Subject: D&T **Core Content – Knowledge & Skills Progression**

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
KS1 Cycle A	**Mechanisms Sliders and Levers** Sherwood forest scene **Design:** • Explaining how to adapt mechanisms, using bridges or guides to control the movement • Designing a moving story book for a given audience • Creating clearly labelled drawings which illustrate movement **Make:** •Following a design to create moving models that use levers and sliders Evaluation:		**Mechanisms Wheels and Axels** Windmill **Design:** • Learning the importance of a clear design criteria • Including individual preferences and requirements in a design **Make:** • Making stable structures from card, tape and glue • Following instructions to cut and assemble the supporting structure of a windmill • Making functioning turbines and axles which are assembled into a		**Textiles Templates and Joining** Finger puppets **Design:** • Using a template to create a design for a puppet **Make:** • Cutting fabric neatly with scissors • Using joining methods to decorate a puppet • Sequencing steps for construction **Evaluation:** • Reflecting on a finished product, explaining likes and dislikes **Technical Knowledge:** • Learning different ways in which to join	**Textiles** **Design:** • Designing a crest **Make:** • Selecting and cutting fabrics for sewing • Decorating a pouch using fabric glue or running stitch **Evaluation:** • Troubleshooting scenarios posed by teacher • Evaluating the quality of the stitching on others' work • Discussing as a class, the success of their stitching against the success criteria • Identifying aspects of their peers' work that they particularly like and why

	•Testing a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed • Reviewing the success of a product by testing it with its intended audience **Technical Knowledge:** • Learning that levers and sliders are mechanisms and can make things move • Identifying whether a mechanism is a lever or slider and determining what movement the mechanism will make • Using the vocabulary: up, down, left, right, vertical and horizontal to		main supporting structure **Evaluation:** • Evaluating a windmill according to the design criteria, testing whether the structure is strong and stable and altering it if it isn't • Suggest points for improvements **Technical Knowledge:** • Describing the purpose of structures, including windmills • Learning how to turn 2D nets into 3D structures • Learning that the shape of materials can be changed to improve the strength and stiffness of structures • Understanding that cylinders are a strong type of structure that are often used for		fabrics together: pinning, stapling, gluing	**Technical Knowledge:** • Joining items using fabric glue or stitching • Identifying benefits of these techniques • Threading a needle • Sewing running stitch, with evenly spaced, neat, even stitches to join fabric • Neatly pinning and cutting fabric using a template

	describe movement		windmills and lighthouses • Understanding that windmill turbines use wind to turn and make the machines inside work • Understanding that axles are used in structures and mechanisms to make parts turn in a circle • Developing awareness of different structures for different purposes			
KS1 Cycle B		**Cooking and Nutrition** Basic fruit salad **Design:** • Designing a fruit salad based on a food combination which work well together **Make:** • Chopping fruit and vegetables safely to make a fruit salad	**Structures Stability and strength bridge building** Bridge building **Design:** • Generating and communicating ideas using sketching and modelling • Learning about different types of structures, found in the natural		**Cooking and Nutrition** Make a sandwich **Design:** • Designing a healthy wrap based on a food combination which work well together **Make:** • Slicing food safely using the bridge or claw grip	**Mechanisms Sliders and Levers** **Design:** • Creating a class design criteria for a moving monster • Designing a moving monster for a specific audience in accordance with a design criteria • Selecting a suitable linkage system to produce the desired motions

		• Identifying if a food is a fruit or a vegetable • Learning where and how fruits and vegetables grow **Evaluation:** • Tasting and evaluating different food combinations • Describing appearance, smell and taste • Suggesting information to be included on packaging **Technical Knowledge:** • Understanding the difference between fruits and vegetables • Describing and grouping fruits by texture and taste	world and in everyday objects **Make:** • Making a structure according to design criteria • Creating joints and structures from paper/card and tape **Evaluation:** • Exploring the features of structures • Comparing the stability of different shapes • Testing the strength of own structures • Identifying the weakest part of a structure • Evaluating the strength, stiffness and stability of own structure **Technical Knowledge:** • Identifying natural and man-made structures • Identifying when a structure is more		• Constructing a wrap that meets a design brief **Evaluation:** • 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 **Technical Knowledge:** • Understanding what makes a balanced diet • Knowing where to find the nutritional information on packaging • Knowing the five food groups	**Make:** • 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 **Evaluation:** • Evaluating own designs against design criteria • Using peer feedback to modify a final design **Technical Knowledge:** • Learning that mechanisms are a collection of moving parts that work together in a machine • Learning that there is an input and output in a mechanism • Identifying mechanisms in everyday objects

