DT Curriculum Coverage

DT	Progression	Intent			Implementation	Impact		
Year group	**Skills knowledge the children should already have**	**Autumn**	**Spring**	**Summer**	**How will this be taught?**	**What skills/knowledge will children have acquired?**	**Key vocabulary**	**Key Questions**
1	Handling equipment and tools effectively, including pencils Safely use and explore a variety of materials, tools and techniques Experimenting with colour, design, texture, form and function Using what they have learnt about media and materials in original way. Representing their own ideas, thoughts and feelings through design and technology.	Mechanisms - Sliders **NC: DESIGN: Developing and planning ideas** Generate ideas by drawing on their own and other people's experiences Develop their design ideas through discussion, observation , drawing and modelling Identify design criteria Make drawings and label parts for the design process **MAKE and TECHNICAL: Using techniques to develop products** Select tools and materials Use hand tools safely and appropriately Assemble, join and combine materials in order to make a product **EVALUATE**	Food Technology - Preparing Fruit and Vegetables **NC: DESIGN: Developing and planning ideas** Generate ideas by drawing on their own and other people's experiences Develop their design ideas through discussion, observation , drawing and modelling Identify design criteria Make drawings and label parts for the design process **MAKE and TECHNICAL: Using techniques to develop products** Select tools and materials Use hand tools safely and appropriately Assemble, join and combine materials	Mechanisms - Slides and Levers **NC: DESIGN: Developing and planning ideas** Generate ideas by drawing on their own and other people's experiences Develop their design ideas through discussion, observation , drawing and modelling Identify design criteria Make drawings and label parts for the design process **MAKE and TECHNICAL: Using techniques to develop products** Select tools and materials Use hand tools safely and appropriately Assemble, join and combine materials in order to make a product	Designing for others Assembling accurately Creating different movements (up, down, along and around) Testing a finished product Understanding what a mechanism is Designing for others Chopping fruit and vegetables Evaluating and adapting designs Describing and grouping fruits by texture and taste Understanding the difference between fruit and vegetables	Be able to start use scissors correctly to cut thing out. Understand that sliders are mechanisms and can make things move. Be able to design a product for the purpose 'looking after our planet' Be able to understand the difference between fruits and vegetables. Be able to describe and group fruits by texture and taste. Begin to have a basic understanding of food hygiene. Be able to use scissors correctly to cut thing out. Understand that levers and sliders are mechanisms	fruit, vegetable, nutrients, sensory evaluation, kebab, cuboid, edge, face, font, net, prism, scoring, shell structure, vertex, mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating user, purpose, function	List the components of good food hygiene What are the 5 food groups of a balanced diet? What is a shell structure? What is the difference between frame and shell structures? What is the opened-out shape of an object called? How does a lever turn? What is a linkage?

		Evaluate against their design criteria Evaluate in process identifying strengths and possible changes they might make Talk about ideas, saying what they like and dislike about them Evaluate designs by other people to learn from them Traditional tales moving picture	in order to make a product **EVALUATE** Evaluate against their design criteria Evaluate in process identifying strengths and possible changes they might make Talk about ideas, saying what they like and dislike about them Evaluate designs by other people to learn from them **COOKING AND NUTRITION** use the basic principles of a healthy and varied diet to prepare dishes understand where food comes from.	 **EVALUATE** Evaluate against their design criteria Evaluate in process identifying strengths and possible changes they might make Talk about ideas, saying what they like and dislike about them Evaluate designs by other people to learn from them		and can make things move. Be able to identify whether a mechanism is a lever or slider and determine what movement the mechanism will make.		
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Year Group	**Skills knowledge the children should already have**	**Autumn**	**Spring**	**Summer**	**How will this be taught?**	**What skills/knowledge will children have acquired?**	**Key vocabulary**	**Key Questions**
2	Be able to look at existing products and evaluate how effective they are. Design purposeful models that best fit the criteria.	Mechanisms - Wheels and Axles **NC**: **DESIGN: Developing and planning ideas** - Generate ideas by drawing on their	Textiles - Templates and Joining Techniques **NC**: **DESIGN: Developing and planning ideas** - Generate ideas by	Structures - Freestanding Structures **NC**: **DESIGN: Developing and planning ideas** - Generate ideas by	Considering purpose in the design process Threading a needle Sewing a running stitch	Be able to begin to identify mechanisms in everyday objects. Have a basic understanding of how axels help	axle, axle holder, chassis, friction, dowel, template, pattern pieces, mark out, join, decorate, finish features, suitable, quality mock-up,	What do moving vehicles need in order to work? What is an axel? What are the different ways we

