricity is energy • Batteries are used to store electricity • Know terminology of: insulator, conductor, L.E.D., battery, coin cell batteries	• Working within a design brief • Following but adapting a recipe • Preparing food hygienically • Discuss flavours identified • Understanding the costs behind professional food preparation • Understanding the factors that contribute to product design	• Exploring and designing within a given context/theme • Using a range of materials and equipment to create frame structures • Discuss existing pavilions • Knowing what a pavilion is • Building on prior knowledge of net structures and broadening knowledge of frame structures • Knowing that architects consider light, shadow and patterns when designing.	• Developing designs using the views of others to improve them • Using nets and tabs to design and make the car body • Measuring, marking, cutting and assembling accurately • Testing products in time trials • Testing products in time trials	• Designing for others and planning production • Selecting suitable tools • Researching existing products • Understanding stitches and their benefits • Knowing how to use templates
	Key Subject Specific Vocabulary to be taught	Battery, bulb, buzzer, cell, conductor, copper, design, criteria, electrical item, electricity, insulator, series, circuit, switch, test, torch, wire	Adapt, budget, equipment, evaluation, flavour, ingredients, method, net, packaging, prototype, quantity, recipe, target audience, unit of measurement, utilities	Aesthetic, cladding, design criteria, evaluation, frame structure, function, inspiration, pavilion, reinforce, stable, structure, target, target customer, texture, theme	Air resistance, chassis, design, design criteria, function, graphics, kinetic energy, mechanism, net structure	Aesthetics, assemble, book sleeve, design criteria, evaluation, fabric, fastening, prototype, net, running-stitch, stencil, target audience, target customer, template

	Core Activities	• To research, test, design, create and evaluate a torch with a specific user/use in mind.	• To research, design and create a cookie with a specific consumer in mind.	• Look at local pavilions and compare and critique designs. • To research, design and create a pavilion with specific design features.	• **Mad Science –** Science of toys workshop (kinetic energy) • To research, test, design, create and evaluate a slingshot toy with a specific user in mind.	• To research, design, create and evaluate a book cover with a specific user in mind.
	Assessment Activities/Key Questions	**Final design, end of unit quiz and knowledge catcher** • **What is electricity?** A type of energy used to power electrical items. • **What type of diagram is this?** Circuit • **What do these symbols represent?** Circuit components • **What is a conductor?** A material that lets electricity travel through it. • **What is an insulator?** A material that electricity cannot pass through. • **What type of circuit is this?** Series • **Series circuits only have…** One path for the electrical current to flow • **Which answer is a portable form of electricity?** Battery • **What does this symbol represent?** Battery	**Final design, end of unit quiz and knowledge catcher** • **What do we call cooking instructions to make a dish?** Recipe • **When food is in season, what does it mean?** It is ready to be harvested and eaten. • **In a recipe, what it the method?** A process or list of instructions to make a dish. • **What do we mean by quantity?** An amount of an item. • **What do we mean by budget?** • **After removing the biscuits from the oven, put them on a …** ***Cooking rack*** to cool down before eating them. • **When removing hot food from an oven use…** Oven gloves • **What do we mean by budget?** A set amount of money for a project. • **The technique for combing sugar and butter is called?** Creaming • **Why do we sieve**	**Final design, end of unit quiz and knowledge catcher** • **What is a list of design criteria?** A list of points that outline a products intended purpose. • **What are aesthetics?** How a object or product looks. • **What do we call the materials used on the outside of structures to add protection or improve aesthetics?** Cladding • **What is a theme?** An idea or specific design that your product is based on. • **What is a pavilion?** A decorative building or structure for leisure activities. • **What does inspiration mean?** To gain ideas from different sources. • **What is a products 'function'?** The purpose of a product or object and how it works. • **What does stable mean?** It does not topple over easily. • **How do you make a structure stronger?** Reinforce	**Final design, end of unit quiz and knowledge catcher** • **What is a mechanism?** Parts of an object that moves. • **What is an exploded-diagram?** Used to illustrate how different parts of a product fit together to give a clear idea of exactly how to make it. • **What do we mean by aesthetics?** How an object or product looks. • **What do we mean by graphics?** Images that are designed to explain or advertise something. • **What is air resistance?** The level of drag on an object as it is forced through the air. • **What is a template?** A stencil you use to help you draw the same shape more easily onto different materials. • **Which view of the car can you see?** Birds-eye • **Which view of the car can you see?** Side	**Final design, end of unit quiz and knowledge catcher** • **What do we mean by accurate?** Neat, correct shape, size and pattern with no mistakes. • **What do we mean by threading a needle?** When you place thread through the eye of a needle ready for sewing. • **What is a fastening?** Something that holds two pieces of material together. • **Which picture shows a zipper?** D • **Which picture shows a Toggle?** A • **Which picture shows a press stud?** B • **What is fabric?** A natural or man-made woven or knitted material. • **What is a prototype?** A model that lets you test how your idea will look and work. • **What is the hole in the needle called?** Eye