			or less stable than another • Knowing that shapes and structures with wide, flat bases or legs are the most stable • Understanding that the shape of a structure affects its strength • Using the vocabulary: strength, stiffness and stability • Knowing that materials can be manipulated to improve strength and stiffness • Building a strong and stiff structure by folding paper			
Skills – End of Year Expectations	**Year 1 Knowledge** That a design is to make, draw or write plans for something That a design criteria is a set of rules to help with my design ideas and test the success of them - That the 'Target Audience' is a person or a group of people at whom the product is aimed at How to evaluate a product according to the design criteria, testing whether it is appropriate and altering it if it isn't. That a mechanism is a system of parts working together That a slider creates movements up and down and side to side That levers and sliders are mechanisms and can make things move					

	That a structure is something that has been made and put together for example a building, bridge, chair, table - How to make stable structures from card, tape and glue -That the shape of materials can be changed to improve the strength and stiffness of structures - If a food is a fruit or a vegetable and the differences between them Where and how fruits and vegetables grow That you should try and eat 5 pieces of fruit and vegetables every day That a recipe is a set of instructions for making or preparing a food item or dish - Know that a wheel needs an axle in order to move That a wheel needs to be round -Different ways in which to join fabrics together: pinning, stapling, gluing That decorate means to add details to a design to help improve its appearance That technique is a way of doing something to complete a task That construction has to be carried out in a sequence of steps. How to test a finished product, to find out whether something works/tastes as it should **Year 1 Skills** Design a product for a given audience and include individual preferences and requirements in a design Create clearly labelled drawings which illustrate movements/materials/colours -Use a template Follow a design to fit all parts together Use models to test planned ideas -Follow instructions/recipe to cut and assemble Make functioning turbines and axles Suggest points for improvements -Review the success of a product by testing it with its intended audience Reflect on a finished product, explaining likes and dislikes Cut fabric neatly with scissors Use joining methods to decorate a puppet Describe the purpose of structures, including windmills Identify that cylinders are a strong type of structure that are often used for windmills and lighthouses Understand that axles are used in structures and mechanisms to make parts turn in a circle Identify whether a mechanism is a lever or slider and determining what movement the mechanism will make Use the vocabulary: up, down, left, right, vertical and horizontal to describe movement - Identify what mechanism makes a toy or vehicle roll forwards Describe and group fruits and vegetables by texture and taste Chop, peel, slice fruit and vegetables safely

	Describe the appearance, smell and taste of fruit and vegetables Suggest information to be included on packaging **Year 2 Knowledge** Structures have features which often have a certain function What is a natural and what is a man-made structures That shapes and structures with wide, flat bases or legs are the most stable That the shape of a structure affects its strength That materials can be manipulated to improve strength and stiffness That mechanisms are a collection of moving parts that work together in a machine That there is an input and output in a mechanism That a lever is something that turns on a pivot That a linkage is a system of levers that are connected by pivots How axels help wheels to move a vehicle What makes a balanced diet There are five food groups How to following a design brief **Year 2 Skills** Generate and communicate ideas using sketching and modelling - Select a suitable linkage system to produce the desired motions Create joints and structures from paper/card and tape Select appropriate materials based on their properties Make linkages using card for levers and split pins for pivots Cut and assemble components neatly Slice food safely using the bridge or claw grip Construct a wrap that meets a design brief Compare the stability of different shapes Test the strength of own structures Build a strong and stiff structure by folding paper Evaluate the strength, stiffness and stability of own structure Evaluate own designs against design criteria Use peer feedback to modify a final design Evaluate the quality of the stitching on others' work Discuss as a class, the success of their stitching against the success criteria