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	Be able to compare products – old and new, Learnt or be learning how to use scissors (and other tools) effectively, correctly and safely.	own and other people's experiences Develop their design ideas through discussion, observation , drawing and modelling Identify design criteria Make drawings and label parts for the design process **MAKE and TECHNICAL: Using techniques to develop products** Select tools and materials Use hand tools safely and appropriately Assemble, join and combine materials in order to make a product **EVALUATE** Evaluate against their design criteria Evaluate in process identifying strengths and possible changes they might make Talk about ideas, saying what they like and dislike about them Evaluate designs by other people to learn from them	drawing on their own and other people's experiences Develop their design ideas through discussion, observation , drawing and modelling Identify design criteria Make drawings and label parts for the design process **MAKE and TECHNICAL: Using techniques to develop products** Select tools and materials Use hand tools safely and appropriately Follow safe procedures for food safety and hygiene **EVALUATE** Evaluate against their design criteria Talk about ideas, saying what they like and dislike about them	drawing on their own and other people's experiences Develop their design ideas through discussion, observation , drawing and modelling Identify design criteria Make drawings and label parts for the design process **MAKE and TECHNICAL: Using techniques to develop products** Select tools and materials Use hand tools safely and appropriately Assemble, join and combine materials in order to make a product **EVALUATE** Evaluate against their design criteria Evaluate in process identifying strengths and possible changes they might make Talk about ideas, saying what they like and dislike about them	Preparing fabrics for sewing Discuss the making process and the finished product Identifying parts of a needle (point and eye) Understand the alternative ways of joining fabrics and embellishments Designing mechanisms Measuring and cutting accurately, working to scale and following a design brief Testing and adapting mechanisms Researching mechanisms Understanding how an axle works Know materials commonly used for wheels Designing for others, using	wheels to move a vehicle. Have a basic understanding that there is an input and output in a mechanism. Be able to join items using fabric glue or stitching and be able to identify the benefits of these techniques. Be able to thread a needle. Be able to sew a running stitch, with evenly spaced, neat, even stitches to join fabric. Be able to neatly pin and cut fabric using a template. Be able to identify when a structure is more or less stable than another. Know that shapes and structures with wide, flat bases or legs are the most stable. Have an understanding that	design brief, design criteria, make, evaluate, user, purpose, function cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder design, make, evaluate, user, purpose, ideas, design criteria, product, function	can join fabric together? Name the parts of a needle. What is a mechanism? Name as many things as you can in 30 seconds that have wheels to move. What different types of movement are produced by mechanisms?

				Evaluate designs by other people to learn from them	criteria and applying their knowledge of structures Cutting and 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	the shape of a structure affects its strength.		
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Year Group	**Skills knowledge the children should already have**	**Autumn**	**Spring**	**Summer**	**How will this be taught?**	**What skills/knowledge will children have acquired?**	**Key vocabulary**	**Key Questions**
3	Be able to look at existing products and evaluate how effective they are.	Food Technology- Healthy and Varied Diet **NC: DESIGN: Developing and planning ideas**	Structures – Shell Structures **NC: DESIGN: Developing and planning ideas**	Mechanical Systems Levers and Linkages **NC: DESIGN: Developing and planning ideas**	Designing to criteria Safely preparing fruit and vegetables Following a recipe	Have a better understanding of food hygiene standards.	appearance, texture, sensory evaluation, preference test, strawberry huller, processed food, shell structure,	List the components of good food hygiene What are the 5 food groups of a balanced diet?

