

Year 1	Autumn 2	Spring 2	Summer 2
Sequence of learning	Structures - Free standing Structures	Mechanisms - Sliders and Levers	Food - Preparing fruit and Vegetables
Outcome	Construct a windmill	Make a moving story book	Making a smoothie
Lesson 1	<p><u>Designing the structure</u></p> <p><i>Constructing a windmill (Link to Science in Autumn 1 - Animals)</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What is a 'structure'? • What is a 'clear design criteria' is? • What is a 'net'? • What is a 'windmill/turbine'? <p><u>Skills</u></p> <ul style="list-style-type: none"> • Including individual preferences and requirements in a design • Describing the purpose of structures • Understanding the importance of a clear design criteria 	<p><u>Exploring sliders and movement</u></p> <p><i>Making a moving story book (Link to T4W theme)</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What are 'mechanisms'? • What are 'levers and sliders'? • How do levers and sliders move? • What is a 'model'? <p><u>Skills</u></p> <ul style="list-style-type: none"> • Exploring making mechanisms • Understanding that levers and sliders are mechanisms • Knowing that levers and sliders can make things move • Using words to describe movement: up, down, left, right, vertical and horizontal • Creating moving models that use levers and sliders 	<p><u>Fruit or vegetable?</u></p> <p><i>Food: Fruit and Vegetables (Link to Science Sequence of learning: Plants)</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What is a 'fruit'? • What is a 'vegetable'? • What can/cannot be eaten? • Vegetables do not contain any seeds • Some food we call vegetables which are actually fruits e.g. tomatoes, peppers, pumpkin olives and cucumbers <p><u>Skills</u></p> <ul style="list-style-type: none"> • Naming a number of fruits and vegetables • Determining if something is a fruit

<p>Lesson 2</p>	<p><u>Assembling the structure</u></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What does the word ‘assemble’ mean? • What does the word ‘stable’ mean? • Know the words strength, stiffness and structures • What is a ‘cylinder’? <p><u>Skills</u></p> <ul style="list-style-type: none"> • Making a stable structure. Something that has been made and put together. It can usually stand on its own.... • Following instructions to cut and assemble the supporting structure of the windmill • Knowing the shape. The form of an object. of materials can be changed to improve the strength and stiffness of structures • Knowing that cylinders are a strong type of structure • Ensuring the structure is stable 	<p><u>Design</u></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What is a ‘moving’ story book? <p><u>Skills</u></p> <ul style="list-style-type: none"> • Designing a moving story book • Drawing background pictures for three pages • Drawing the moving parts • Deciding whether to use a side-to-side slider or an up-and-down slider on each page • Labelling the movement of each type of slider 	<p><u>Where fruits and vegetables grow</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Where do plants grow? • What part of the plants can we eat? • <p><u>Skills</u></p> <ul style="list-style-type: none"> • Knowing that fruits and vegetables grow in one of three places <ol style="list-style-type: none"> 1. Below ground 2. Above ground 3. On a tree
<p>Lesson 3</p>	<p><u>Assembling the structure</u></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What does the word ‘stable’ mean? • Know the words strength, stiffness and structures • What is a ‘cylinder’? • What are the ‘axles’? <p><u>Skills</u></p>	<p><u>Construction</u></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What does the word ‘constructing’ mean? <p><u>Skills</u></p> <ul style="list-style-type: none"> • Constructing a moving picture • Drawing the background to a moving picture • Drawing and cutting the moving parts 	<p><u>Smoothie ingredients tasting</u></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What is a ‘smoothie’? • What fruits/vegetables are suitable for smoothies • What is the appearance, feel, smell and taste of the fruits/vegetables? <p><u>Skills</u></p>