	Join items using fabric glue or stitching Thread a needle Sew running stitch, with evenly spaced, neat, even stitches to join fabric Neatly pin and cut fabric using a template Select and cut fabrics for sewing - How to test and adapting a design How to create a class design criteria for a moving object Identifying mechanisms in everyday objects Explore wheel mechanisms Identify aspects of their peers' work that they particularly like and why					
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LKS2 – Cycle A		**Electrical Systems** Christmas card with slider/lever light up element **Design:** • Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas **Make**: • Making a torch with a working electrical circuit and switch • Using appropriate equipment to cut	**Cooking and Nutrition** Fruit salad Design: • Creating a healthy and nutritious recipe for a fruit salad using seasonal ingredients, considering the taste, texture, smell and appearance of the dish Make: • Knowing how to prepare themselves and a work space to cook safely in, learning the basic rules to	t	**Textiles** Stone Age sock Puppets with basic stitches - retractable **Design:** • Writing design criteria for a product, articulating decisions made • Designing a personalised puppet **Make:** • Making and testing a paper template with accuracy and in keeping with the design criteria • Measuring, marking and cutting fabric	

		and attach materials • Assembling a torch according to the design and success criteria **Evaluation:** • Evaluating electrical products • Testing and evaluating the success of a final product and taking inspiration from the work of peers **Technical Knowledge:** • Learning how electrical items work • Identifying electrical products • Learning what electrical conductors and insulators are • Understanding that a battery contains stored electricity and can be used to power products • Identifying the features of a torch • Understanding how a torch works	avoid food contamination • Following the instructions within a recipe Evaluation: • 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 Technical Knowledge: • Learning that climate affects food growth • Working with cooking equipment safely and hygienically • Learning that imported foods		using a paper template • Selecting a stitch style to join fabric, working neatly sewing small neat stitches • Incorporating fastening to a design **Evaluation:** • 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 **Technical Knowledge:** • Understanding that there are different types of fastenings and what they are • Articulating the benefits and	

		• Articulating the positives and negatives about different torches	travel from far away and this can negatively impact the environment • Learning that vegetables and fruit grow in certain seasons • Learning that each fruit and vegetable gives us nutritional benefits • Learning to use, store and clean a knife safely		disadvantages of different fastening types	
LKS2 – Cycle B		**Mechanical Systems** (incl wheels and axels, gears) Emergency vehicles **Design:** • Designing a toy which uses a pneumatic system • Developing design criteria from a design brief • Generating ideas using thumbnail sketches and exploded diagrams		**Cooking and Nutrition – bread making/sandwich – adapting a recipe** **Design:** • Designing a sandwich within a given budget, drawing upon previous taste testing **Make:** • Following a baking recipe		**Structures** Roman Aquaducts **Design:** • Designing a stable structure that is able to support weight • Creating frame structure with focus on triangulation **Make:** • Making a range of different shaped beam bridges

		• Learning that different types of drawings are used in design to explain ideas clearly **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, weaving **Evaluation:** • Using the views of others to improve designs		• Cooking safely, following basic hygiene rules • Adapting a recipe **Evaluation:** • 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 products • Suggesting modifications **Technical Knowledge:** • Understanding the impact of the cost and importance of budgeting while planning ingredients for biscuits • Understanding the environmental impact on future product and cost of production		• Using triangles to create truss bridges that span a given distance and supports a load • Building a wooden bridge structure • Independently measuring and marking wood accurately • Selecting appropriate tools and equipment for particular tasks • Using the correct techniques to saws safely • Identifying where a structure needs reinforcement and using card corners for support **Evaluation:** • Adapting and improving own bridge structure by identifying points of weakness and reinforcing them as necessary