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	Design purposeful models that best fit the criteria. Be able to compare products – old and new, Learnt how to use scissors (and other tools) effectively, correctly and safely Start to learn about different mechanisms and how they work	Generate ideas through brainstorming and identify a purpose for their product Draw up a specification for their design Develop a clear idea of what has to be done, planning how to use materials, equipment and processes; suggesting alternative methods if the first attempts fail Use results of investigations and information sources when developing design ideas **MAKE and TECHNICAL: Using techniques to develop products** Select appropriate materials, tools and techniques Measure and mark out accurately Use skills with different tools and equipment safely and accurately	Generate ideas through brainstorming and identify a purpose for their product Draw up a specification for their design Develop a clear idea of what has to be done, planning how to use materials, equipment and processes; suggesting alternative methods if the first attempts fail Use results of investigations and information sources when developing design ideas **MAKE and TECHNICAL: Using techniques to develop products** Select appropriate materials, tools and techniques Measure and mark out accurately Use skills with different tools and equipment safely and accurately	Generate ideas through brainstorming and identify a purpose for their product Draw up a specification for their design Develop a clear idea of what has to be done, planning how to use materials, equipment and processes; suggesting alternative methods if the first attempts fail Use results of investigations and information sources when developing design ideas **MAKE and TECHNICAL: Using techniques to develop products** Select appropriate materials, tools and techniques Measure and mark out accurately Use skills with different tools and equipment safely and accurately	Tasting and evaluating their healthy drink Knowing what foods are in season and when Knowing how climate alters the sweetness of food Planning for manufacture Establishing and using a design criteria to help focus and evaluate their work Using more demanding practical skills (paper engineering/paper folding techniques) Evaluating as they work Evaluating their own and other's final product Application of prior knowledge and increasing knowledge of nets	Understand what makes a balanced diet. Know the five food groups. Be able to work with cooking equipment safely and hygienically. Know how to prepare themselves and a workspace to cook safely in. Know the basic rules to avoid food contamination. Be able to construct a range of 3D geometric shapes using nets. Extend their knowledge of wide and flat based objects being more stable. Be able to understand the difference between frame and shell structures. Have learnt that a lever is something that turns on a pivot.	three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity, mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating user, purpose, function	What is a shell structure? What is the difference between frame and shell structures? What is the opened-out shape of an object called? How does a lever turn? What is a linkage?

		Weigh and measure accurately Apply the rules for basic food hygiene and other safe practices **Evaluate** Evaluate a product against the original design specification Evaluate it personally and seek evaluation from others **Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]	Weigh and measure accurately Apply the rules for basic food hygiene and other safe practices **Evaluate** Evaluate a product against the original design specification Evaluate it personally and seek evaluation from others **Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]	Weigh and measure accurately Apply the rules for basic food hygiene and other safe practices **Evaluate** Evaluate a product against the original design specification Evaluate it personally and seek evaluation from others **Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]		Have learnt that a linkage is a system of levers that are connected by pivots.		

		apply their understanding of computing to program, monitor and control their products **COOKING AND NUTRITION** understand and apply the principles of a healthy and varied diet prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.	apply their understanding of computing to program, monitor and control their products	apply their understanding of computing to program, monitor and control their products				
DT	**Progression**	**Intent**			**Implementation**	**Impact**		
Year Group	**Skills knowledge the children should already have**	**Autumn**	**Spring**	**Summer**	**How will this be taught?**	**What skills/knowledge will children have acquired?**	**Key vocabulary**	**Key Questions**
4	Be able to look at existing products and evaluate how effective they are.	Textiles - 2D Shape to 3D Product **NC: DESIGN: Developing and planning ideas**	Mechanical Systems Pneumatics **NC: DESIGN: Developing and planning ideas**	Electrical Systems - Simple Circuits and Switches **NC: DESIGN: Developing and planning ideas**	Designing for a purpose Accurately cutting and joining	Be able to thread needles with greater independence.	appliqué, pattern/template, seam, seam allowance, prototype, aesthetics,	Name some different types of fastenings Tell someone how to thread a needle

