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	Autumn Term -2nd Half	Spring Term -2nd Half	Summer Term- 2nd Half
EYFS	**Structures**: Junk Modelling 1. To explore and investigate the tools and materials in the junk modelling area. 2. To develop scissor skills, to investigate cutting different materials. 3. To learn how to plan and select the correct resources needed to make a model. 4. To verbally plan and create a junk model. 5. To share a finished model and talk about the processes in its creation. 6. To share a finished model and talk about the processes in its creation.	**Textiles**: Bookmarks 1. To develop threading and weaving skills. 2. To practise and apply weaving skills to a specific material e.g. paper. 3. To practise and apply threading skills with specific materials e.g. hessian and wool. 4. To use threading or sewing to design a product (bookmark). 5. To create a textiles product (bookmark) following their own design. 6. To reflect with children on how they have achieved their aims.	**Structures:** Boats 1. To understand what waterproof means and to test whether materials are waterproof. 2. To test and make predictions for which materials float or sink. 3. To learn about the different features and structures of boats and ships. 4. To investigate how the shape and structure of boats affects the way they move. 5. To design a boat. 6. To create a boat based upon their own design.
Y1	**Structures**: Stable structures NC Objectives- Design purposeful, functional, appealing products for themselves and other users based on design criteria, generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics Explore and evaluate a range of existing products evaluate their ideas and products against design criteria Build structures, exploring how they can be made stronger, stiffer and more stable 1. To explore stability by balancing.(I can find structures in the world around me.I can explore stability through different balances.I can explain why I feel more stable in a balance with a wider base.) 2. To explore wide or narrow bases by building towers. (I can explain why some structures are more stable than	**Textiles**: Puppets NC Objectives- Design purposeful, functional, appealing products for themselves and other users based on design criteria, generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics Explore and evaluate a range of existing products evaluate their ideas and products against design criteria 1. To join fabrics together using different methods. (Remember that different techniques may be used to join fabrics for different purposes, know how to join fabric by pinning, stapling or glueing). 2. To use a template to create my design. (Design a puppet, build my design on a template). 3. To join two fabrics together accurately. (Join	**Cooking and Nutrition:** Smoothies NC Objectives- Design purposeful, functional, appealing products for themselves and other users based on design criteria Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] Explore and evaluate a range of existing products evaluate their ideas and products against design criteria Use the basic principles of a healthy and varied diet to prepare dishes, understand where food comes from. 1. To identify fruits.(I can name fruits and vegetables.I can identify seeds.I can sort fruits and non-fruits.) 2. To describe where fruits and vegetables grow.(I can name places where fruits and vegetables grow.I can decide whether a fruit or vegetable will grow aboveground or underground.I can make predictions about where edible parts of plants will grow.) 3. To practise food preparation skills.(I can use a fork to hold foods I am cutting.I can use a table knife to cut soft foods.I can use a juicer to get juice from fruits.I can work safely and follow instructions.) 4. To select ingredients for a recipe.(I can choose fruits

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	others.I can make a plan and work with others.I can test my structure and make changes.) 3. To test a structure's stability with weight added in different places.(I can build a structure with a stable base.I can explain how adding weight to the top of a structure makes it less stable.I can explain how adding weight to the base of a structure makes it more stable.) 4. To design a stable structure that meets the needs of a user.(I can explain what makes a product appealing to a user.I can sketch my pencil pot design clearly.I can plan how to make my product stable.) 5. To use a variety of cutting and joining techniques to make a stable product.(I can choose the best method to join materials.I can use scissors to cut a shape neatly.I can follow a plan and explain the steps to make a product.)	fabrics together, align two pieces of fabric, know how to use a template, I can fit my hand into my puppet). 4. To embellish my design using joining methods (joining methods to decorate my puppet, fit my hand into the puppet after it is decorated, evaluate mine and others' work)	and vegetables to taste.I can suggest fruits to put together based on taste.I can describe a food's taste.I can decide on three ingredients to create a recipe.) 5. To apply food preparation skills to a recipe.(I can gather the ingredients for a simple recipe.I can cut and juice fruits as part of a recipe.I can use my senses to compare my smoothie with my partner's.) 6. To evaluate against the design brief. (I can colour a template to create a carton design.I can choose my favourite recipe.I can talk to the class about the design brief.)
Y2	**Structures**: A chair for a bear NC Objectives- Design purposeful, functional, appealing products for themselves and other users based on design criteria, generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics Explore and evaluate a range of existing products evaluate their ideas and products against design criteria Build structures, exploring how they can be made stronger, stiffer and more stable 1. To evaluate existing structures.(I can describe how a chair's design matches its use.I can identify the user and purpose from a design brief.I can link design criteria to a product.) 2. To explore how shape affects the strength of a tower.(I can recall which shapes are stronger than others.I can test how strong different shapes are.I can use the words **strength**, **strong** and **weak** correctly.) 3. To explore how thickness affects the strength of materials.(I can use the words **stiff** and **flexible** to	**Mechanisms**: Moving monster NC Objectives- Design purposeful, functional, appealing products for themselves and other users based on design criteria, generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics Explore and evaluate a range of existing products evaluate their ideas and products against design criteria Build structures, exploring how they can be made stronger, stiffer and more stable. Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] 1. To look at objects and understand how they move. (Understand that mechanisms are a collection of moving parts that work together in a machine, know that there is always an input and output in a mechanism, identify mechanisms in everyday objects, understand that a lever is something that turns on a pivot, understand that a linkage is a	**Textiles:** Pouches NC Objectives- Design purposeful, functional, appealing products for themselves and other users based on design criteria, generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics Explore and evaluate a range of existing products evaluate their ideas and products against design criteria. 1. To sew a running stitch. I can thread a needle. I can sew a running stitch. I can use neat and evenly spaced stitches to join fabric. 2. To sew a running stitch. I can remember how to use a template. I can cut fabric neatly. I can pin fabric accurately. I can design a pouch. 3. To join fabrics using a running stitch. I can sew neat, even stitches. I tie a knot at either end of the thread. I can design decorations for my product. 4. To decorate a pouch using fabric glue or stitching. I can join items using fabric glue or stitching. I can decorate fabric using different items. I can evaluate my own