	<ul style="list-style-type: none"> Assembling the components of the structure. Something that has been made and put together. It can usually stand on its own.... Cutting and assembling the turbine Understanding that windmill turbines use wind to turn and make the machines inside work Knowing that axles are used in structures and mechanisms to make parts turn in a circle Testing that the turbine turns in the structure Altering the parts if the turbine doesn't move 	<ul style="list-style-type: none"> Assembling parts to create the moving picture Making sliders for the moving parts 	<ul style="list-style-type: none"> Tasting and comparing fruit Tasting fruits and vegetables
<p>Lesson 4</p>	<p><u>Testing and evaluating</u></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What does the word 'evaluate' mean? <p><u>Skills</u></p> <ul style="list-style-type: none"> Evaluating a project and adapting a design Testing that the turbine turns freely in the wind Evaluating the windmill according to the design criteria Testing whether the structure. Something that has been made and put together. It can usually stand on its own.... is strong and stable and reinforcing it if necessary 	<p><u>Testing and evaluating</u></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What does it mean to 'review'? <p><u>Skills</u></p> <ul style="list-style-type: none"> Evaluating a finished product Reviewing the success of the books by reading them to younger children Evaluating the book against the design criteria 	<p><u>Smoothie making</u></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What is a 'blender'? <p><u>Skills</u></p> <ul style="list-style-type: none"> Making a fruit and vegetable smoothie Preparing fruit and vegetables Using a knife to cut safely Knowing how to use a blender to make a smoothie

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Vocabulary	Cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder design, make, evaluate, user, purpose, ideas, design criteria, product, function	Slider, lever, pivot, slot, bridge/guide card, masking tape, paper fastener, join pull, push, up, down, straight, curve, forwards, backwards design, make, evaluate, user, purpose, ideas, design criteria, product, function	Fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria
Formative assessment			
Summative assessment			

Year 2	Autumn 2	Spring 2	Summer 2
Sequence of learning	Textiles - Templates and Joining Techniques	Mechanisms - Wheels and Axles	Food - Preparing fruit and vegetables
Outcome	Making a pouch	Making a Ferris Wheel	Designing and making a wrap
Lesson 1	<p><u>Running Stitch</u></p> <p><i>Textiles: Pouches</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What is a running stitch? • What does it mean to 'thread a needle'? <p><u>Skills</u></p> <ul style="list-style-type: none"> • Sewing a running stitch • Threading a needle 	<p><u>Design a Ferris wheel</u></p> <p><i>Mechanisms: Fairground Wheel</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What is an 'axle'? • What is a 'wheel'? • What is a 'working wheel'? • What is a 'vehicle'? <p><u>Skills</u></p> <ul style="list-style-type: none"> • Knowing how axles help wheels to move a vehicle • Evaluating different designs • Designing and label a working wheel 	<p><u>Hidden sugars in drinks</u></p> <p><i>A balanced diet</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What are 'hidden sugars'? • Where to find the nutritional information on a drink's container? • There are 5 food groups; Carbohydrates, fruit and veg, protein, fats, and dairy. • How much we should eat each day from each food group <p><u>Skills</u></p> <ul style="list-style-type: none"> • Knowing where to find the nutritional information on a drink's container
Lesson 2	<p><u>Using a template</u></p> <p><i>Textiles: Pouches</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What does it mean to 'pin' fabric? • How to design a purse <p><u>Skills</u></p>	<p><u>Planning the build</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Properties of different materials • How to communicate ideas 	<p><u>Taste testing combinations</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Knowing how to experience food through touch and smell