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	Design purposeful models that best fit the criteria. Be able to compare products – old and new, Start to build a basic understanding of simple food hygiene and understand why it is important when handling food and drinks Start to use tools effectively to make a product fit for purpose	Generate ideas, considering the purposes for which they are designing Make labelled drawings from different views showing specific features Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail Identify criteria that can be used for their own designs **MAKE and TECHNICAL: Using techniques to develop products** Select appropriate tools and techniques for making their product Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques	Generate ideas, considering the purposes for which they are designing Make labelled drawings from different views showing specific features Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail Identify criteria that can be used for their own designs **MAKE and TECHNICAL: Using techniques to develop products** Select appropriate tools and techniques for making their product Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques	Generate ideas, considering the purposes for which they are designing Make labelled drawings from different views showing specific features Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail Identify criteria that can be used for their own designs **MAKE and TECHNICAL: Using techniques to develop products** Select appropriate tools and techniques for making their product Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques	Comparing 3D object to 2D design Understand constructions methods for 3D shapes Generating and communicating ideas using sketching and modelling, using the views of others to improve their designs Selecting appropriate materials and equipment for functional and aesthetic purposes Assessing how well their product works and if it matches their design Understanding how pneumatic systems work Designing for others Creating neatly presented work Making an electrical circuit	Be able to sew a cross stitch and appliqué. Have an understanding that there are different types of fastenings and what they are. Be able to articulate the benefits and disadvantages of different fastening types. Understand how pneumatic systems work. Have learnt that mechanisms are a system of parts that work together to create motion. Understand that pneumatic systems can be used as part of a mechanism. Have learnt that pneumatic systems force air over a distance to create movement. Have learnt how electrical items work.	compressed, input, output, pivot, lever, pneumatic, hydraulic pressure, inflate, deflate, syringe, system, series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip	What is a pneumatic system? Name five things that use pneumatics to work. *Something that is squashed, such as air in a tube* - is defining what? What are the components of a simple circuit? Name 5 conductors and insulators of electricity.

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		Join and combine materials and components accurately in temporary and permanent ways Use simple graphical communication techniques Demonstrate hygienic food preparation and storage **Evaluate** Disassemble and evaluate familiar products Evaluate their products carrying out appropriate tests **Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in	Join and combine materials and components accurately in temporary and permanent ways Use simple graphical communication techniques Demonstrate hygienic food preparation and storage **Evaluate** Disassemble and evaluate familiar products Evaluate their products carrying out appropriate tests **Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears,	Join and combine materials and components accurately in temporary and permanent ways Use simple graphical communication techniques Demonstrate hygienic food preparation and storage **Evaluate** Disassemble and evaluate familiar products Evaluate their products carrying out appropriate tests **Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]	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	Be able to Identify electrical products. Have learnt what electrical conductors and insulators are. Have an understanding that a battery contains stored electricity and can be used to power products Have learnt the difference between series and parallel circuits.		