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	correctly describe materials.I can explain why different materials are used for different products.I can describe how material thickness affects strength and stiffness.) 4. To make a strong and stable chair for a user.(I can select materials for a product.I can join materials securely.I can make choices to try to make a strong and stable structure.) 5. To evaluate and improve a structure.(I can decide if a product matches the design criteria.I can use suggested ways to improve a product.I can make decisions about a product so it is right for the user.)	system of levers that are connected by pivots, devise whole-class design criteria for what our moving monster should do). 2. To look at objects and understand how they move. (Understand that mechanisms are a collection of moving parts that work together in a machine, know that there is always an input and output in a mechanism, identify mechanisms in everyday objects, understand that a lever is something that turns on a pivot, understand that a linkage is a system of levers that are connected by pivots, devise whole-class design criteria for what our moving monster should do). 3. To explore different design options. (Understand that linkages use levers and pivots to create motion, consider own points to add to the class Design Criteria, draw two moving monster designs that meet all points of the Design Criteria, design includes the linkage they will use to make the monster move) 4. To make a moving monster. (Know how to make linkages by connecting levers and pivots, know that materials can be selected according to their characteristics, design and make the features of a monster, evaluate how functional own monster is and whether it meets the Design Criteria).	designs.
Y3	**Cooking and Nutrition:** Eating Seasonally NC Objectives- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Understand and apply the principles of a healthy and varied	**Digital world:** Wearable Technology NC Objectives- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and Investigate and analyse a range of existing products	**Textiles:** Cushions NC Objectives- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and components, including construction materials, textiles and

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	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 ingrediemts are grown, reared, caught and processed. 1. To explain why food comes from different places around the world.(I can identify some fruits and vegetables that cannot be grown in the UK.I can label countries where different fruits and vegetables grow.) 2. To explain the benefits of seasonal foods.(I know that importing food has an impact on the environment.I can match fruits and vegetables with the season in which they grow in the UK.I can find recipes containing seasonal foods.) 3. To develop cutting and peeling skills.(I can identify equipment used for preparing food.I can explain why food would or would not need to be prepared.I can describe the safety rules for preparation techniques.) 4. To evaluate seasonal ingredients.(I can identify current seasonal foods.I can taste various fruits and vegetables and describe their flavours.I can contribute to a class taste wheel.) 5. To design a mock-up using criteria.(I can design a puff pastry tart using seasonal vegetables and fruits.I can use colours to identify nutritional benefits.I can describe my puff pastry tart and the benefits of its ingredients.) 6. To evaluate a dish.(I can taste tarts and provide feedback.I can consider taste, texture, appearance and use of seasonal ingredients.I can receive feedback on my tart and identify strengths.)	evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Understand how key events and individuals in design and technology have helped shape the world Apply their understanding of computing to program, monitor and control their products. 1. To research and evaluate existing products.(I can describe a significant moment in the history of digital products.I can give reasons why a product is useful.I can suggest some people who might find a product useful.) 2. To develop design criteria.(I can decide who will use my product.I can identify what my product will do.I can discuss how I want my product to function.) 3. To use code to program and control a product.(I can write code to control a function on a device.I can check my code for errors by comparing it to the correct code.I can think about the user when choosing the code for my product.) 4. To develop and communicate ideas.(I can draw a diagram of how I would like my product to look.I can annotate my diagram to explain some of its features.I can make choices that help me meet the design criteria.) 5. To develop ideas through computer-aided design. (I can define the term point of sale display.I can follow simple design requirements and use Sketchpad to complete a computer-aided design.I can answer simple questions to help evaluate my work.) 6. To improve a design based on feedback.(I can form an opinion about a product.I can participate in a discussion about a product.I can use the opinions of others to suggest improvements to my design.)	ingredients, according to their functional properties and aesthetic qualities Investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work 1. To learn how to sew cross-stitch and appliqué. (Use cross-stitch, know how to appliqué.) 2. To design a product and its template. (Design a cushion, use a paper template, cut fabric accurately, reflect on techniques used). 3. To decorate fabric using appliqué and cross-stitch. (Follow a design criteria, use cross stitch,n add appliqué). 4. To assemble and complete a cushion. (Use stitches to join fabric, can leave space for a seam, understand why some products are turned inside out after sewing).
Y4	**Electrical systems**: Torches NC Objectives- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular	**Mechanical systems**: Making a slingshot car NC Objectives- Use research and develop design criteria to inform the design of innovative, functional, appealing	**Structures**: Pavilions NC Objectives- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular

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	individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities Investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] 1. To learn about electrical items and how they work. Identify electrical products, know what electrical conductors and insulators are, know that a battery contains stored electricity and can be used to power products. 2. To analyse and evaluate electrical products. Identify the features of a torch, understand how a torch works, saywhat is good and bad about different torches, understand what is important in torch design. 3. To design a product to fit a set of specific user needs. Factor in who my product is for in my design criteria, design a torch which satisfies both the design and success criteria 4. To make and evaluate a torch. Make a working circuit with a switch, use appropriate equipment to cut and attach materials, assemble a torch according to the design criteria, assemble a torch which satisfies the success criteria, test the torch to evaluate its success	products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities Investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] 1. To build a car chassis. Understand that car designs have developed over many years, know that a chassis is the frame of a car on which everything else is built, know that all moving things have kinetic energy, know that kinetic energy is the energy that something (an object or person) has by being in motion, eg: the energy that a swing has to keep on moving; any object in motion is using kinetic energy. 2. To design a shape that reduces air resistance. Design a suitable car body to cover my chassis by drawing a net to create a structure from, choosing shapes that increase or decrease the speed of the car as a result of air resistance and adding graphics to personalise my design. 3. To make a model based on a chosen design. Make the body of my car by remembering that nets are flat shapes that can be turned into 3D structures, measuring, marking and cutting the panels (nets) against the dimensions of my chassis, including tabs on my net so I can secure it to the panels of my	individuals or groups generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities Investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Apply their understanding of how to strengthen, stiffen and reinforce more complex structures 1. To create a range of different shaped frame structures. Make a variety of different frame structures, know what the structure (pavilion) is used for 2. To design a structure. Know that different materials can create different effects, understand how to make a stable structure, design a structure that is stable and aesthetically pleasing. 3. To build a frame structure. Build a free-standing structure, select appropriate materials to build a strong structure, know how to reinforce corners to strengthen the structure, refer to a design sheet to create the pavilion. 4. To add cladding to a frame structure. Select appropriate materials for my cladding, add cladding which reflects my design, create different textural effects with my chosen material.

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		chassis and decorating the panels. 4. To assemble and test my completed product, assemble the panels of the body to the chassis correctly, remember that smaller shapes create less air resistance and can move faster through the air, evaluate the speed of my design based on the understanding that some cars are faster than others as a result of: Body shape, stored energy in the elastic band, accuracy of the angle in the chassis and axle.	
Y5	**Electrical systems**: Doodlers NC Objectives- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] 1. To understand how motors are used in electrical products. Identify simple circuit components (battery, bulb, motor and switch), explain what a series circuit is, give examples of motorised products and explain their primary function. 2. To investigate an existing product to determine the factors that affect the product's form and function. Can take apart a product and reassemble it, determine which parts of the product affect its function, determine which parts of the product affect its form, alter the way a product functions by tinkering with its configuration. 3. To put findings from research into practice to develop a	**Mechanical systems**: Making a pop-up book NC Objectives- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities Investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] 1. To design a pop-up book. Remember that an input is the motion used to start a mechanism, an output is the motion that happens as a result of starting the input. Know that structures use the movement of the pages to work, know that mechanisms control movement, design a book made up of a front cover and four pages and include a mixture of	**Cooking and Nutrition**: Developing a recipe NC Objectives- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work 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 ingrediemts are grown, reared, caught and processed. 1. To understand how ingredients are reared and processed.(I can identify the ingredients in spaghetti bolognese.I can create an informative poster.I can explain the journey of beef from farm to table.) 2. To make adaptations to design a recipe. (I can compare two bolognese sauces.I can research unique ingredients in different bolognese recipes.I can plan an adaptation of a basic bolognese recipe.) 3. To evaluate nutritional content.(I can use a nutrition calculator.I can compare nutritional values.I can make ingredient choices based on nutritional values.I can modify a recipe to contain different ingredient choices.)