			flour? To remove lumps and aerate the flour.		• **Which view of the car can you see?** Front		
Year 5/6	**Topic Heading: *Pioneers in Design***	**Innovation: Textiles** **Waistcoats (Templates, Cutting, Running Stitch, applique and Decorations)**	**Past and Present/Innovation: Food and Nutrition** **Come Dine With Me: Wartime Edition (researching the journey of their main ingredient ,from 'farm to fork')**	**Evolution and Innovation: Structures** **Holme Playground (Footprints, Structural Properties, Natural Features and cladding)**	**Evolution: *Computing** **Evolution of Computers (Evolution of Tech Design and Components)**	**Innovation: Electrical Systems:** **Topic Linked - Steady Hand Games (Electromagnetic Motor, Base Building and Electrical Circuits)**	**innovation: Mechanisms** **Topic Linked - Automata Toys (Automata mechanisms and CAMS)**
	Link to themes/ key concepts	• Research what fabrics were used 19th and 20th century and how they were sourced. • Research the textile revolution of the 19th century. • Research the first introduction of the 'waistcoat' by King **Charles II in 1666** and how it has evolved over the centuries. • Research designs for business dress or practicality. • Drawing inspiration from **famous** waistcoat designers and wearers; design a waistcoat.	• Research early farming (19th and 20th century) in the local area and how they supplied produce to the local community. • To research the extent of how ***rations*** changed how people ate during the war. • To adapt three recipes from early 20th century cuisine. • Research one of the earliest celebrity chefs Hilda **Elsie Marguerite Patten,** who became well known during WWII thanks to her programme on BBC Radio where she shared recipes that could work alongside rationing.	• Research the evolution of playgrounds. • Research the **pioneers** of playground design **Charles Wicksteed** who built unsupervised playgrounds and Danish architect **Sorenson Emdrupt** who created junk playgrounds in 1943. • Look at a variety of previous designs and adapt and modify.	• Research the evolution of computers including consoles and mobile phones. • Research the **pioneers** of computer/tech design e.g. ***Charles Babbage, Conrad Zuse, Steve Wozniak Steve Jobs, John Atanasoff, Alan Turning*** and **Bill Gates.** • Design a computer of the future	• Research the **pioneer** of the electromagnetic motor, **Michael Faraday.** • Research the evolution of the electromagnetic motor and how it has been used through the decades. • Research and test past and present steady hand games.	• Research the history of automata toys and hand-powered mechanisms. • Research the value of mechanical toys in the Victorian times. • Research design **pioneer**, **Jacques De Vaucanson**; who successfully built the first biomechanical automation. • To research 'American Automata Toys'. Look at a variety of previous designs and adapt and modify.
	Key Knowledge	• 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.	• To know the five main food groups. • To know that rations limited the food people could consume. • 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	• 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 the importance of having a secure password and what "brute force hacking" is. • To know that the first computers were created at Bletchley Park to crack the Enigma code to help the war effort in World War 2. • To know about some of the historical figures that contributed to	• 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 understand that the mechanism in an automata uses a system of cams, axles and followers. • To understand that different shaped cams produce different outputs. • 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.

			• insecticides. • To understand what happens to a certain food before it appears on the supermarket shelf (Farm to Fork).		• technological advances in computing. • To understand what techniques are required to create a presentation using appropriate software.		
	Objectives to be covered	• Designing for a process • Accurate cutting and joining, using running stitch • Creating something in a given style • Evaluating work continually • Knowing how to create hidden seams	• Using recipe books/websites • Working with food hygienically and safely Working to a timescale • Tasting and evaluating their own food • Understanding the risks of meat or fish when not cooked or stored properly • Understanding safe storage of meat/fish	• Establishing and using a design criterion to help focus and evaluate their work • Increasingly more demanding practical skills • Selecting materials for their aesthetic and functional properties • strengthen and stiffen a range of structures • Exploring existing playground structures • Applying knowledge of construction techniques to realise design ideas • Stabilising more complex structures using bracing	• Identifying the key features of a radio play • Recording sounds to sound recording software • Adding tracks in order to include sound effects into my recording • Understand how computers have changed and the impact this has had on the modern world • Identifying how computers have evolved over time • I can recognise some of the earliest computers and how they impacted the modern world • Understanding how computers work • Recognising components of a computer and why they are important	• Generating ideas through sketching and discussion • Modelling ideas through prototypes • Cutting and assembling with accuracy • Adapting products to improve functionality • Testing finished product • Technical Knowledge • Creating and using electric circuits in their designs • Knowing how to make electromagnetic motors.	• Experimenting with cams to make suitable design decisions • Measuring, marking and cutting woodwork accurately • Selecting appropriate equipment • Assembling components accurately • Checking accuracy of work • Naming types of cam • Knowing how cams impacts follower movement
	Key Subject Specific Vocabulary to be taught	Adapt, annotate, detail, fabric, fastening, knot, properties, running-stitch, seam, sew, shape, target audience, target customer, template, thread, unique, waistcoat, waterproof	Accompaniment, cookbook, cross-contamination, equipment, farm, flavour, imperative verb, ingredients, method, preparation, processed, reared, recipe, target audience, unit of measurement	Apparatus, bench hook, coping saw, dowel, jelutong, mark out, modify, natural materials, plan view, playground, prototype, reinforce, structure, tenon saw, user, vice	radios, computers, pioneers, inventors, key features, creating, editing, tinker, sounds, recording, software, hardware, RAM, operating system, algorithm , application, tracks, effects, adding, consoles, mobile phones, change, impact, modern world, modern life, research, information, internet, network, historic, future, evolving,	Backboard, bulb, battery, buzzer, circuit, conductor, copper, function, insulator, LED, magnetic field, net, pliers, prototype, series circuit, side view, drawing, switch, test, top view, drawing	Assembly-diagram, automata, axle, bench hook, clamp, cam, component, cutting list, dowel, drill bits, exploded-diagram, finish, follower, frame, function, hand drill, jelutong, linkage, mark out, set square or engineer's square, tenon saw