	<ul style="list-style-type: none"> • Cutting fabric • Pinning fabric accurately • Designing a purse 	<ul style="list-style-type: none"> • What does it mean to 'select appropriate materials'? <p>Skills</p> <ul style="list-style-type: none"> • Understanding the properties of different materials • Communicating ideas to others • Selecting appropriate materials for a wheel 	<ul style="list-style-type: none"> • Knowing that the ideal ingredient combinations for the wrap will contain foods from more than one food group <p>Skills</p> <ul style="list-style-type: none"> • Categorising foods into food groups • Considering and reviewing food combinations
Lesson 3	<p><u>Making a pouch</u></p> <p><i>Textiles: Pouches</i></p> <p>Knowledge</p> <ul style="list-style-type: none"> • What are 'neat and even' stitches? • Design of decorations <p>Skills</p> <ul style="list-style-type: none"> • Sewing neat and even stitches • Designing decorations for a product 	<p><u>Building the frame and wheels</u></p> <p><i>LO</i></p> <p>Knowledge</p> <ul style="list-style-type: none"> • What is a moving wheel? • Wheel rotation <p>Skills</p> <ul style="list-style-type: none"> • Building and testing a moving wheel • Testing and adapting a design • Knowing how to make the wheel rotate 	<p><u>Designing and making a wrap</u></p> <p><i>LO</i></p> <p>Knowledge</p> <ul style="list-style-type: none"> • Knowing how to slice food safely using the bridge or claw grip <p>Skills</p> <ul style="list-style-type: none"> • Remembering which food combinations work well together • Designing three possible wraps based on these combinations • Choosing one food combination to make as a "Final Design"
Lesson 4	<p><u>Decorating a pouch</u></p> <p><i>Textiles: Pouches</i></p> <p>Knowledge</p> <ul style="list-style-type: none"> • What does it mean to 'evaluate'? <p>Skills</p> <ul style="list-style-type: none"> • Joining items using fabric • Decorating fabric using different items • Evaluating designs 	<p><u>Adding pods and decoration</u></p> <p><i>LO</i></p> <p>Knowledge</p> <ul style="list-style-type: none"> • What is a 'wheel mechanism'? <p>Skills</p> <ul style="list-style-type: none"> • Evaluating a wheel mechanism and adapting as necessary 	<p><u>Making and evaluating</u></p> <p><i>LO</i></p> <p>Knowledge</p> <ul style="list-style-type: none"> • What does it mean to prepare food safely? • What is 'healthy'? <p>Skills</p> <ul style="list-style-type: none"> • Preparing food safely

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		<ul style="list-style-type: none"> Ensuring that a pod stays upright whilst being rotated around a fixed point 	<ul style="list-style-type: none"> Making a healthy wrap Reviewing a design
Vocabulary	Names of existing products, joining and finishing techniques, tools, fabrics and components template, pattern pieces, mark out, join, decorate, finish features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function	Vehicle, wheel, axle, axle holder, chassis, body, cab assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism names of tools, equipment and materials used design, make, evaluate, purpose, user, criteria, functional	Fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria
Formative assessment			
Summative assessment			

Year 3	Autumn 2	Spring 2	Summer 2
Sequence of learning	Structures - Shell Structures	Textiles - 2-D shape to 3-D Product	Food - Healthy and Varied Diet
Outcome	Construct a castle	Make a cushion	Make a tart (seasonal fruit)
Lesson 1	<p><u>Features of a castle</u></p> <p><i>Constructing a castle</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> Identifying the features: parts of the face, such as eyes, nose and mouth. of a castle <p><u>Skills</u></p> <ul style="list-style-type: none"> Designing a castle 	<p><u>Cross stitch and Applique</u></p> <p><i>Textiles: Cushions</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What is 'cross stitch'? What is 'applique'? <p><u>Skills</u></p> <ul style="list-style-type: none"> Sewing cross stitch Learning appliqué Reflecting on techniques used 	<p><u>Where in the world?</u></p> <p><i>Eating seasonally</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> Knowing that climate the weather and temperature in each country in the world, depends on which climate group that country is located. There are five climate groups: polar, temperate, dry, tropical and Mediterranean.... affects food growth Knowing that not all fruits and vegetables can be grown in the UK Knowing that each country has its own climate What is food and hygiene? <p><u>Skills</u></p> <ul style="list-style-type: none"> Understanding that different climates enable different fruits and vegetables to grow Using cooking equipment Items and objects which are needed to complete a task safely Considering hygiene when preparing food