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	unique product. Develop design criteria based on findings from an investigation, develop a design based on key points discovered in an investigation, incorporate an electrical system that uses a motor. 4. To develop a DIY kit for another individual to assemble their product. Identify and list the materials, equipment and circuit components required to build my product, explain the steps required to assemble a product, explain how to build and integrate an electrical system as part of my product.	structures and mechanisms within it. 2. To follow a design brief to make a pop up book. Use paper, card and glue to make the book structure, make mechanisms and/or structures as detailed in the design template by using sliders, pivots and folds to produce movement. 3. To use layers and spacers to cover the working of mechanisms. Complete the mechanisms and structures as detailed in the design template, make a book look neater and more attractive by using layers using spacers to hide relevant parts of a mechanisms 4. To create a high-quality product suitable for a target user. Complete the surface decoration of the pop-up book by adding the story through pictures and captions. Know that I need to consider the preferences and needs of the user, know that good quality making should be neat, accurate and securely assembled.	4. To practise food preparation skills.(I can cut resistant foods like onions safely and accurately.I understand the safety aspects of working with hot food.I can explain how to avoid cross-contamination.) 5. To design a product label.(I can measure and cut to fit specific dimensions.I can design a label thinking about colours, ingredients and the contents of the jar.I can evaluate a design against criteria.) 6. To follow and make an adapted recipe.(I can use a recipe to gather the correct quantities of ingredients.I can select the right equipment for each preparation technique.I can make a video to explain a recipe.)
Y6	**Textiles**: Bags NC Objectives- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities Investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	**Structure**: Playgrounds NC Objectives- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities Investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Apply their understanding of how to strengthen, stiffen	**Digital world**: Navigating the world NC Objectives- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Understand how key events and individuals in design and technology have helped shape the world Apply their understanding of computing to program, monitor and control their products. 1. To write a design brief and criteria based on a client request. Write a design brief from information submitted by a client, develop design criteria to fulfil

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	1. To explore how pattern pieces are used to design and make fabric items. (I can identify the shapes used in a pattern piece for a bag.I can explain why designers use pattern pieces.I can investigate how fabric items come from pattern pieces.) 2. To use pattern piece templates to shape, cut and stitch fabric.(I can cut and fold a pattern piece accurately.I can join two or more pieces of fabric together.I can neatly sew using a running stitch.) 3. To design a bag and create the prototype pattern pieces.(I can create design criteria and use them to design a bag.I can draw a design and label it clearly.I can make pattern pieces based on my design.) 4. To create a prototype bag from a design sketch.(I can pin my pattern piece to the fabric so it lies flat, ready to cut and sew.I can join parts of my product using a neat running stitch.I can follow my design brief accurately.) 5. To add features to a bag.(I can choose a method to add features to my bag.I can choose features based on their practical uses or aesthetics.I can evaluate the effectiveness of my design.)	and reinforce more complex structures 1. To design a playground with a variety of structures. Know that there are different types of structures used in playground apparatus, consider how the structures can be used, design five different pieces of apparatus using three different structures, improve my design based on peer evaluation. 2. To build a range of structures. Build play apparatus structures using the techniques demonstrated as well as prior knowledge of structures, know that structures can be strengthened by manipulating materials and shapes, measure, mark, cut and shape wood to create a range of structures. 3. To improve and add detail to structures. Test and adapt a design to improve it, identify what makes a successful structure, use a range of materials to reinforce and add decoration to my structures. 4. To create surrounding landscape. Attach structures to a base, reinforcing the join where necessary, consider the surrounding environment of a playground, create landscape features using a range of materials	the client's request, consider and suggest additional functions for my navigation tool. 2. To write a program to include multiple functions as part of a navigation device. Program an N,E, S,W cardinal compass , explain the key functions in their program, including any additions, explain how their program fits the design criteria and how it would be useful as part of a navigation tool 3. To develop a sustainable product concept. Consider materials and their functional properties, have an awareness of sustainability in design, develop a product idea through annotated sketches. 4. To develop 3D CAD skills to produce a virtual model. Identify key industries that utilise 3D CAD modelling and explain why, place and maneuver 3D objects, using computer-aided design, change the properties of, or combine one or more 3D objects, using computer-aided design to produce a 3D CAD model. 5. To present a pitch to 'sell' the product to a specified client. Explain the key functions and features of the navigation tool, explain the material choices and why they were chosen, demonstrate a functional program*, describe how my product fits the client's request and how it will benefit the customers. *N.B. Requires a device for pupils to share their program; or by having the program installed on individual Micro:bits.