		their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products	pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products	understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products				
DT	**Progression**	**Intent**			**Implementation**	**Impact**		
Year Group	**Skills knowledge the children should already have**	**Autumn**	**Spring**	**Summer**	**How will this be taught?**	**What skills/knowledge will children have acquired?**	**Key vocabulary**	**Key Questions**
5	Be able to look at existing products and evaluate how effective they are. Design purposeful models that best fit the criteria. Be able to compare products – old and new, Understand the different mechanism to	Food Technology - Celebrating Culture and Seasonality **NC: DESIGN: Developing and planning ideas** Generate ideas through brainstorming and identify a purpose for their product Draw up a specification for their design	Mechanical Systems Cams **NC: DESIGN: Developing and planning ideas** Generate ideas through brainstorming and identify a purpose for their product Draw up a specification for their design	Structures - Frame Structures **NC: DESIGN: Developing and planning ideas** Generate ideas through brainstorming and identify a purpose for their product Draw up a specification for their design	Experimenting with cams to make suitable design decisions Measuring, marking, and cutting woodwork accurately Selecting appropriate equipment	Know how to prepare and handle foods correctly and safely in line with food hygiene standards. Be able to record the relevant ingredients and equipment needed for a recipe. Understand the combinations of food that will	carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, cam, snail cam, off-centre cam, peg cam, pear shaped cam follower, axle,	What are the food hygiene standards? How can we stay safe when we are cooking and preparing food? Why is it important to use a bench hook when sawing? Name the four different cams.

	make something move and be able to carry them out effectively so they work correctly in a pop-up book Food hygiene and how to work safely around food and the equipment needed to carry out food technology safely and correctly	Develop a clear idea of what has to be done, planning how to use materials, equipment and processes; suggesting alternative methods if the first attempts fail Use results of investigations and information sources when developing design ideas **MAKE and TECHNICAL: Using techniques to develop products** Select appropriate materials, tools and techniques Measure and mark out accurately Use skills with different tools and equipment safely and accurately Weigh and measure accurately Apply the rules for basic food hygiene and other safe practices **Evaluate**	Develop a clear idea of what has to be done, planning how to use materials, equipment and processes; suggesting alternative methods if the first attempts fail Use results of investigations and information sources when developing design ideas **MAKE and TECHNICAL: Using techniques to develop products** Select appropriate materials, tools and techniques Measure and mark out accurately Use skills with different tools and equipment safely and accurately Weigh and measure accurately Apply the rules for basic food hygiene and other safe practices **Evaluate**	Develop a clear idea of what has to be done, planning how to use materials, equipment and processes; suggesting alternative methods if the first attempts fail Use results of investigations and information sources when developing design ideas **MAKE and TECHNICAL: Using techniques to develop products** Select appropriate materials, tools and techniques Measure and mark out accurately Use skills with different tools and equipment safely and accurately Weigh and measure accurately Apply the rules for basic food hygiene and other safe practices **Evaluate**	Assembling components accurately Checking accuracy of work Naming types of cams Knowing how cams impacts follower movements Exploring and designing within a given context/theme Using a range of materials and equipment to create frame structures Working with food hygienically and safely Working to a timescale Tasting and evaluating their own food	complement one another. Be able to work safely and hygienically with independence. Have explored cams and learnt that different shaped cams produce different follower movements. Have explored types of motions and direction of a motion. Be able to use a bench hook to saw safely and effectively. Be able to identify stronger and weaker structures. Be able to find different ways to reinforce structures. Be able to know that structures can be strengthened by manipulating materials and shapes. Understand how triangles can be	shaft, crank, handle, housing, framework rotation, rotary motion, oscillating motion, reciprocating motion, pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor circuit, switch, circuit diagram annotated drawings, exploded diagrams mechanical system, electrical system	How can we reinforce structures? *The use of triangular shapes to strengthen a structure* – what is this defining?

		Evaluate a product against the original design specification Evaluate it personally and seek evaluation from others **Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products **COOKING AND NUTRITION** understand and apply the principles	Evaluate a product against the original design specification Evaluate it personally and seek evaluation from others **Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products	Evaluate a product against the original design specification Evaluate it personally and seek evaluation from others **Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products		used to reinforce bridges.		