Lesson 2	<p><u>Designing a castle</u></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> Knowing the features of a castle What are 2D/3D shapes? What is the 'design specification'? What is the purpose/person? <p><u>Skills</u></p> <ul style="list-style-type: none"> Designing a castle Labelling a design with the 3D shapes, materials and colours for the 3D model Adding two design points to the Design Specification to satisfy a person/purpose Drawing the design of a castle using 2D shapes 	<p><u>Cushion design</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What are the different types of cushions? <p><u>Skills</u></p> <ul style="list-style-type: none"> Designing a cushion Using a paper template Cutting fabric 	<p><u>British seasonal foods</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What is 'imported' food? How does it impact the environment? Certain vegetables and fruits grow in certain seasons Knowing that in the UK we often import food from other countries and why <p><u>Skills</u></p> <ul style="list-style-type: none"> To be able to identify some foods from other countries around the world. E.g. coffee beans from Africa
Lesson 3	<p><u>Nets and Structures</u></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What is a '3-D' net? <p><u>Skills</u></p> <ul style="list-style-type: none"> Constructing 3D nets Constructing a range of 3D geometric shapes using a net Cutting along the bold lines Folding along the dotted lines 	<p><u>Decorating my cushion</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What is the 'design criteria'? What is the 'cross stitch'? What is 'applique'? <p><u>Skills</u></p> <ul style="list-style-type: none"> Following a design criteria Using cross stitch 	<p><u>Rainbow food</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What is a 'recipe'? Which fruits are currently seasonal? Each fruit gives us nutritional benefits <p><u>Skills</u></p> <ul style="list-style-type: none"> Designing a filo tart using seasonal vegetables

	<ul style="list-style-type: none"> Keeping the tabs the correct size Making crisp folded edges Constructing the net using glue to make a geometric shape 	<ul style="list-style-type: none"> Knowing how to appliqué 	
Lesson 4	<p><u>Building a castle</u></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What are 'requirements of the brief'? What are recyclable materials? What does it mean to 'evaluate'? <p><u>Skills</u></p> <ul style="list-style-type: none"> Constructing a castle to meet the requirements of a brief Making neat 3D shapes using nets Stacking shapes and recyclable materials to make the structures of a castle Evaluating final products 	<p><u>Assembling my cushion</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> The purpose of stitches What is a 'seam'? What is 'inside out'? <p><u>Skills</u></p> <ul style="list-style-type: none"> Using stitches to join fabrics Leaving space for a seam Understanding why some products are turned inside out after sewing 	<p><u>Making tarts</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What does it mean to 'prepare the kitchen'? What does it mean to 'prepare yourself for the kitchen'? Basic rules of food contamination <p><u>Skills</u></p> <ul style="list-style-type: none"> Using, storing and cleaning a knife safely Following a recipe to make a tart
Vocabulary	Shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating font, lettering, text, graphics, decision, evaluating, design brief design criteria, innovative, prototype	Fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, aesthetics, function, pattern pieces	Name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet planning, design criteria, purpose, user, annotated sketch, sensory evaluations
Formative assessment			
Summative assessment			

Year 4	Autumn 2	Spring 2	Summer 2
Sequence of learning	Electrical Systems - Simple Circuits and Switches	Mechanical systems - Levers and Linkages	Food – Healthy an Varied Diet
Outcome	Make a torch	Make a slingshot car	Bake some biscuits
Lesson 1	<p><u>Electrical products</u></p> <p><i>Electrical systems: Torches</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What is a ‘torch’? • What is an ‘electrical conductor/insulator’? • What are ‘electrical products’? • What a battery is and how it can be used? <p><u>Skills</u></p> <ul style="list-style-type: none"> • Identifying electrical products 	<p><u>Chassis and launch mechanism</u></p> <p><i>Making a slingshot car</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • The ‘chassis’ is the frame of a car, everything else is built • All moving things have kinetic energy • Knowing that kinetic energy is the energy that something (an object or person) has by being in motion <p><u>Skills</u></p> <ul style="list-style-type: none"> • Understanding that car designs have developed over many years 	<p><u>Following a recipe</u></p> <p><i>Adopting a recipe</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What is the ‘taste, smell and texture’? • What is a ‘recipe’? <p><u>Skills</u></p> <ul style="list-style-type: none"> • Evaluating a product to consider: taste, smell, texture • Following a recipe to make a biscuit
Lesson 2	<p><u>Evaluating Torches</u></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What are the features of a torch? • How does a torch work? <p><u>Skills</u></p>	<p><u>Designing the car body</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What are ‘graphics’? • What is ‘air resistance’? <p><u>Skills</u></p>	<p><u>Testing ingredients</u></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What are ‘basic hygiene rules’? • What is a ‘prototype’? <p><u>Skills</u></p>