		• Testing and modifying the outcome, suggesting improvements **Technical Knowledge:** • Understanding how pneumatic systems work • Learning that mechanisms are a system of parts that work together to create motion • Understanding that pneumatic systems can be used as part of a mechanism • Learning that pneumatic systems force air over a distance to create movemen				• Suggesting points for improvements for own bridges and those designed by others **Technical Knowledge:** • Exploring how to create a strong beam • Identifying arch and beam bridges and understanding the terms: compression and tension • Identifying stronger and weaker structures • Finding different ways to reinforce structures • Understanding how triangles can be used to reinforce bridges • Articulating the difference between beam, arch, truss
Skills – End of Year Expectations	**Year 3 Knowledge** That different types of drawings are used in design to explain ideas clearly How to give constructive criticism on own work and the work of others					

	How to test the success of a product against the original design criteria and justifying opinions The features of the object I am design Wide and flat based objects are more stable and extend my knowledge of this Understanding the terminology of strut, tie, span, beam Understanding that pneumatic systems can be used as part of a mechanism That pneumatic systems force air over a distance to create movement That mechanisms are a system of parts that work together to create motion Understanding what static electricity is and how it moves objects through attraction or repulsion Using static electricity to make objects move in a desired way That climate affects food growth That imported foods travel from far away and this can negatively impact the environment That vegetables and fruit grow in certain seasons That each fruit and vegetable gives us nutritional benefits Learning to use, store and clean a knife safely Understanding that fabrics can be layered for affect **Year 3 Skills** Design objects with key features to appeal to a specific person/ purpose Develop design criteria from a design brief Generate ideas using thumbnail sketches and exploded diagrams Design and make a template from an existing product Create special features for individual designs Make an object referring to the design criteria Evaluate own work and the work of others based on the aesthetic of the finished product and in comparison to the original design Suggest points for modification of the individual designs -Use the views of others to improve my designs -Test and modify the outcome, suggesting improvements Generating static electricity independently Work with cooking equipment safely and hygienically Thread needles with greater independence Tie knots with greater independence Make facades from a range of materials Create a pneumatic system to create a desired motion Select materials due to their functional and aesthetic characteristics Manipulate materials to create different effects by cutting, creasing, folding, and weaving - Use a wider range of materials and equipment safely Use electrostatic energy to move objects in isolation as well as in part of a system

	Know how to prepare themselves and a work space to cook safely in, learning the basic rules to avoid food contamination Follow the instructions within a recipe Create a healthy and nutritious recipe Select and cut fabrics with ease using fabric scissors **Year 4 Knowledge** That products change and evolve over time That all moving things have kinetic energy That kinetic energy is the energy that something (object person) has by being in motion How electrical items work -What electrical conductors and insulators are What a battery contains stored electricity and can be used to power products How a product works Electrical products The main features of a product The positives and negatives about different existing products The impact of the cost and importance of budgeting while planning ingredients for a food product The environmental impact on future product and cost of production That there are different types of fastenings and what they are The benefits and disadvantages of different fastening types **Year 4 Skills** Test and evaluate the success of a final product describing what characteristics of a design and construction made it the most effective Evaluate the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance Test and evaluate an end product against the original design criteria Decide how many of the criteria should be met for the product to be considered successful Suggesting modifications for improvement Learn that architects consider light, shadow and patterns when designing Implement frame and shell structure knowledge Design a stable structure that is aesthetically pleasing Select materials to create a desired effect considering the materials properties Build frame structures designed to support weight Design a shape that reduces air resistance Choose shapes that increase or decrease speed as a result of air resistance Personalise a design Design objects giving consideration to the target audience. Design a food item within a given budget, drawing upon previous taste testing