					components, user, purpose, function, prototype, design criteria, innovative, design brief		
	Core Activities	• To research, design, create and evaluate a waistcoat with specific design features.	• Visit a local farm **'farm to fork'** • To research, design and create a three-course meal with a specific consumer in mind.	• Visit a variety of **local playgrounds** • To research, test, design, create and evaluate a modern playground with specific design features.	• To research, test, design, create and evaluate a computer of the future with specific design features.	• To research, test, design, create and evaluate a steady hand game with specific design features, e.g. **electromagnetic motor and electrical circuits**.	• To research, test, design, create and evaluate a automata toy with specific design features.
	Assessment Activities/Key Questions	**Final design, end of unit quiz and knowledge catcher** • **What do we mean by an object's form?** The shape of an object. • **What is fabric?** A natural or man-made woven or knitted material. • **What is a template?** A stencil to help you draw the same shape on materials. • **What are the properties of a fabric?** Soft, flexible and light. • **What do we call a material that does not allow water to pass through it?** Waterproof • **It is important to be…** ***Accurate*** when measuring. • **What do we mean by target audience?** A particular group of people who the product is aimed at. • **What do we mean by target client or customer?** A particular type of person who the product is aimed at. • **What do we call the join where two pieces of fabric connect?**	**Final design, end of unit quiz and knowledge catcher** • **What is cross-contamination?** When bacteria and germs are passed onto ready-to-eat foods. • **Cross-contamination happens when…** Ready-to-eat foods mix with raw meats or unclean objects. • **What do we mean by flavour?** How food and drink tastes. • **What does the word 'reared' in farming mean?** To breed and raise livestock. • **In a recipe, what is the method?** A process or list of instructions to make a dish. • **What is a national dish?** A recipe that is associated with a particular country. • **What is processed food?** Food that is put through multiple changes in a factory. • **Why is it important**	**Final design, end of unit quiz and knowledge catcher** • **To make a structure stronger…** ***Reinforce*** it with more materials. • **What is the name of this tool?** Tenon saw (C) • **What is the name of this tool?** Coping saw (D) • **What is the name of this tool?** Vice (B) • **What is a protype?** A cheap model to test your design idea. • **Jelutong is a type of…** softwood • **What are the material properties of a softwood (pine)?** Easier to shape, light and strong. • **What is the name of this view?** Plan • **To modify something means to…** Change something to improve or fix it.	**Final design, end of unit quiz and knowledge catcher**	**Final design, end of unit quiz and knowledge catcher** • **What is product analysis?** Critiquing the strengths and weaknesses of a product. • **What type of circuit is this?** Series • **Series circuits only have…** One path for the electrical current to flow. • **Series circuits have no crossover wires and…** The electricity travels in a loop. • **What do we mean form over function?** The product may look good, but does not work very well. • **What is a buzzer?** A device that generates a noise when electricity passes through it. • **A LED is a circuit component that…** Produces light when electricity passes through it. • **What is the name of this tool?**	**Final design, end of unit quiz and knowledge catcher** • **What is a design brief?** Explains what the product needs to achieve to be successful. • **What is an automata?** Hand-powered mechanical toys that use cams, followers and axles. • **Why were mechanical toys valuable in the Victorian times?** They were valuable because they were interactive without using electricity. • **Which tool can be used to help marl 90° angles?** Engineer's or set square. • **What tool can be use to hold wood still for sawing?** Bench hook, clamp or vice. • **What is a cross-sectional diagram?** Shows the inner workings of a product. • **What is an exploded-diagram?**

		Seam	**<u>to wash fruit and vegetables?</u>** To remove any dirt and insecticides. • **<u>When slicing fruit or vegetables, remember to…</u>** Turn the fruit or vegetable to the flat, or most stable side.			Pliers • **<u>If switched on, when the rod touches the wire it…</u>** Allows the electricity to flow around the circuit, powering the buzzer.	Used to illustrate how different parts of a product fit together. • **<u>Changing the shape of a CAM profile will…</u>** Change the way the follower moves. • **<u>When using a hand drill you should…</u>** Tie long hair back, roll up your sleeves and put on goggles.