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	<ul style="list-style-type: none"> Saying what is good and bad about different torches Understanding what's important in torch design 	<ul style="list-style-type: none"> Designing a suitable car body Drawing a net to create a structure Choosing shapes that increase or decrease the speed of the car as a result of air resistance Adding graphics 	<ul style="list-style-type: none"> Knowing how to cook food safely - following basic hygiene rules Cooking a recipe and adapting it to create a new biscuit prototype Evaluating and comparing a range of biscuit prototypes
Lesson 3	<p><u>Torch Design</u></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What is the 'target audience'? Why is this important? Why is the design important? <p><u>Skills</u></p> <ul style="list-style-type: none"> Factoring in who the product is for in the design criteria Designing a torch which satisfies both the design 	<p><u>Making the car body</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> Nets are flat shapes that can turn into 3-D structures Purpose of tabs on nets <p><u>Skills</u></p> <ul style="list-style-type: none"> Measuring, marking and cutting the panels (nets) against the dimensions of the chassis Including tabs on the nets so that they can be secured to the panels of the chassis Decorating the panels 	<p><u>Final design and budget</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What is a 'budget'? Why is a budget important? What is 'branding'? <p><u>Skills</u></p> <ul style="list-style-type: none"> Working as a group to design a biscuit to sell for a given amount Tasting and evaluating the prototype product Creating and working to a budget Making decisions as part of a team to finalise the final recipe Creating branding for the final product
Lesson 4	<p><u>Torch Assembly</u></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> How to make a circuit with a switch <p><u>Skills</u></p> <ul style="list-style-type: none"> Making a working circuit with a switch 	<p><u>Assembly and testing</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What does it mean to test a product? <p><u>Skills</u></p>	<p><u>Biscuit bake off</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What is 'safety and hygiene'? What are weighing scales? How to use them?

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	<ul style="list-style-type: none"> Using appropriate equipment to cut and attach materials Assembling a torch according to the design criteria Assembling a torch which satisfies the success criteria Testing the torch to evaluate its success 	<ul style="list-style-type: none"> Assembling and testing the completed product 	<p>Skills</p> <ul style="list-style-type: none"> Considering safety and hygiene when baking Using the specified quantities of ingredients Making suitable packaging for the product
Vocabulary	Series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, light emitting diode (LED), bulb, bulb holder, USB cable, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, process user, purpose, function, prototype, design criteria, innovative, appealing, design brief	Mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating user, purpose, function prototype, design criteria, innovative, appealing, design brief	Name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet planning, design criteria, purpose, user, annotated sketch, sensory evaluations
Formative assessment			
Summative assessment			

Year 5	Autumn 2	Spring 2	Summer 2
Sequence of learning	Electrical Systems - More complex switches and circuits	Structures - Frame Structures	Food - Celebrating Culture and Seasonality
Outcome	Make an electronic card	To make a bridge	Make spaghetti bolognese
Lesson 1	<p><u>Graphite circuits</u></p> <p><i>Electronic cards</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> Knowing that circuits are made up of different electronic components Knowing that graphite is a conductor and can be used as part of a circuit <p>Skills</p> <ul style="list-style-type: none"> Naming key circuit components used to create a functioning circuit 	<p><u>Arch and beam bridges</u></p> <p><i>Bridges</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What is an arch? What are beam bridges? What does 'compression and tension' mean? How to make a bridge stronger/weaker? <p><u>Skills</u></p> <ul style="list-style-type: none"> Making a range of different shaped beam bridges Identifying stronger and weaker structures Finding different ways to reinforce structures 	<p><u>From farm to fork</u></p> <p><i>What could be healthier?</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> Beef is the name of meat from cattle (cow) Knowing how beef is reared and processed <p><u>Skills</u></p> <ul style="list-style-type: none"> Having an understanding of the ethical issues around the way in which cattle should be farmed
Lesson 2	<p><u>Card design</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> Labelling the LEDs with positive and negative legs 	<p><u>Spaghetti truss bridges</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What is suspension? What are 'truss bridges'? 	<p><u>What does healthy look like?</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What foods make up a balanced diet Knowing how a recipe can be adapted to make it healthier