	Write a design and success criteria for a product, articulating decisions made Reinforce corners to strengthen a structure Create different textural effects with materials Measure, mark, cut and assemble with increasing accuracy Make a model based on a chosen design Make an object with a working electrical circuit and switch Use appropriate equipment to cut and attach materials Cook safely, following basic hygiene rules Make a paper template and use to measure, mark and cut fabric Select a stitch style to join fabric, working neatly sewing small neat stitches					
UKS2 – Cycle A		**Electrical systems WW2** Board game **Design:** • Designing a board game with a simple electrical control circuit • Creating a labelled design showing positive and negative parts in relation to the LED and the battery • Designing a game - identifying and naming the components required • Drawing a design from three different perspectives		**Cooking and nutrition** Fruit crumble – preserved fruit for lasting longer **Design:** • Writing a recipe, explaining the key steps, method and ingredients • Including facts and drawings from research undertaken **Make:** • Following a recipe, including using the correct quantities of each ingredient • Adapting a recipe based on research • Working to a given timescale		**Structure and Frames** Victorian fairground rides **Design:** • Designing a fairground ride featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs **Make:** • Building a structures drawing upon new and prior knowledge of structures • Measuring, marking and

		• Generating ideas through sketching and discussion • Modelling ideas through prototypes **Make:** • Making a working circuit • Creating an electronic game, referring to design criteria • Mapping out where different components of the circuit will go. Making electromagnetic motors and tweaking the motor to improve its function • Constructing a stable base for an electromagnetic game • Accurately cutting, folding and assembling a net • Decorating the base of the game to a high quality finish • Making and testing a circuit		• Working safely and hygienically with independence **Evaluation:** • Evaluating a recipe, considering: taste, smell, texture and origin of the food group • Taste testing and scoring final products • Suggesting and writing up points of improvements in productions • Evaluating health and safety in production to minimise cross contamination **Technical Knowledge:** • Learning how to research a recipe by ingredient • Recording the relevant ingredients and equipment needed for a recipe • Understanding the combinations of food that will complement one another		cutting wood to create a range of structures • Using a range of materials to reinforce and add decoration to structures **Evaluation:** • 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 **Technical Knowledge:** • Knowing that structures can be strengthened by manipulating materials and shapes • Identifying the shell structure in everyday life (cars, aeroplanes, tins, cans) • Understanding man made and natural structures

		• Incorporating a circuit into a base **Evaluation:** • Evaluating a completed product against the original design sheet and looking at modifications that could be made to improve the reliability or aesthetics of it or to incorporate another type of electronic device, eg: buzzer • Testing own and others finished games, identifying what went well and making suggestions for improvement **Technical Knowledge:** • Learning the key components used to create a functioning circuit • Learning that graphite is a conductor and can be used as part of a circuit • Learning the difference		• Understanding where food comes from, describing the process of 'Farm to Fork' for a given ingredient		

		between series and parallel circuits • Understanding that breaks in a circuit will stop it from working • Understanding how electromagnetic motors work • Learning that batteries contain acid, which can be dangerous if they leak • Learning that when electricity enters a magnetic field it can make a motor				
UKS2 – Cycle B	**Mechanical systems** Pulleys/gears (Tomato challenge - Designer Study - Isambard Kingdom Brunel) **Design:** • Designing an item which uses a mixture of structures and mechanisms		**Cooking and nutrition** Specialty bread- (Oliver) **Design:** • Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients		**Textiles combing different fabrics** Shapes – string Puppets (Amazon adventure) **Design:** • Writing design criteria for a product, articulating decisions made	

	• Naming each mechanism, input and output accurately • Storyboarding ideas for a book **Make:** • Following a design brief 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 **Evaluation:** • Evaluating the work of others and receiving feedback on own work		• Writing an amended method for a recipe to incorporate the relevant changes to ingredients • Designing appealing packaging to reflect a recipe **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 **Evaluation:** • Identifying the nutritional differences between different products and recipes • Identifying and describing healthy benefits of food groups		• Designing a personalised puppet **Make:** • 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 sewing small neat stitches • Incorporating fastening to a design **Evaluation:** • 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	