		of a healthy and varied diet prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.						
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6	Be able to look at existing products and evaluate how effective they are. Design purposeful models that best fit the criteria. Be able to compare products – old and new, Start to be able to sew effectively to	Textiles - Combining Different Fabric Shapes **NC: DESIGN: Developing and planning ideas** Communicate ideas through detailed labelled drawings Develop a design specification	Electrical Systems- More Complex Switches and Circuits **NC: DESIGN: Developing and planning ideas** Communicate ideas through detailed labelled drawings Develop a design specification	Mechanical Systems Pulleys and Gears **NC: DESIGN: Developing and planning ideas** Communicate ideas through detailed labelled drawings Develop a design specification	Applying knowledge to generate design ideas Identifying target audiences Making circuits Experimenting with circuits to consolidate knowledge of function	Designers will: Have learnt to sew blanket stitch to join fabric. Have learnt how to thread needles independently. Have learnt different decorative stitches. Know how to sew accurately with	seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings, iron transfer paper, series circuit, parallel circuit,	How many different types of stitches can you name? Why is it important to meet a design criteria? *Quick 3-D modelling using easy to work and cheaper materials and temporary joints. Useful for checking proportions and*

	make a product that is fit for purpose Start to be able to measure the amount of material needed to make a product correctly Be able to apply the rule for basic food hygiene and other safe practices when working with and handling food and drink Be able to select the correct tool or equipment need to be able to make a product correctly	Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways Plan the order of work, choosing appropriate materials, tools and techniques including the use of the design cycle **MAKE and TECHNICAL: Using techniques to develop products** Select appropriate tools, materials, components and techniques Assemble components to make working models Use tools safely and accurately Construct products using permanent joining techniques Make modifications in process	Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways Plan the order of work, choosing appropriate materials, tools and techniques including the use of the design cycle **MAKE and TECHNICAL: Using techniques to develop products** Select appropriate tools, materials, components and techniques Assemble components to make working models Use tools safely and accurately Construct products using permanent joining techniques Make modifications in process	Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways Plan the order of work, choosing appropriate materials, tools and techniques including the use of the design cycle **MAKE and TECHNICAL: Using techniques to develop products** Select appropriate tools, materials, components and techniques Assemble components to make working models Use tools safely and accurately Construct products using permanent joining techniques Make modifications in process	Testing function of product Drawing circuit diagrams Knowing the function of different components Understanding the terminology: insulator, conductor, LED, battery Designing for others and planning production Selecting suitable tools Researching existing products Understanding stitches and their benefits Knowing how to use templates	even regularity of stiches. Have learnt the key components used to create a functioning circuit. Understand that breaks in a circuit will stop it from working. Know the difference between series and parallel circuits. Understand that mechanical and electrical systems have an input, process, and an output. Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. Have successfully designed, made, and evaluated a product that it fit for purpose and meets a brief.	names of switches and components, input device, output device, system, monitor, control, program, flowchart function, innovative, design specification, design brief, user, purpose, frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent	*scale* – what is this defining? What is the difference between series and parallel circuits? Why do breaks in a circuit stop it from working? *Components that produce an outcome e.g. bulbs and buzzers* and *components that are used to control an electrical circuit e.g. switches or sensors* – what is an input and what is an output? What must mechanical and electrical systems have in order to work? How can gears and pulleys change the movement of an object? The belt which connects and transfers movement between two pulleys – what is this defining?

		Pin, sew and stitch materials together to create a product **Evaluate** Evaluate products, identifying strengths and areas for development, and carrying out appropriate tests Record evaluations using drawings with labels Evaluate against original criteria and suggest ways that their product could be improved **Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating	Pin, sew and stitch materials together to create a product **Evaluate** Evaluate products, identifying strengths and areas for development, and carrying out appropriate tests Record evaluations using drawings with labels Evaluate against original criteria and suggest ways that their product could be improved **Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in	Pin, sew and stitch materials together to create a product **Evaluate** Evaluate products, identifying strengths and areas for development, and carrying out appropriate tests Record evaluations using drawings with labels Evaluate against original criteria and suggest ways that their product could be improved **Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in				

		switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products	their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products	their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products				