	<p><u>Skills</u></p> <ul style="list-style-type: none"> Designing a card with a working circuit with no breaks Placing positive leg of the LED branches towards the positive side of the battery 	<p><u>Skills</u></p> <ul style="list-style-type: none"> Identifying suspension and truss bridges Using triangles to create truss bridges and test them Understanding how triangles can be used to reinforce bridges 	<p><u>Skills</u></p> <ul style="list-style-type: none"> Using keywords to research for alternative ingredients for a well-known dish Based on research, suggesting healthy substitutions and additions to a recipe
Lesson 3	<p><u>Making the card</u></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> What is a greeting card? Where do components go in a circuit? <p><u>Skills</u></p> <ul style="list-style-type: none"> Creating the front cover for a greetings card Referring to a design to keep the ideas focused Mapping out where different components of the circuit will go 	<p><u>Building bridges</u></p> <p>LO</p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> How and why do you mark the wood? Which tools are specific to task How to reinforce the structure <p><u>Skills</u></p> <ul style="list-style-type: none"> Measuring and marking the wood accurately Selecting appropriate tools and equipment for particular tasks Using saws safely to create parts for the bridge Using card corners to reinforce the structure 	<p><u>Adapting and improving a recipe</u></p> <p>LO</p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> Knowing that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients <p><u>Skills</u></p> <ul style="list-style-type: none"> Calculating and comparing two adapted Bolognese recipes using a nutritional calculator Writing an amended method for a recipe to incorporate changes to the ingredients
Lesson 4	<p><u>Adding the circuit</u></p> <p><u>Knowledge</u></p>	<p><u>Finalising bridges</u></p> <p>LO</p> <p><u>Knowledge</u></p>	<p><u>Mamma Mia! What a tasty, healthy Bolognese!</u></p> <p>LO</p>

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	<ul style="list-style-type: none"> Knowing that the legs of the LED need to be the correct way round for the circuit to work Understanding that breaks in a circuit stop it from working <p>Skills</p> <ul style="list-style-type: none"> Making a circuit and integrating it into a greeting card Laying copper tape in straight lines and ensure corners are never broken 	<ul style="list-style-type: none"> How to evaluate the overall success of a product <p>Skills</p> <ul style="list-style-type: none"> Identifying points of weakness and reinforcing them as necessary Evaluating the overall success of the bridge and improving it as necessary Adding road markings to the bridge 	<p>Knowledge</p> <ul style="list-style-type: none"> How to use equipment safely? How to avoid cross-contamination? Learning how to chop vegetables What is 'appealing' packaging? <p>Skills</p> <ul style="list-style-type: none"> Using equipment safely, including knives, hot pans and hobs Knowing how to avoid cross-contamination Carefully following a method to make a recipe Learning to chop vegetables Designing appealing packaging that reflects a recipe
<p>Vocabulary</p>	<p>Series circuit, parallel circuit, names of switches and components, input device, output device, system, monitor, control, program, flowchart function, innovative, design specification, design brief, user, purpose</p>	<p>Frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional</p>	<p>Ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble design specification, innovative, research, evaluate, design brief</p>
<p>Formative assessment</p>			
<p>Summative assessment</p>			

Year 6	Autumn 2	Spring 2	Summer 2
Sequence of learning	Textiles - Combining different fabric	Mechanical Systems - Pulleys or Gears	Food - Celebrating Culture and Seasonality
Outcome	To design and make a waistcoat	To make an automata toy	Make a three course meal
Lesson 1	<p><u>Waistcoat design</u></p> <p><i>Waistcoats</i></p> <p>Knowledge</p> <ul style="list-style-type: none"> • What is 'annotation'? • What is a 'design criteria'? <p>Skills</p> <ul style="list-style-type: none"> • Annotating designs • Designing clothing to a set of design criteria 	<p><u>Making the frame</u></p> <p><i>Automata toys</i></p> <p>Knowledge</p> <ul style="list-style-type: none"> • How to use a saw safely and correctly • Using a bench hook to saw safely and effectively <p>Skills</p> <ul style="list-style-type: none"> • Measuring, marking and checking the accuracy of the jelutong and dowel pieces against the cutting list • Measuring and cutting the card components accurately • 	<p><u>Three ingredients, three courses</u></p> <p><i>Come dine with me</i></p> <p>Knowledge</p> <ul style="list-style-type: none"> • How and where to find a recipe • What are 'ingredients'? • Being aware of what equipment you need for a recipe – and using appliances/equipment safely <p>Skills</p> <ul style="list-style-type: none"> • Knowing how to research a recipe by ingredient • Understanding that not all courses complement one another • Listing the ingredients needed for a chosen recipe • Reading the method and making a list of the equipment needed for a recipe
Lesson 2	<u>Preparing fabric</u>	<u>Assembling the frame</u> <i>LO</i>	<u>To start...</u> <i>LO</i>