	• Suggesting points for improvement **Technical Knowledge:** • Knowing that an input is the motion used to start a mechanism • Knowing that output is the motion that happens as a result of starting the input • Knowing that mechanisms control movement • Describing mechanisms that can be used to change one kind of motion into another		**Technical Knowledge:** • Understanding where food comes from - learning that beef is from cattle and how beef is reared and processed • Understanding what constitutes a balanced diet • Learning to adapt a recipe to make it healthier • Comparing two adapted recipes using a nutritional calculator and then identifying the healthier option		considered successful • Suggesting modifications for improvement **Technical Knowledge:** • Understanding that there are different types of fastenings and what they are • Articulating the benefits and disadvantages of different fastening types	
Skills – End of Year Expectations	**Year 5 Knowledge** If a structure will be stronger or weaker Different ways to reinforce structures How triangles can be used to reinforce bridges The difference between beam, arch, truss and suspension bridges That an input is the motion used to start a mechanism That output is the motion that happens as a result of starting the input That mechanisms control movement The key components used to create a functioning circuit					

	That graphite is a conductor and can be used as part of a circuit The difference between series and parallel circuits That breaks in a circuit will stop it from working -Where food comes from Learning that beef is from cattle and how beef is reared and processed What constitutes a balanced diet **Year 5 Skills** Design an end product using appropriate components and techniques for the desired end result but taking into account the success criteria. Storyboarding ideas for an end product Evaluate a finished product against the original design sheet, look at modifications that could be made to improve the reliability or aesthetics Test an end product and give points for further improvements Create an end product, refer to a design criteria Design appealing packaging to reflect the end product Follow a design brief to make an end product, neatly and with focus on accuracy Describe mechanisms that can be used to change one kind of motion into another and name each mechanism, input and output accurately Using triangles to create truss bridges that span a given distance and supports a load Exploring how to create a strong beam -Identifying arch and beam bridges and understanding the terms: compression and tension -Identify where a structure needs reinforcement and using card corners for support Make mechanisms and/ or structures using sliders, pivots and folds to produce movement Use layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result Show positive and negative parts in a plan in relation to the LED and the battery Adapt a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients Compare two adapted recipes using a nutritional calculator and then identify the healthier option Write an amended method for a recipe to incorporate the relevant changes to ingredients Use equipment safely, including knives, hot pans and hobs -Know how to avoid cross contamination Independently measuring and marking wood accurately -Select appropriate tools and equipment for particular tasks Make a working circuit Map out where different components of the circuit will go Measure, marking and cutting fabric accurately and independently -Use applique to attach pieces of fabric decoration Sew blanket stitch with even and regular spacing when joining fabric **Year 6 Knowledge** Know that structures can be strengthened by manipulating materials and shapes Man-made and natural structures

	That different shaped cams produce different follower movements Exploring types of motions and direction of a motion How linkages change the direction of a force How electromagnetic motors work That batteries contain acid, which can be dangerous if they leak That when electricity enters a magnetic field it can make a motor How to research a recipe by ingredient Combinations of food that will complement one another Where food comes from, describing the process of 'Farm to Fork' for a given ingredient Different decorative stitches Application and outcome of the individual technique **Year 6 Skills** Improve a design plan based on peer evaluation Evaluate the work of others identify what went well and making suggestions for improvement Test, evaluate and adapt a design to improve it as it is developed -Identify what makes a successful structure Describe changes they would make/ do if they were to do the project again Design a fairground featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs Design a waistcoat in accordance to specification linked to set of design criteria to fit a specific theme Creating a design for an automata toy based on a choice of cam to create a desired movement Draw a design from three different perspectives -Generate ideas through sketching and discussion Include facts and drawings from research undertaken Annotate designs Model ideas through prototypes Make things move at the same time Write a recipe, explaining the key steps, method and ingredients Follow a recipe, including using the correct quantities of each ingredient Recording the relevant ingredients and equipment needed for a recipe Adapt a recipe based on research Work safely and hygienically with independence Use a range of materials to reinforce and add decoration to structures Measure, mark and cut components accurately using appropriate equipment Use a bench hook to saw safely and effectively Understand that for the frame to function effectively the components must be cut accurately and the joints of the frame secured at right angles

	Select appropriate materials based on the materials being joined and the speed at which the glue needs to dry/set -Add high quality finishing touches to a final product Use template pinning panels onto fabric, marking and cutting fabric accurately, in accordance with a design -Sew a strong running stitch, making small, neat stitches and following the edge Tie strong knots Sew accurately with even regularity of stiches