	<p>Knowledge</p> <ul style="list-style-type: none"> The difference between the design and the template <p>Skills</p> <ul style="list-style-type: none"> Accurately marking out the outline of the panels for the waistcoat Cutting neatly and accurately 	<p>Knowledge</p> <ul style="list-style-type: none"> How to cut components correctly Joints of the frame need to be secured at the right angles Safety when using a glue guns, how to use them safely <p>Skills</p> <ul style="list-style-type: none"> Cutting components accurately 	<p>Knowledge</p> <ul style="list-style-type: none"> How to prepare ingredients What is 'Farm to Fork'? What are 'imperative' verbs? <p>Skills</p> <ul style="list-style-type: none"> Preparing ingredients and following a recipe safely Describing the process of 'Farm to Fork' for a given ingredient using a storyboard Contributing a recipe page to a class cookbook using imperative verbs, adjectives and illustrations
<p>Lesson 3</p>	<p>Assembling my waistcoat</p> <p>Knowledge</p> <ul style="list-style-type: none"> How to sew small neat stitches How to tie strong knots <p>Skills</p> <ul style="list-style-type: none"> Sewing with small, neat stitches, following the edge Tying strong knots to secure the thread in place 	<p>Experimenting with cams</p> <p><i>LO</i></p> <p>Knowledge</p> <ul style="list-style-type: none"> What are 'cams'? Understanding there are different cams which produce their own movements <p>Skills</p> <ul style="list-style-type: none"> Exploring cams and making appropriate choices Carrying out cam research to inform the design Understanding that different shaped cams produce different follower movements 	<p>The main course</p> <p><i>LO</i></p> <p>Knowledge</p> <ul style="list-style-type: none"> How to prepare ingredients What is 'Farm to Fork'? What are 'imperative' verbs? <p>Skills</p> <ul style="list-style-type: none"> Preparing ingredients and following a recipe safely Describing the process of 'Farm to Fork' for a given ingredient using a storyboard Contributing a recipe page to a class cookbook using imperative verbs, adjectives and illustrations

<p>Lesson 4</p>	<p><u>Decorating my waistcoat</u></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What is a fastening? • How to attach objects? • What it means to 'evaluate; your final design <p><u>Skills</u></p> <ul style="list-style-type: none"> • Securing a fastening • Attaching objects for decoration using thread • Evaluating the final piece against the design criteria 	<p><u>Finishing touches</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • What is a 'window display'? • What are the decorative elements? • Different types of glue for different purposes <p><u>Skills</u></p> <ul style="list-style-type: none"> • Assembling a window display • Making and assembling the window display, focusing on the decorative elements • Knowing that good quality products should be neat, accurate and securely assembled • Choosing the correct glue according to the materials being joined 	<p><u>The dessert</u></p> <p><i>LO</i></p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> • How to prepare ingredients • What is 'Farm to Fork'? • What are 'imperative' verbs? <p><u>Skills</u></p> <ul style="list-style-type: none"> • Preparing ingredients and following a recipe safely • Describing the process of 'Farm to Fork' for a given ingredient using a storyboard • Contributing a recipe page to a class cookbook using imperative verbs, adjectives and illustrations •
<p>Vocabulary</p>	<p>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 design criteria, annotate, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock-up, prototype</p>	<p>Pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor circuit, switch, circuit diagram annotated drawings, exploded diagrams mechanical system, electrical system, input, process, output design decisions, functionality, innovation, authentic, user, purpose, design specification, design brief</p>	<p>ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble design specification, innovative, research, evaluate, design brief</p>
<p>Formative assessment</p>			

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Summative assessment			
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